

WORKERS' COMPENSATION POLICY REVIEW

Vol 4 Issue 3

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FEATURED TOPICS

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This issue is being distributed in July 2004. Readers should expect the next issue in early August.

Summary of the Contents

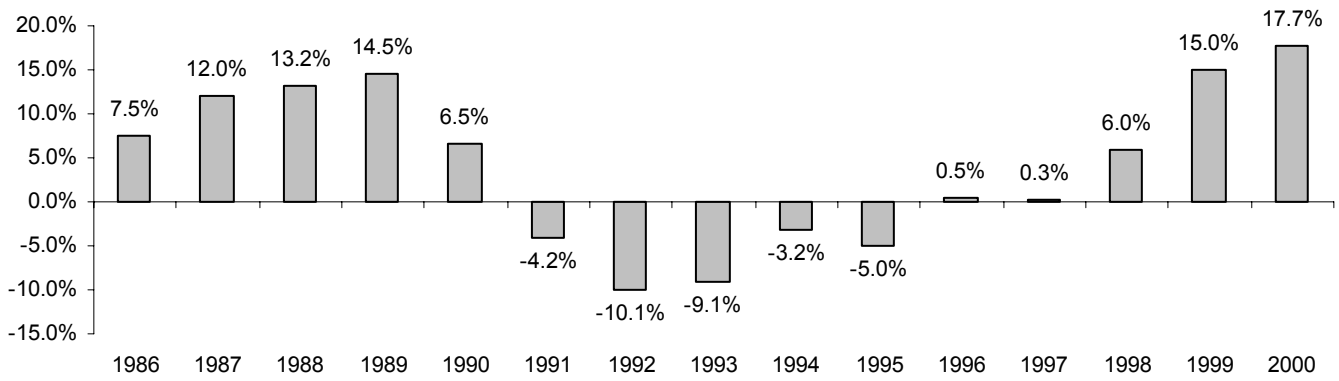
Workers' compensation incurred benefits per 100,000 workers vary markedly among jurisdictions in a particular year as well as nationally over time. This issue provides information on cash benefits, medical benefits, and total (cash plus medical) benefits per 100,000 workers for up to 47 jurisdictions for each of the years from 1985 to 2000.

Figure A provides an historical record for changes in the national averages of total benefits per 100,000 workers for the same 43 jurisdictions between 1985 and 1998, plus the identical 42 jurisdictions for 1998, 1999, and 2000. (We hope to add West Virginia, the missing state for 1999 and 2000, to our data in a subsequent article.)

The national data exhibit an interesting pattern over time. Total benefits increased for the five years between 1986 and 1990; declined for the five years between 1991 and 1995; marked time in 1996 and 1997; and then increased in each of the last three years. The article documents that this pattern for total benefits shown in Figure A is similar to the patterns for cash and medical benefits.

The article also examines the changes in cash and medical benefits (as well as total benefits) from 1985 to 2000 for individual states. One striking result is that the interstate differences in both cash and medical benefits have narrowed considerably over these 16 years, although there was an increase in the dispersion of costs among states between 1998 and 2000.

Figure A
Changes in Total (Cash plus Medical) Benefits per 100,000 Workers
(Percentage Increase from Preceding Year)



Source: Table 2, Panels B and C.

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Workers' Compensation Incurred Benefits: 1985 to 2000

by Florence Blum and John F. Burton, Jr.

Workers' compensation incurred benefits increased nationally by 17.7 percent in 2000 from the previous year. The data in Figure A show the annual changes for 15 years in total benefits (cash plus medical benefits) per 100,000 workers. The results are based on information from 43 states in most years, although the 1999 and 2000 data are based on only 42 states and will be revised when data on the missing state (West Virginia) are available.

The results in Figure A document a substantial fluctuation over time in benefits provided by the workers' compensation program. From 1986 until 1990, benefits increased by over six percent in every year and were up by more than twelve percent a year between 1987 and 1989. Then benefits declined in every year between 1991 and 1995, and the sharpest drop in 1992 exceeded ten percent. Benefits were relatively tranquil in 1996 and 1997, increasing by less than one percent a year. Total incurred benefits then increased by 6.0 percent in 1998,

by 15.0 percent in 1999, and by 17.7 percent in 2000. These increases in 1999 and 2000 are particularly noteworthy because these are the first double-digit increases since 1989. In essence, between 1985 and 2000, there were five years of increases in incurred benefits, five years of declines in benefits, two years of relatively stable benefits, and three years (1998, 1999 and 2000) when benefits significantly increased.

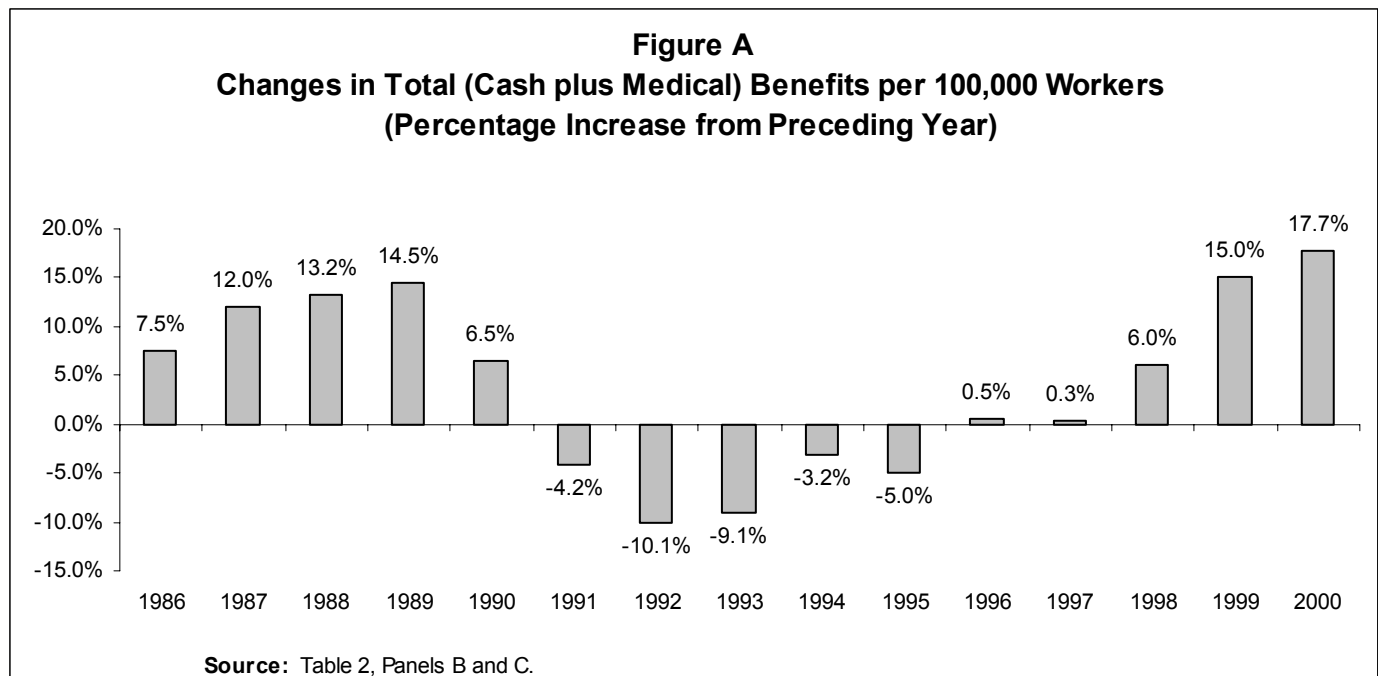
The recent experience in national workers' compensation benefit payments is also interesting when the data are separated into cash benefits and medical benefits. As shown in Figure B, both types of benefits increased in 2000, although medical benefits increased faster (21.1 percent) than cash benefits (14.3 percent). The cash benefit increase of 14.3 percent in 2000 and 12.9 percent in 1999 were the first time since 1989 that cash benefits were up by more than ten percent. Similarly, the medical benefit increase of 21.1 percent in 2000 and 17.3 percent in 1999 were

the first time since 1990 that medical benefits were up by more than ten percent.

Plan for Article

A companion article (Blum and Burton 2003b) in an earlier issue of the *Workers' Compensation Policy Review* provided three types of data on incurred benefits not included in this article. First, we included state data on frequency of claims per 100,000 workers for four types of cash benefits and for medical benefits. Second, we provided state data on average benefits per claim for the four types of cash benefits and for medical benefits. Third, we provided state data on cash benefits per 100,000 workers for four types of cash benefits. These three types of data were presented for 1995 to 1999. The previous article also provided brief descriptions of the sources of our data and of our methodology.

We also wrote an article (Burton and Blum 2003a) that presents our traditional tables and figures contain-



ing information on cash benefits, medical benefits, and total (cash and medical benefits) per 100,000 workers for 1985 to 1999. The present article updates these traditional tables and figures through 2000, the latest year for which data are currently available. The data are presented at both a national level and for individual states. This article also contains Appendix A, which provides extended discussions of our methodology and sources of data for these articles.

National Data

The incurred benefits per 100,000 workers for 1999 in the 47 jurisdictions for which we have data for that year are provided in Table 1.1999. Similar data for the 47 jurisdictions for which we presently have data for 2000 are provided in Table 1.2000. We do not yet have 1999 and 2000 data for West Virginia, which we expect to have when we update this article next year.

Panel A of Table 1.2000 presents information on cash benefits, Panel B provides the data for medical benefits, and Panel C presents data for total

(cash plus medical) benefits. As explained in Appendix A, we primarily rely on information published by the National Council on Compensation Insurance (NCCI) to develop our data. The NCCI publishes information on the frequency per 100,000 workers and the average cost per claim for four types of cash benefits: temporary total, permanent partial disability, permanent total, and fatal. We multiply the NCCI frequency and average cost per claim to obtain the cash benefits per 100,000 workers for each of the four types of cash benefits. The sum of these four types of cash benefits is \$16,119,893 per 100,000 Alabama workers in 2000, as shown in column (1) of Table 1.2000.

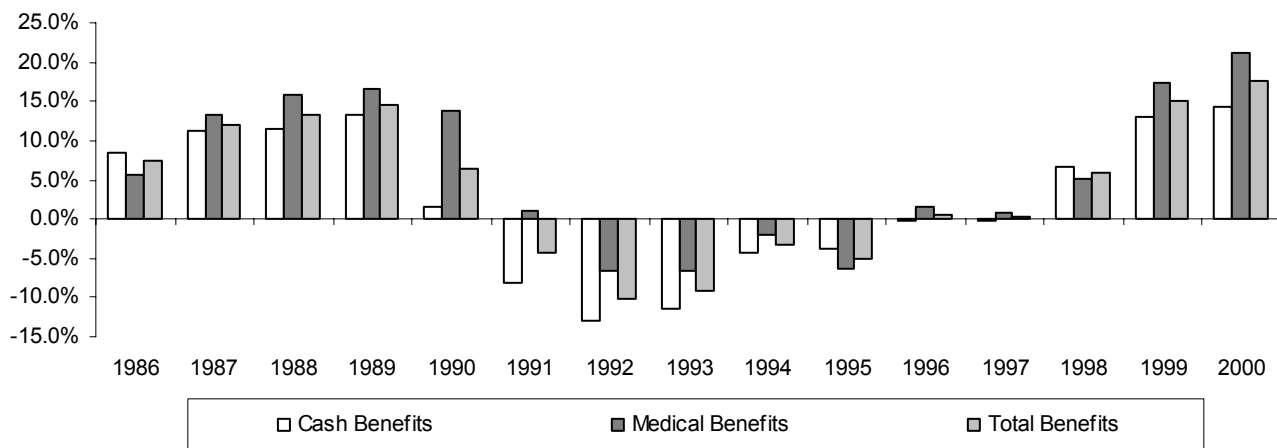
The derivation of the medical benefits per 100,000 workers in Panel B of Table 1.2000 is straightforward. The NCCI publishes the frequency of medical claims per 100,000 workers and the average medical benefits per claim. The data are for all claims, including the medical benefits in claims with cash benefits and the medical benefits in claims without cash benefits (the "medical only" category). We multiply the NCCI frequency and average cost per claim to obtain the medical benefits per 100,000 workers. The result of this multiplication for

Alabama for 2000 is the medical benefits of \$33,332,167 per 100,000 workers in column (4) of Table 1.2000.

The derivation of the total (cash plus medical) benefits per 100,000 workers in Panel C of Table 1.2000 is also straightforward. For example, the 2000 Alabama total benefits of \$49,452,060 per 100,000 workers in column (7) are the sum of the cash benefits of \$16,119,893 in column (1) and the medical benefits of \$33,332,167 in column (4) of Table 1.2000.

The data from Tables 1.1999 and 1.2000 and similar tables for earlier years were used to produce the national data in Table 2. Panel A of the table shows the national averages for cash benefits, medical benefits, and total (cash plus medical) per 100,000 workers for all of the states available in each year between 1985 and 2000. Comparisons among years of the data in Panel A are inappropriate, however, because the number of states used to calculate the national average varies from year to year, depending on the available data. Nevada data, for example, only became available in 1996 after private carriers were permitted to provide workers' compen-

Figure B
Changes in Benefits per 100,000 Workers
(Percentage Increases from Preceding Year)



Source: Table 2, Panels B and C.

Table 1.1999 - Benefits Per 100,000 Workers For Employers Who Purchase Workers' Compensation Insurance for 1999

State	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
	Dollar	State's Benefit	Rank Among	Dollar	State's Benefit	Rank Among	Dollar	State's Benefit	Rank Among
	Amount	as a Percentage	46	Amount	as a Percentage	46	Amount	as a Percentage	46
(1)	of US Average	Jurisdictions	(4)	of US Average	Jurisdictions	(7)	of US Average	Jurisdictions	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Alabama	15,430,939	65.5	36	33,714,483	140.4	6	49,145,421	103.3	12
Alaska	37,882,057	160.8	4	48,604,268	202.5	3	86,486,325	181.8	3
Arizona	11,876,808	50.4	43	20,681,498	86.2	23	32,558,306	68.4	37
Arkansas	9,465,810	40.2	44	15,519,114	64.6	41	24,984,924	52.5	45
California	49,424,104	209.8	2	40,512,979	168.8	5	89,937,083	189.1	2
Colorado	24,946,008	105.9	12	22,207,256	92.5	21	47,153,264	99.1	14
Connecticut	24,951,336	105.9	11	19,672,318	82.0	28	44,623,654	93.8	20
Delaware	21,527,212	91.4	18	29,575,856	123.2	10	51,103,068	107.4	10
Dis. of Columbia	8,436,727	35.8	46	4,903,805	20.4	47	13,340,532	28.0	47
Florida	22,395,662	95.1	15	40,639,375	169.3	4	63,035,037	132.5	5
Georgia	16,031,340	68.0	34	16,317,891	68.0	38	32,349,231	68.0	38
Hawaii	26,304,108	111.6	9	19,235,070	80.1	29	45,539,178	95.7	19
Idaho	16,655,452	70.7	32	24,710,696	102.9	15	41,366,148	87.0	24
Illinois	22,375,573	95.0	16	18,641,822	77.7	30	41,017,395	86.2	25
Indiana	7,789,883	33.1	47	16,286,663	67.8	39	24,076,546	50.6	46
Iowa	17,739,433	75.3	27	18,293,515	76.2	32	36,032,947	75.8	31
Kansas	13,865,270	58.8	38	18,394,378	76.6	31	32,259,648	67.8	40
Kentucky	13,733,323	58.3	39	29,092,763	121.2	11	42,826,086	90.0	21
Louisiana	27,238,802	115.6	7	28,534,887	118.9	12	55,773,689	117.3	8
Maine	19,278,388	81.8	24	20,665,311	86.1	24	39,943,699	84.0	26
Maryland	18,221,798	77.3	25	15,253,886	63.5	42	33,475,683	70.4	36
Massachusetts	22,601,192	95.9	14	11,733,878	48.9	46	34,335,070	72.2	34
Michigan	19,902,707	84.5	20	15,879,975	66.2	40	35,782,681	75.2	33
Minnesota	17,778,740	75.5	26	21,685,040	90.3	22	39,463,780	83.0	27
Mississippi	17,056,177	72.4	28	22,363,176	93.2	20	39,419,353	82.9	28
Missouri	21,656,659	91.9	17	20,603,600	85.8	25	42,260,259	88.8	23
Montana	20,804,069	88.3	19	56,432,660	235.1	2	77,236,729	162.4	4
Nebraska	16,173,275	68.6	33	19,806,005	82.5	27	35,979,279	75.6	32
Nevada	30,945,753	131.3	6	25,632,889	106.8	14	56,578,642	118.9	6
New Hampshire	16,788,810	71.3	30	30,810,270	128.3	7	47,599,080	100.1	13
New Jersey	15,821,660	67.1	35	12,144,040	50.6	45	27,965,700	58.8	43
New Mexico	12,428,141	52.7	41	19,909,179	82.9	26	32,337,320	68.0	39
New York	32,309,769	137.1	5	13,504,260	56.3	44	45,814,029	96.3	18
North Carolina	19,694,906	83.6	23	14,408,082	60.0	43	34,102,988	71.7	35
Oklahoma	24,306,792	103.2	13	22,531,936	93.9	19	46,838,728	98.5	16
Oregon	16,875,859	71.6	29	29,952,282	124.8	9	46,828,141	98.4	17
Pennsylvania	26,091,650	110.7	10	24,608,140	102.5	16	50,699,790	106.6	11
Rhode Island	39,398,193	167.2	3	16,381,452	68.2	37	55,779,645	117.3	7
South Carolina	19,819,918	84.1	21	17,244,891	71.8	34	37,064,808	77.9	30
South Dakota	12,817,436	54.4	40	16,680,428	69.5	36	29,497,864	62.0	41
Tennessee	19,801,187	84.0	22	22,967,337	95.7	18	42,768,524	89.9	22
Texas	16,736,568	71.0	31	30,197,496	125.8	8	46,934,064	98.7	15
USL&HW	170,703,150	724.5	1	93,944,781	391.4	1	264,647,931	556.4	1
Utah	8,790,645	37.3	45	16,925,913	70.5	35	25,716,558	54.1	44
Vermont	26,488,286	112.4	8	27,417,714	114.2	13	53,906,000	113.3	9
Virginia	11,934,273	50.7	42	17,366,939	72.3	33	29,301,211	61.6	42
West Virginia	14,696,370	62.4	37	23,819,910	99.2	17	38,516,280	81.0	29
Wisconsin									
National Average*	23,561,772			24,005,033			47,566,805		

*Weighted averaged based on 46 jurisdictions (including the District of Columbia), using 1999 state employment as weights. Data from USL&HW were not used to calculate national averages.

Sources: NCCI, *Annual Statistical Bulletin*, 1986-2004 editions.

Table 1.2000 - Benefits Per 100,000 Workers For Employers Who Purchase Workers' Compensation Insurance for 2000

State	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
	Dollar	State's Benefit	Rank Among	Dollar	State's Benefit	Rank Among	Dollar	State's Benefit	Rank Among
	Amount	as a Percentage	46	Amount	as a Percentage	46	Amount	as a Percentage	46
(1)	of US Average	Jurisdictions	(4)	of US Average	(6)	(7)	of US Average	(9)	
Alabama	16,119,893	60.7	37	33,332,167	115.8	8	49,452,060	89.4	13
Alaska	46,858,729	176.5	3	59,585,060	207.1	3	106,443,789	192.4	3
Arizona	11,467,526	43.2	42	26,115,304	90.8	17	37,582,830	67.9	34
Arkansas	10,612,724	40.0	44	18,125,157	63.0	36	28,737,881	51.9	43
California	62,081,792	233.9	2	67,129,485	233.3	2	129,211,277	233.6	2
Colorado	24,003,274	90.4	15	23,708,102	82.4	22	47,711,376	86.2	19
Connecticut	27,384,035	103.2	8	21,826,723	75.9	27	49,210,758	89.0	14
Delaware	23,497,656	88.5	16	30,474,744	105.9	11	53,972,400	97.6	10
Dis. of Columbia	7,461,183	28.1	47	6,313,742	21.9	47	13,774,925	24.9	47
Florida	22,932,126	86.4	19	35,967,085	125.0	5	58,899,211	106.5	4
Georgia	17,515,008	66.0	33	17,082,719	59.4	38	34,597,727	62.5	40
Hawaii	26,941,518	101.5	9	19,453,945	67.6	33	46,395,463	83.9	22
Idaho	16,310,856	61.4	36	24,233,086	84.2	20	40,543,942	73.3	29
Illinois	24,186,252	91.1	14	19,125,939	66.5	34	43,312,191	78.3	26
Indiana	8,384,647	31.6	46	16,957,937	58.9	39	25,342,584	45.8	46
Iowa	18,733,800	70.6	27	19,533,374	67.9	32	38,267,173	69.2	33
Kansas	15,204,008	57.3	40	20,837,534	72.4	31	36,041,541	65.2	38
Kentucky	18,618,847	70.1	28	36,538,155	127.0	4	55,157,001	99.7	8
Louisiana	27,879,222	105.0	6	28,504,380	99.1	13	56,383,602	101.9	6
Maine	21,178,377	79.8	24	23,984,341	83.4	21	45,162,718	81.6	24
Maryland	18,052,457	68.0	29	14,385,318	50.0	44	32,437,775	58.6	42
Massachusetts	24,482,078	92.2	12	12,113,265	42.1	45	36,595,343	66.2	37
Michigan	23,313,087	87.8	17	18,327,801	63.7	35	41,640,888	75.3	28
Minnesota	19,596,480	73.8	25	24,398,199	84.8	19	43,994,679	79.5	25
Mississippi	16,790,267	63.2	34	23,555,200	81.9	23	40,345,467	72.9	30
Missouri	23,125,424	87.1	18	22,238,219	77.3	25	45,363,643	82.0	23
Montana	22,085,300	83.2	21	33,838,347	117.6	7	55,923,647	101.1	7
Nebraska	17,795,205	67.0	31	22,375,582	77.8	24	40,170,787	72.6	31
Nevada	25,773,745	97.1	11	20,893,562	72.6	29	46,667,307	84.4	20
New Hampshire	19,390,313	73.0	26	29,199,103	101.5	12	48,589,415	87.8	18
New Jersey	17,981,460	67.7	30	14,934,434	51.9	43	32,915,894	59.5	41
New Mexico	15,267,997	57.5	39	21,707,709	75.4	28	36,975,706	66.8	35
New York	40,038,300	150.8	4	16,381,839	56.9	41	56,420,139	102.0	5
North Carolina	21,393,378	80.6	23	15,242,871	53.0	42	36,636,249	66.2	36
Oklahoma	24,382,017	91.8	13	24,411,467	84.8	18	48,793,484	88.2	17
Oregon	17,623,764	66.4	32	31,391,192	109.1	9	49,014,956	88.6	15
Pennsylvania	27,545,448	103.8	7	27,153,442	94.4	14	54,698,890	98.9	9
Rhode Island	28,378,808	106.9	5	11,153,722	38.8	46	39,532,530	71.5	32
South Carolina	22,431,297	84.5	20	20,880,145	72.6	30	43,311,442	78.3	27
South Dakota	12,877,782	48.5	41	22,160,460	77.0	26	35,038,242	63.3	39
Tennessee	21,869,660	82.4	22	26,946,812	93.7	15	48,816,472	88.2	16
Texas	16,601,628	62.5	35	35,535,630	123.5	6	52,137,258	94.2	12
USL&HW	146,513,152	551.9	1	134,587,200	467.7	1	281,100,352	508.1	1
Utah	9,313,796	35.1	45	17,334,254	60.2	37	26,648,050	48.2	45
Vermont	26,729,888	100.7	10	26,731,328	92.9	16	53,461,216	96.6	11
Virginia	11,001,683	41.4	43	16,868,165	58.6	40	27,869,848	50.4	44
Wisconsin	15,787,059	59.5	38	30,854,670	107.2	10	46,641,729	84.3	21
National Average*	26,546,486			28,773,811			55,320,297		

*Weighted averaged based on 46 jurisdictions (including the District of Columbia), using 2000 state employment as weights. Data from USL&HW were not used to calculate national averages.

Sources: NCCI, *Annual Statistical Bulletin*, 1986-2004 editions.

Table 2: National Averages of Benefits Per 100,000 Workers By Policy Year

Panel A: All States with Data for the Particular Policy Year

Policy Year	No. of States Used To Construct Avg.*	Cash Benefits		Medical Benefits		Total Benefits	
		Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year
1985	44 (DE, NV, PA)	20,225,149	--	12,834,744	--	33,059,893	--
1986	45 (DE, NV)	22,303,501	10.3%	13,793,727	7.5%	36,097,228	9.2%
1987	44 (NV, PA, TX)	24,076,722	8.0%	14,936,712	8.3%	39,013,434	8.1%
1988	46 (NV)	27,393,892	13.8%	17,945,293	20.1%	45,339,185	16.2%
1989	44 (NV, TX)	31,203,168	13.9%	20,885,719	16.4%	52,088,887	14.9%
1990	46 (NV)	31,373,803	0.5%	23,795,210	13.9%	55,169,013	5.9%
1991	46 (NV)	28,584,224	-8.9%	24,609,640	3.4%	53,193,864	-3.6%
1992	46 (NV)	25,077,618	-12.3%	22,543,962	-8.4%	47,621,580	-10.5%
1993	46 (NV)	22,122,739	-11.8%	20,757,648	-7.9%	42,880,387	-10.0%
1994	46 (NV)	21,177,960	-4.3%	20,523,481	-1.1%	41,701,441	-2.7%
1995	46 (NV)	20,271,454	-4.3%	19,394,209	-5.5%	39,665,663	-4.9%
1996	47	20,147,966	-0.6%	19,411,614	0.1%	39,559,580	-0.3%
1997	47	20,157,540	0.0%	19,726,066	1.6%	39,883,606	0.8%
1998	47	21,283,198	5.6%	20,624,199	4.6%	41,907,397	5.1%
1999	46 (WV)	23,561,772	10.7%	24,005,033	16.4%	47,566,805	13.5%
2000	46 (WV)	26,546,486	12.7%	28,773,811	19.9%	55,320,297	16.3%

Panel B: Forty-three States with Data for Policy Years 1985 - 1998

Policy Year	No. of States Used To Construct Avg.**	Cash Benefits		Medical Benefits		Total Benefits	
		Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year
1985	43	19,969,289	--	12,481,272	--	32,450,561	--
1986	43	21,673,534	8.5%	13,195,645	5.7%	34,869,179	7.5%
1987	43	24,116,168	11.3%	14,937,465	13.2%	39,053,633	12.0%
1988	43	26,901,361	11.5%	17,312,102	15.9%	44,213,463	13.2%
1989	43	30,446,891	13.2%	20,196,293	16.7%	50,643,184	14.5%
1990	43	30,929,031	1.6%	22,998,538	13.9%	53,927,569	6.5%
1991	43	28,409,985	-8.1%	23,251,226	1.1%	51,661,211	-4.2%
1992	43	24,736,191	-12.9%	21,718,996	-6.6%	46,455,187	-10.1%
1993	43	21,922,860	-11.4%	20,285,280	-6.6%	42,208,140	-9.1%
1994	43	20,958,596	-4.4%	19,880,113	-2.0%	40,838,709	-3.2%
1995	43	20,143,073	-3.9%	18,635,803	-6.3%	38,778,876	-5.0%
1996	43	20,073,784	-0.3%	18,906,882	1.5%	38,980,666	0.5%
1997	43	20,036,698	-0.2%	19,042,530	0.7%	39,079,228	0.3%
1998	43	21,382,752	6.7%	20,027,010	5.2%	41,409,762	6.0%

Panel C: Forty-Two States with Data for Policy Years 1998 - 2000

Policy Year	No. of States Used To Construct Avg.**	Cash Benefits		Medical Benefits		Total Benefits	
		Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year
1998	42	21,228,738	--	19,944,766	--	41,173,504	--
1999	42	23,967,542	12.9%	23,387,093	17.3%	47,354,635	15.0%
2000	42	27,399,545	14.3%	28,327,607	21.1%	55,727,152	17.7%

* Maximum number of states is 47, including the District of Columbia. States missing from all years are four states with exclusive state funds, namely, North Dakota, Ohio, Washington, and Wyoming. States missing for a particular year in Panel A are shown in parentheses. In addition, the USL&HW is excluded from all calculations of National Averages.

**The states excluded from Panel B are the same states missing in Panel A plus Delaware, Nevada, Pennsylvania, and Texas.

***The states excluded from Panel C are the same states missing in Panel B plus West Virginia.

sation insurance in the state. Since Nevada has paid above average benefits in 1996 to 2000 (as shown in Tables 1.1999 and 1.2000 and similar tables for earlier years), the national averages for 1996 to 2000 shown in Panel A of Table 2 are not comparable to the national average for earlier years.¹ There are also some years when data from Delaware, Pennsylvania, Texas, and/or West Virginia are unavailable, which again limits the comparability of the data in Panel A of Table 2.

The data in Panels B and C of Table 2 are more comparable among years than the Panel A data, and were therefore used to produce Figures A and B. Panel B of Table 2 presents national averages for cash, medical and total benefits per 100,000 workers for the same 43 states for 1985 to 1998. Because data for West Virginia are not yet available for 1999 or 2000, Panel C presents national averages for cash, medical, and total benefits per 100,000 workers for the same 42 states for 1998, 1999 and 2000. The national averages in Panels B and C are not comparable (since the exclusion of West Virginia data lowers the 1998 national averages for cash benefits, medical benefits, and total benefits); but the percentage increases for benefits between 1998 and 2000 shown in Panel C are based on the same set of states and therefore the percentage increases for 1998 to 1999 and 1999 to 2000 are reasonably comparable to the increases in earlier years.

The data in Panels B and C of Table 2, and the results in Figures A and B, document the dramatic fluctuations in incurred workers' compensation benefits in recent decades. For the four years from 1986 through 1989, total benefits per 100,000 workers increased on average more than 12 percent a year. The fastest growth year was 1989, when total benefits were up 14.5 percent from the previous year. Then a sudden deceleration occurred, with total benefits per 100,000 workers up only 6.5 percent

in 1990 from the previous year. Deceleration was followed by decline: total benefits were down 4.2 percent in 1991 from the previous year, and 1991 was followed by another four years of decline. Then total benefits were relatively stable in 1996 and 1997, followed by a 6.0 percent increase in 1998, a 15.0 percent increase in 1999, and a 17.7 percent increase in 2000 which is the most recent year for which we have data.

The data on total benefits per 100,000 workers are the combined total of cash benefits per 100,000 workers and medical benefits per 100,000 workers. Panels B and C of Table 2 and Figure B provide information on the development in all three measures of benefits since 1985. The movements through time have been similar for the three measures: initially several years when benefits were generally accelerating, followed by decelerating benefits in 1990, followed (with a minor exception) by a period of decline in benefits until 1995, then relative stability in 1996 and 1997, followed by an increase in both types of benefits in 1998, 1999 and 2000.

The data in Table 2 are for benefits in current dollars unadjusted for inflation. The benefits adjusted for changes in the CPI are shown in Table 3. The decline in benefits during the 1990s is even more dramatic when measured in constant (1982-84) dollars. Measured in current dollars, total benefits per 100,000 workers declined by 27.5 percent in the 43 jurisdictions between 1990 and 1997 (Table 3, Column (9)). Measured in constant dollars, total benefits per 100,000 workers declined by 45.1 percent from 1990 to 1997 (Table 3, Column (10)). Moreover, in constant dollars, the decline in total benefits began in 1990 and continued through 1997; this eight-year stretch of declining total benefits in constant dollars is three years longer than the decline in total benefits measured in current dollars between 1991 and 1995. However, even in constant dollars, cash,

medical, and total benefits increased by more than 10 percent a year between 1998 and 2000.

Explanations of the National Developments

The latest national data on incurred benefits per 100,000 workers indicate that both cash and medical benefits declined substantially during most of the 1990s. Between 1990 and 1997, as previously noted, the cumulative decline in total benefits per 100,000 workers in current dollars was 27.5 percent in the 43 jurisdictions with data available for all years. The components of total benefits also experienced decline over this period, albeit at different rates, with cash benefits down 35.2 percent and medical benefits down 17.2 percent measured in current dollars.

Why did incurred benefits decline so rapidly during these years? One partial explanation is that the workplace appears to have become safer during the 1990s. The annual number of lost workday cases per 100 full-time workers in the private sector dropped from 4.1 in 1990, to 3.8 in 1994, to 3.3 in 1997, and then to 3.0 in 2000.² These declines in the occupational injury and injury rate translated into lower cash and medical benefits per 100,000 workers.

Another factor that explains at least a part of the decline in cash benefits paid to workers during most of the 1990s is that the statutory level of cash benefits provided by workers' compensation statutes were scaled back during several years in the period, as shown in Figure C. Benefits were scaled back in four of the eight years between 1990 and 1997, and the net effect of the statutory changes during the eight years was to reduce benefits, which is a record that probably cannot be matched since at least the 1930s.

A possible explanation of the decline in incurred medical benefits during the period from 1990 to 1997

Table 3 - National Averages of Benefits Per 100,000 Workers By Year in Current and Constant Dollars

Panel A: Forty-Three States with Data for Policy Years 1985 - 1998

Policy Year	No. of States Used To Construct Avg.*	Cash Benefits				Medical Benefits				Total Benefits		
		Benefits in Current \$ (1)	CPI (2)	Benefits in 82-84 \$ (3)	Increase from Previous Year (4)	Benefits in Current \$ (5)	CPI (6)	Benefits in 82-84 \$ (7)	Increase from Previous Year (8)	Benefits in Current \$ (9)	Benefits in 82-84 \$ (10)	Increase from Previous Year (11)
1985	43	19,969,289	107.2	18,628,068	--	12,481,272	113.5	10,996,715	--	32,450,561	29,624,784	--
1986	43	21,673,534	108.8	19,920,528	6.9%	13,195,645	122.0	10,816,102	-1.6%	34,869,179	30,736,630	3.8%
1987	43	24,116,168	112.6	21,417,556	7.5%	14,937,465	130.1	11,481,526	6.2%	39,053,633	32,899,082	7.0%
1988	43	26,901,361	117.0	22,992,616	7.4%	17,312,102	138.6	12,490,694	8.8%	44,213,463	35,483,310	7.9%
1989	43	30,446,891	122.4	24,874,911	8.2%	20,196,293	149.3	13,527,323	8.3%	50,643,184	38,402,234	8.2%
1990	43	30,929,031	128.8	24,013,223	-3.5%	22,998,538	162.8	14,126,866	4.4%	53,927,569	38,140,089	-0.7%
1991	43	28,409,985	133.8	21,233,173	-11.6%	23,251,226	177.0	13,136,286	-7.0%	51,661,211	34,369,459	-9.9%
1992	43	24,736,191	137.5	17,989,957	-15.3%	21,718,996	190.1	11,425,037	-13.0%	46,455,187	29,414,994	-14.4%
1993	43	21,922,860	141.2	15,526,105	-13.7%	20,285,280	201.4	10,072,135	-11.8%	42,208,140	25,598,240	-13.0%
1994	43	20,958,596	144.7	14,484,171	-6.7%	19,880,113	211.0	9,421,855	-6.5%	40,838,709	23,906,026	-6.6%
1995	43	20,143,073	148.6	13,555,231	-6.4%	18,635,803	220.5	8,451,611	-10.3%	38,778,876	22,006,842	-7.9%
1996	43	20,073,784	152.8	13,137,293	-3.1%	18,906,882	228.2	8,285,224	-2.0%	38,980,666	21,422,518	-2.7%
1997	43	20,036,698	156.3	12,819,385	-2.4%	19,042,530	234.6	8,117,020	-2.0%	39,079,228	20,936,405	-2.3%
1998	43	21,382,752	158.6	13,482,189	5.2%	20,027,010	242.1	8,272,206	1.9%	41,409,762	21,754,395	3.9%

Panel B: Forty-Two States with Data for Policy Years 1998 - 1999

Policy Year	No. of States Used To Construct Avg.*	Cash Benefits				Medical Benefits				Total Benefits		
		Benefits in Current \$	CPI	Benefits in 82-84 \$	Increase from Previous Year	Benefits in Current \$	CPI	Benefits in 82-84 \$	Increase from Previous Year	Benefits in Current \$	Benefits in 82-84 \$	Increase from Previous Year
1998	42	21,228,738	158.6	13,385,081	--	19,944,766	242.1	8,238,235	--	41,173,504	21,623,315	--
1999	42	23,967,542	162.0	14,794,779	10.5%	23,387,093	250.6	9,332,439	13.3%	47,354,635	24,127,218	11.6%
2000	42	27,399,545	167.3	16,377,493	10.7%	28,327,607	260.8	10,861,813	16.4%	55,727,152	27,239,305	12.9%

Notes: CPI in column (2) is the Consumer Price Index for all items less medical care with 1982-84 = 100 from Table B-62 of Council of Economic Advisers (2003: 348).
CPI in column (6) is the Consumer Price Index for medical care with 1982-84 = 100 from Table B-60 of Council of Economic Advisers (2003: 345).

was the rapid emergence of managed care and the general increase in employer control over provision of medical care for injured workers. While we are skeptical that large reductions in medical expenditures due to managed care can be sustained over an extended period, it is possible that the rapid spread of HMOs, PPOs, et al in workers' compensation programs in the early 1990s drove down incurred benefits between 1990 and 1997.

Another possible explanation for the decline in both cash and medical benefits per 100,000 workers between 1990 and 1997 that may be of major significance is the tightening of the eligibility standards for workers' compensation benefits that occurred in a number of jurisdictions during the 1990s. The trend to limit compensability of workers' compensation claims nationally was documented by Spieler and Burton (1998). In Oregon, Thomason and Burton (2001) esti-

mated that the effect of a series of statutory changes in the late 1980s and early 1990s was to reduce benefit payments by 20 to 25 percent below the amounts workers would have received in the absence of these statutory changes. Thus, the reductions in benefits paid to disabled workers through 1997 may not have reflected just the beneficial consequences of safer workplaces and the reductions of unnecessary medical treatment resulting from managed care, but may also have reflected the shifting of costs of workplace disability to other public and private sources of cash and medical benefits or to the workers and their families.

The significant increases in incurred cash and medical benefits in 1998, 1999, and 2000 suggest that we have entered a new phase in the cycle of workers' compensation benefits in the U.S. The increase in incurred medical benefits from 1998 to 2000 does not appear to reflect an accelera-

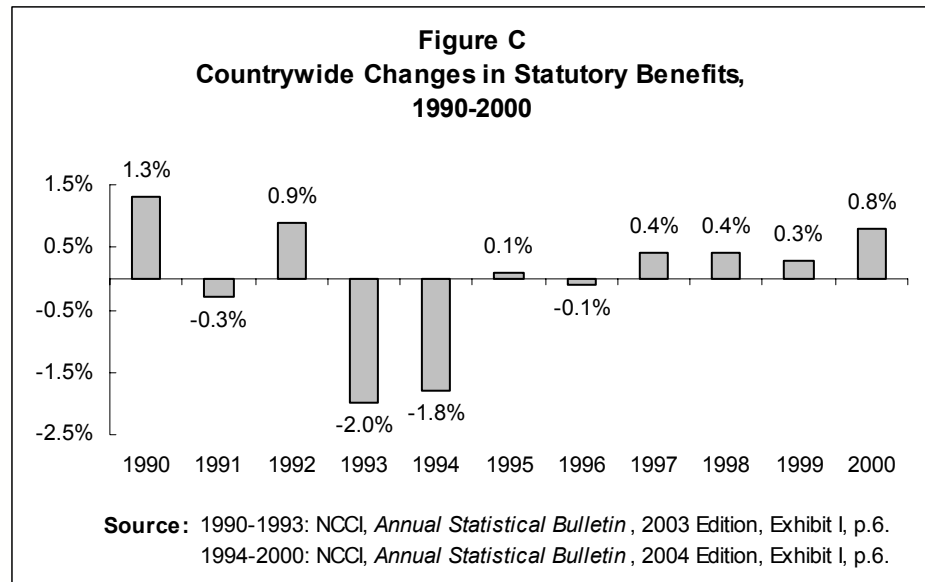
tion of health care costs in the U.S. The annual rates of increase in the consumer price index (CPI) for medical care included in Column (6) of Table 3 indicate that the price of medical care was increasing at less than five percent a year from 1998 to 2000. In 2000, the medical CPI was up only 4.1 percent from the previous year (1.041 = 260.8/250.6). The 21.1 percent surge in health care costs in the workers' compensation in 2000 (Table 2, Panel C) is a product of changes in the price per unit of health care service times the changes in the number of health care units used in workers' compensation. Since the price per unit of health care does not appear to have increased rapidly between 1999 and 2000, the implication is that the quantity of health care provided to injured workers increased rapidly in 2000. This may suggest that the various health-care cost containment policies introduced into workers' compensation in the early and mid-1990s have failed.

The rapid increases in cash benefits per 100,000 workers in 1998, 1999, and 2000 are also surprisingly large. The economic expansion that began in 1992 continued in those years, there were only modest increases of less than 1.0 percent in the statutory level of benefits in 1998, 1999, and 2000 (as shown in Figure C), and the injury rate dropped from 3.1 lost time injuries per 100 workers in 1998 to 3.0 in 1999 and 2000. These factors could have been expected to produce relatively modest increases in incurred cash benefits. The 14.3 percent increase in incurred cash benefits between 1999 and 2000 (Table 2, Panel C) suggests that injuries were becoming more severe or that the amount of cash benefits per claim were rapidly accelerating.

These catalogues of the possible causes and consequences of the rapid decline in cash and medical benefits from 1991 to 1997, and the rapid increase of these incurred costs in 1998 to 2000, are meant to be suggestive, rather than conclusive. For the sake of workers, employers, and other participants in the workers' compensation program, we need careful studies that will help us better understand these recent developments in benefit payments.

Comparisons of Individual States for 2000

The 2000 data in Table 1.2000 allow comparisons among 47 jurisdictions for that year. The cash benefits per 100,000 workers in 2000 ranged from \$146,513,152 in the USL&HW program to \$7,461,183 in the District of Columbia. Medical benefits per 100,000 workers varied from \$134,587,200 in the USL&HW program to \$6,313,742 in the District of Columbia. Total benefits (cash plus medical) per 100,000 workers were highest in the USL&HW program at \$281,100,352 and were lowest in the District of Columbia at \$13,774,925. These data were used to construct Figures D through F.



Cash Benefits. Each of the state's cash benefits per 100,000 workers as a percentage of the U.S. average payment in 2000 is shown in column (2) of Panel A of Table 1.2000. (The averages were calculated excluding the USL&HW program because that program is obviously an outlier.) States were ranked in Figure D in terms of how their cash benefits compared to the national average.

Three states plus the USL&HW program had cash benefits that were "well above average" – the benefits were more than 50 percent above the national average. The states ranged from New York (where benefits were almost 51 percent above the national average) to California (where benefits were 134 percent above the national average). In addition, the USL&HW program had cash benefits that were more than five times the national average. No state had cash benefits that were "above average" – where cash benefits were more than 25 percent, but less than 50 percent above the national average.

Other states had much lower cash benefits relative to the national average in 2000. Seven states had cash benefits that were "well below average" – benefits were at least 50 percent below the national average.

These states ranged from South Dakota (where benefits were 51.5 percent below the national average) to the District of Columbia, where cash benefits were almost 72 percent below the national average. In addition, 16 states had cash benefits that were "below average" – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from Minnesota (where benefits were 26 percent below the national average) to Kansas (where benefits were almost 43 percent below the national average).

There were also 20 states with "average" cash benefits – the cash benefits were within 25 percent of the national average. These states ranged from Maine (where benefits were 20 percent below the national average) to Rhode Island (where benefits were almost 7 percent above the national average).

Medical Benefits. Each of the state's incurred medical benefits per 100,000 workers as a percentage of the U.S. average in 2000 is shown in column (5) of Panel B of Table 1.2000. States were ranked in Figure E in terms of how their medical benefits compared to the national average.

Two states plus the USL&HW program had medical benefits that

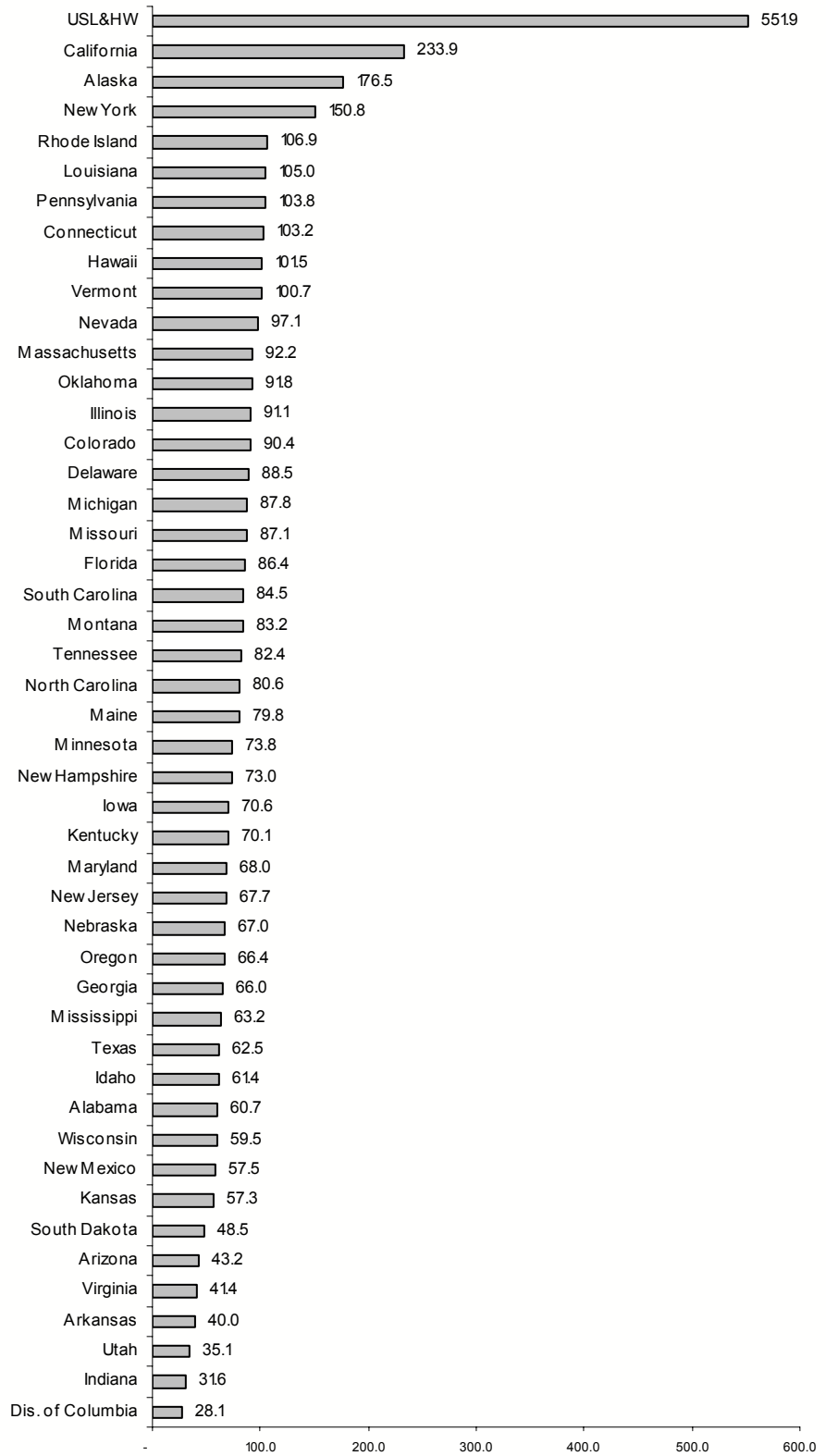
were “well above average” – the benefits were more than 50 percent above the national average. These states are California (where benefits were 133 percent above the national average) and Alaska (where benefits were 107 percent above the national average). In addition, the USL&HW program had medical benefits that were more than four and a half times the national average. There were two states where medical benefits were “above average” – cash benefits were more than 25 percent, but less than 50 percent above the national average. They are Florida (where benefits were 25 percent above the national average) and Kentucky (where benefits were 27 percent above the national average).

Other states had much lower medical benefits relative to the national average in 2000. Four states had medical benefits that were “well below average” – benefits were at least 50 percent below the national average. These states ranged from Maryland (where benefits were 50 percent below the national average) to the District of Columbia where medical benefits were 78 percent below the national average. In addition, fifteen states had medical benefits that were “below average” – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from Nevada (where benefits were slightly more than 27 percent below the national average) to New Jersey, where medical benefits were 48 percent below the national average.

There were also 23 states with “average” medical benefits – the medical benefits were within 25 percent of the national average. These states ranged from New Mexico (where benefits were almost 25 percent below the national average) to Texas (where benefits were almost 24 percent above the national average).

Total Benefits. Each of the state’s incurred total (cash plus medical) benefits per 100,000 workers as a percentage of the U.S. average in 2000

Figure D - Cash Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2000



Source: Table 100, Panel A

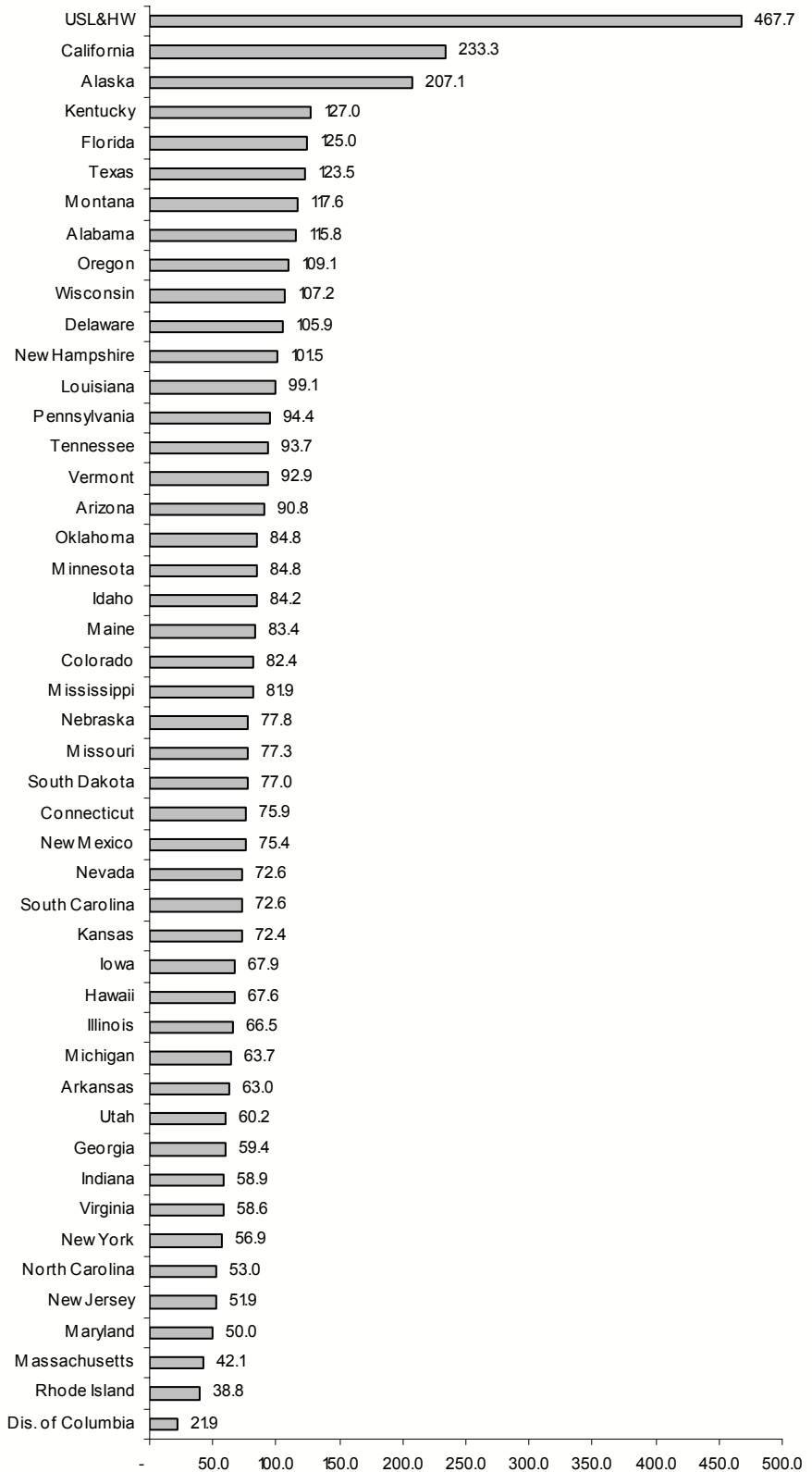
is shown in column (8) of Panel C of Table 1.2000. States were ranked in Figure F in terms of how their total benefits compared to the national average.

Two states plus the USL&HW program had total benefits that were “well above average” – the benefits were more than 50 percent above the national average. They are Alaska (where benefits were 92 percent above the national average) and California (where benefits were 133 percent above the national average). In addition, the USL&HW program had total benefits that were more than five times the national average. There were no states that had total benefits that were “above average” – where total benefits were more than 25 percent, but less than 50 percent above the national average.

Other states had much lower total benefits relative to the national average in 2000. Three states had total benefits that were “well below average” – benefits were at least 50 percent below the national average. They ranged from the District of Columbia (where benefits were 75 percent below the national average) to Utah (where benefits were almost 52 percent below the national average). Sixteen states had total benefits that were “below average” – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from Idaho (where benefits were almost 27 percent below the national average) to Virginia (where benefits were almost 50 percent below the national average).

There were also 25 states with “average” cash benefits – the cash benefits were within 25 percent of the national average. These states ranged from Michigan (where benefits were almost 25 percent below the national average) to Florida (where benefits were almost 7 percent above the national average).

Figure E - Medical Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2000



Source: Table 100, Panel B

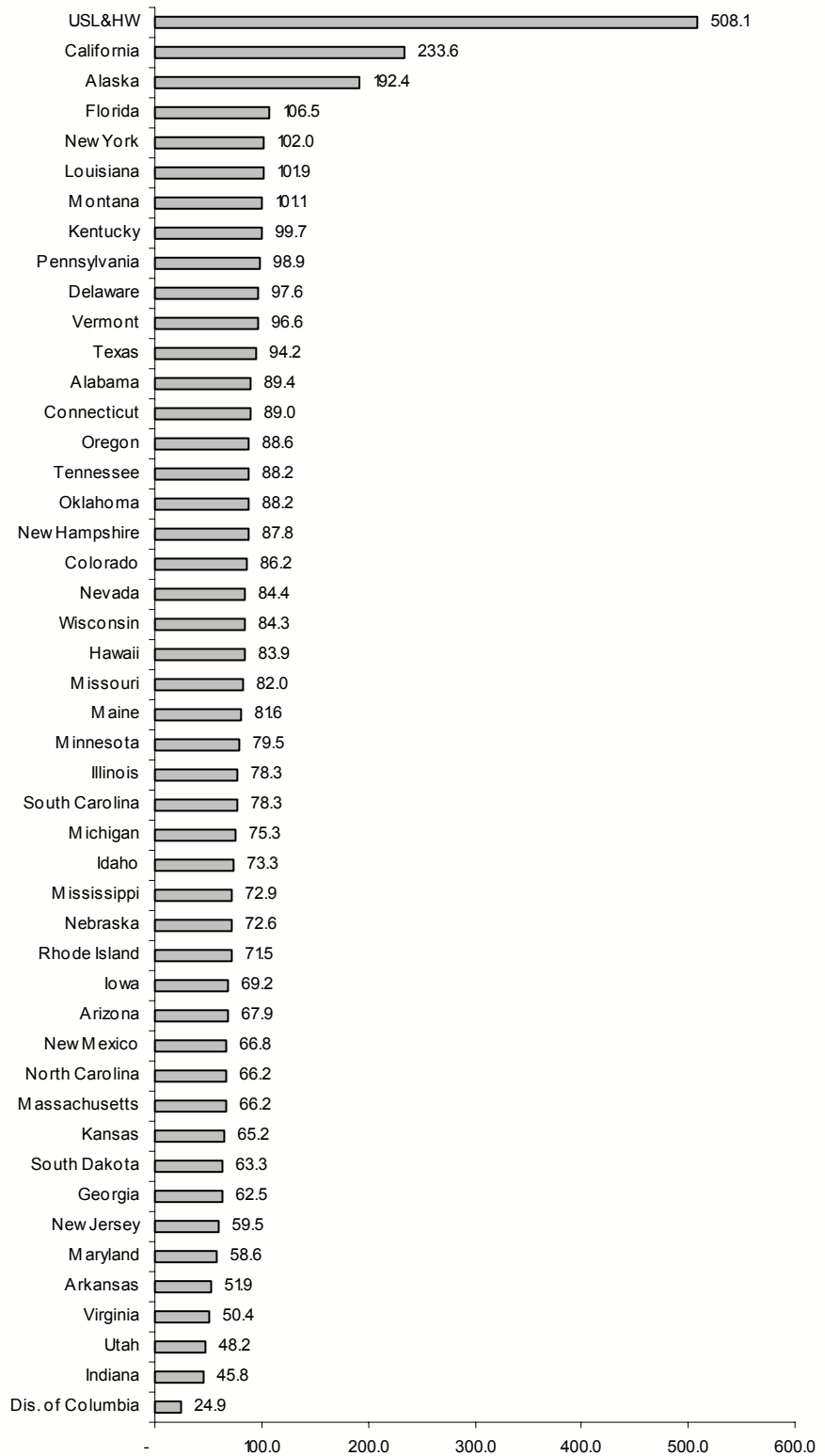
Historical Comparisons of Individual States

Tables 1.1999 and 1.2000, plus comparable unpublished tables for earlier years, present a formidable amount of data on incurred cash, medical and total benefits per 100,000 workers for each state for each year between 1985 and 2000. Some readers (and surely the authors) are likely to find that much data hard to assimilate. Tables 4 to 6 are designed to facilitate that assimilation.

Cash Benefits. Table 4 provides summary information on the relative amount of cash benefits for each of the 46 states plus the District of Columbia and the USL&HW for the 16 years included in this study. The coding scheme relies on the classifications previously introduced: a state receives a “++” in a particular year if its cash benefits are well above average; a “+” if the benefits are above average; a “-” if the benefits are well below average; a “-” if benefits are below average; a “0” if benefits are average; and a “N/A” if data are not available for that year. (The ranges for the various categories are shown in the notes to Tables 4 to 6.)

The entries in Table 4 permit a quick assessment of how the cash benefits in each jurisdiction have compared to the national averages during the 16 years. Some jurisdictions demonstrate a consistent record through the years. The USL&HW program and West Virginia had cash benefits that were well above the national average (benefits were at least 50 percent above the national average) in all years with data. Illinois and Michigan had average benefits (benefits were within 25 percent of the national average) in all 16 years. Kansas had below average cash benefits (benefits were from 25 to 50 percent below the national average) in every year. Indiana and the District of Columbia had well below average cash benefits (benefits were at least 50 percent below the national average) in all years. There was no state

Figure F - Total (Cash plus Medical) Benefits per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2000



Source: Table 100, Panel C

Table 4 - Cash Benefits per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Alabama	-	-	-	-	-	-	-	-	-	0	0	0	0	-	-	-
Alaska	++	++	++	+	+	+	+	0	0	0	+	+	+	++	++	++
Arizona	-	-	0	-	-	0	0	0	0	0	0	-	-	-	-	--
Arkansas	-	-	-	-	-	-	-	-	-	--	--	--	--	--	--	--
California	+	+	+	0	0	0	+	0	0	0	+	+	++	++	++	++
Colorado	0	++	0	0	++	+	0	0	0	0	0	+	+	0	0	0
Connecticut	0	0	+	+	+	+	+	0	0	0	0	0	0	0	0	0
Delaware	0	0	-	-	-	-	-	-	0	0	0	0	0	0	0	0
Dis. of Columbia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Florida	0	+	++	++	++	+	0	0	0	0	0	0	0	0	0	0
Georgia	-	-	0	0	-	0	-	0	0	0	-	-	-	-	-	-
Hawaii	0	0	0	0	0	+	++	++	++	++	0	0	0	0	0	0
Idaho	0	0	-	-	-	-	0	0	0	0	0	0	0	0	-	-
Illinois	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indiana	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iowa	-	-	-	-	--	-	-	-	-	-	-	-	-	0	0	-
Kansas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kentucky	-	-	-	-	0	0	0	0	0	0	-	-	-	--	-	-
Louisiana	+	+	++	++	0	0	0	0	0	0	0	0	0	0	0	0
Maine	++	++	++	++	++	++	++	+	0	-	0	0	0	0	0	0
Maryland	0	-	-	-	-	-	-	-	0	0	0	-	0	0	0	-
Massachusetts	+	+	++	++	++	++	0	0	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	++	+	+	+	0	+	0	0	0	0	-	-	-	-	0	-
Mississippi	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Missouri	--	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
Montana	++	++	++	+	++	++	++	+	+	++	+	+	0	0	0	0
Nebraska	--	--	--	--	--	--	--	-	-	-	-	-	-	-	-	-
Nevada	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	++	++	++	+	0
New Hampshire	0	0	0	+	+	+	+	+	0	0	0	0	0	0	-	-
New Jersey	-	-	-	-	-	-	-	0	0	-	0	0	0	-	-	-
New Mexico	++	+	++	+	0	0	0	-	-	-	-	--	-	-	-	-
New York	0	0	0	0	0	0	+	++	++	++	++	++	++	++	+	++
North Carolina	--	--	--	--	--	-	-	-	-	-	-	-	0	0	0	0
Oklahoma	0	0	0	0	0	0	+	++	++	++	++	+	+	0	0	0
Oregon	++	++	++	++	0	0	0	0	0	0	0	0	0	-	-	-
Pennsylvania	0	+	+	+	+	++	+	++	++	++	++	+	+	0	0	0
Rhode Island	++	++	++	++	++	++	++	-	-	-	0	0	+	++	++	0
South Carolina	-	-	-	-	-	-	-	-	-	0	-	-	-	0	0	0
South Dakota	-	-	-	-	-	-	-	0	-	-	0	0	--	--	-	--
Tennessee	--	--	-	-	-	-	-	0	0	0	0	0	0	0	0	0
Texas	0	0	N/A	+	N/A	0	0	-	-	-	0	-	0	-	-	-
USL&HW	N/A	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
Utah	--	--	--	--	--	--	--	-	-	-	--	--	--	--	--	--
Vermont	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0
Virginia	--	-	-	-	-	-	-	--	--	--	-	-	-	-	-	--
West Virginia	++	++	++	++	++	++	++	++	++	++	++	++	++	++	N/A	N/A
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: Tables 2.1985 - 2.1998
Tables 1.1999 - 1.2000
(Tables 2.1985 - 2.1998 are available upon request to subscribers to the *Workers' Compensation Policy Review*.)

that always had above average cash benefits.

Other states showed somewhat less stability in terms of their benefits relative to the national average over the 16 year period and moved among adjacent categories. Connecticut had average or above average cash benefits in every year. Six states (Arkansas, Mississippi, Nebraska, Utah, Virginia, and Wisconsin) had below average or well below average cash benefits in every year. Eight states (Alabama, Delaware, Georgia, Idaho, Maryland, New Jersey, South Carolina, and Vermont) had cash benefits that moved between average and below average over the 16-year period.

More interesting are the states that moved among three categories in terms of their cash benefits relative to the national averages over the 16 years. Twelve states (Alaska, California, Colorado, Florida, Hawaii, Louisiana, Massachusetts, Montana, Nevada, New York, Oklahoma, and Pennsylvania) varied between average and well above average cash benefits during all the years with data. Of these states, only Alaska, California, and New York had well above average benefits in 2000, while nine states had average cash benefits in 2000, obviously well below their relatively high benefits in earlier years. Seven states (Arizona, Iowa, Kentucky, Missouri, North Carolina, South Dakota, and Tennessee) varied between average and well below average cash benefits between 1985 and 2000. New Hampshire and Texas varied between above average and below average cash benefits during these years.

Four states had cash benefits relative to the national averages that varied among four categories during the 16 years. Maine was well above average for seven years, and then dropped to below average in 1994, before moving to average cash benefits for 1995 to 2000. Minnesota was well above average in 1985, dropped to average for most of the early 1990s, and had below average cash benefits

in 1995 to 2000 (except for a one-year increase in 1999). Oregon had a similar pattern: cash benefits were well above average from 1985 to 1988, dropped to average cash benefits for most of the 1990s, and had below average benefits from 1998 to 2000. Rhode Island had a unique pattern, beginning with cash benefits well above the national average for seven years, dropped to below average or average cash benefits for most of the 1990s, increased to above average benefits in 1998 and 1999, before dropping again to average in 2000.

The most volatile state was New Mexico, which varied between well above average in 1985 and 1987 and well below average in 1996, thus spanning all five categories in Table 4. The experiences in Maine, Minnesota, and New Mexico clearly demonstrate that significant reductions in cash benefits are possible. There are also several states whose experience over the 16 years indicates that substantial increases in cash benefits are possible. The most notable example is New York, which provided average cash benefits from 1985 to 1990, well above average cash benefits from 1992 to 1998, above average benefits in 1999 and a return to well above average benefits in 2000.

Medical Benefits. Table 5 provides summary information on the relative generosity of medical benefits for each of the 45 states plus the District of Columbia and the USL&HW for the 16 years included in this study. The entries in Table 5 permit a quick assessment of how generous the medical benefits have been in each jurisdiction during the 16 years.

Some states demonstrate a consistent record in terms of generosity of medical benefits through the years. There were five programs that were in the same category of generosity of medical benefits for all 16 years: two (Idaho and Mississippi) were in the average category every year; one state (New Jersey) was in the below average category every year; one jurisdic-

tion (the District of Columbia) was in the well below average category every year for which data are available; and one jurisdiction (the USL&HW) was in the well above average category every year for which data are available. There was no state in the above average category all 16 years.

There were a number of states that had relatively stable medical costs over the 16 years, with only movements among adjacent categories of relative generosity. For example, only one state, Alaska, moved between above average and well above average medical benefits between 1985 and 2000. Colorado and Kentucky are examples of states that moved between average and above average medical benefits during the 16 years. Georgia had average benefits from 1985 to 1996 and then dropped to below average medical benefits from 1997 to 2000. Indiana began with well below average medical benefits and moved to below average benefits during the period between 1987 and 2000. There are a number of other states that moved between adjacent categories of relative generosity of medical benefits during the 16 years included in Table 5.

As Table 5 also illustrates, there were 17 states that moved among non-adjacent categories during the 16 years. Ten states (Alabama, California, Delaware, Florida, Louisiana, Montana, New Mexico, Oregon, Pennsylvania, and West Virginia) varied among the average, above average, and well above average categories between 1985 and 2000. Five states (Iowa, New York, North Carolina, Rhode Island and South Carolina) paid medical benefits that varied among the average, below average, and well below average categories between 1985 and 2000. Two states (Arkansas and Nevada) varied among below average, average and above average in the years during all the years with data.

The experiences in Hawaii, Louisiana, Maine, Minnesota, New Mex-

Table 5 - Medical Benefits per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Alabama	0	0	0	+	+	+	+	+	+	+	+	++	++	+	+	0
Alaska	++	++	++	++	++	++	+	+	++	++	++	++	++	++	++	++
Arizona	0	0	+	0	0	0	0	0	+	0	0	0	0	0	0	0
Arkansas	0	0	0	0	+	0	0	0	0	0	0	-	-	-	-	-
California	++	++	++	++	+	++	+	+	0	0	0	0	0	+	++	++
Colorado	0	0	0	0	0	0	0	0	+	+	+	+	0	0	0	0
Connecticut	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delaware	N/A	N/A	0	0	0	0	0	0	++	+	++	++	+	+	0	0
Dis. of Columbia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Florida	+	+	++	++	++	++	+	++	++	++	++	++	++	++	++	0
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Hawaii	+	0	0	0	0	+	+	++	++	++	0	0	0	0	0	-
Idaho	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	-
Indiana	--	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iowa	-	--	-	-	-	-	-	-	-	-	-	-	-	0	0	-
Kansas	-	-	-	-	0	0	0	0	0	-	0	-	0	0	0	-
Kentucky	0	0	0	0	0	0	+	+	+	+	+	0	0	0	0	+
Louisiana	++	++	++	++	++	+	0	0	0	0	0	0	0	0	0	0
Maine	+	0	+	++	+	0	0	0	0	0	-	0	0	0	0	0
Maryland	0	-	-	-	-	-	-	-	0	0	-	-	-	0	-	-
Massachusetts	-	-	-	-	-	-	-	-	-	--	-	-	-	-	--	--
Michigan	0	0	0	0	0	0	-	-	-	0	0	0	0	0	-	-
Minnesota	++	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missouri	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0
Montana	+	++	++	+	0	+	+	+	+	++	++	+	+	+	++	0
Nebraska	-	-	-	-	-	-	-	0	-	-	0	0	0	0	0	0
Nevada	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	+	0	+	0	-
New Hampshire	0	0	0	0	0	0	0	0	0	0	+	0	+	0	+	0
New Jersey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Mexico	+	+	++	++	+	++	+	+	0	0	0	0	0	0	0	0
New York	-	--	--	--	--	-	-	-	-	-	-	-	0	0	-	-
North Carolina	--	--	-	-	-	-	-	-	-	0	-	-	-	-	-	-
Oklahoma	0	0	0	0	0	0	0	+	+	+	0	0	0	0	0	0
Oregon	++	++	++	++	+	0	0	+	+	0	+	++	++	0	0	0
Pennsylvania	N/A	0	N/A	N/A	++	++	+	+	0	0	0	0	0	0	0	0
Rhode Island	0	0	-	0	0	0	-	--	--	--	0	-	-	-	-	--
South Carolina	-	-	-	--	-	-	-	-	0	-	-	-	-	0	-	-
South Dakota	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0
Tennessee	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Texas	+	+	N/A	+	N/A	0	+	0	0	+	+	0	+	0	+	0
USL&HW	N/A	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
Utah	0	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-
Vermont	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0
Virginia	-	0	-	-	0	0	-	0	0	-	0	0	0	0	-	-
West Virginia	+	+	+	0	0	0	0	+	+	+	++	+	++	++	N/A	N/A
Wisconsin	-	-	-	-	-	-	0	0	0	0	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: Tables 2.1985 - 2.1998
Tables 1.1999 - 1.2000
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ico, and Pennsylvania clearly demonstrate that significant reductions in medical benefits paid to workers are possible. There were also two states – Iowa and New York – that had well below average medical benefits in 1986, but that paid average medical benefits in 1997, 1998 or 1999. These states demonstrate that states can also substantially increase the medical benefits paid to workers. Of particular interest are two states (Montana and Oregon) that had well above average medical benefits in at least two years between 1985 to 1988, reduced the relative generosity of their medical benefits to the average category for at least one year in the late 1980s or early 1990s, but had well above average medical benefits again in at least two years between 1994 to 2000. The “solutions” to high medical costs in these states are worth further examination.

Total Benefits. Table 6 provides summary information on the relative generosity of total (cash plus medical) benefits for each of the 46 states plus the District of Columbia and the USL&HW program for the 16 years included in this study. The entries in Table 6 permit a quick assessment of how generous the total benefits have been in each jurisdiction during these 16 years

Some states demonstrate a consistent record in terms of generosity of total benefits through the years. There were six programs that have been in the same category of generosity of total benefits for all 16 years. Two programs (USL&HW and West Virginia) had well above average total benefits in every year. Two states (Alabama and Michigan) were in the average category every year. One state (Virginia) was in the below average category every year; and one jurisdiction (the District of Columbia) was in the well below average category every year. There were no states that paid above average total benefits in all 16 years.

A number of states had relatively constant total benefits throughout the 16 years and only moved between adjacent categories of relative generosity. Nine states had been in a single category for at least 11 years and changed to an adjacent category for the remaining years. Connecticut had average benefits for 14 years and moved to above average benefits for two years. Three states (Georgia, Idaho and Illinois) had average benefits for at least 11 years and moved to below average benefits for one to five years. Four states (Iowa, Kansas, New Jersey and South Carolina) had below average benefits for at least 12 years and moved to average in one to four years. One state (Indiana) had well below average benefits in 13 years, but paid only below average benefits in three years.

As shown in Table 6, there were 17 states that moved among non-adjacent categories during the 16 years shown. Ten states (California, Florida, Hawaii, Louisiana, Maine, Montana, Nevada, Oklahoma, Oregon, and Pennsylvania) had total benefits that varied between average and well above average during the 16 years. Four states (Arizona, Delaware, Massachusetts, and New York) had total benefits that varied among the above average, average, and below average categories of generosity during the 16 years, while three states (Nebraska, North Carolina and Utah) varied among the average, below average, and well below average categories over the years included in Table 6.

Finally, Minnesota, New Mexico and Rhode Island experienced an exhilarating ride over the 16 years that ranged among four categories of generosity of total benefits: the states started with well above average benefits in one of the earlier years, dropped to the average category by at least 1991, and then dropped to the below average category for total benefits for at least one of the four most recent years

The experiences in nine jurisdictions (Hawaii, Louisiana, Maine, Minnesota, Montana, Nevada, Oklahoma, Oregon and Pennsylvania) that had average benefits in 2000 following well above average benefits in at least one earlier year make clear that significant reductions in total benefits (cash plus medical) provided to injured workers are possible. The fleeting nature of “reform” in Florida is also evident in the data in Table 6. The state began with average total benefits in 1985, achieved well above average total benefits in 1987-1989, cut total benefits to the average category again in 1991, and then re-achieved well above average total benefits in 1994 and 1996 before dropping to the average category again in 2000.

Are the States Converging or Diverging?

A casual perusal of the information in Tables 4 to 6 suggests that the differences among states in workers' compensation benefits have narrowed over the 16 years for which we have data. For example, in terms of the data on total benefits (cash plus medical) shown in Table 6, there were eight states with well above average benefits and four jurisdictions with well below average benefits in 1985, while in 2000 there were only three states with well above average benefits and three states with well below average benefits.³

A more rigorous examination of whether the differences among states in the amounts of incurred benefits are narrowing over the 16 years for which we have data is presented in Table 7. For each of the years between 1985 and 1998, Panel A shows the dispersion among the same 43 states in each state's benefits as a percentage of the national average for cash benefits, for medical benefits, and for total (cash plus medical) benefits. Panel B of Table 7 shows the dispersion among the 42 states with data for 1998, 1999 and 2000. The disper-

Table 6 - Total (Cash plus Medical) Benefits per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Alabama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alaska	++	++	++	+	+	+	+	+	+	+	++	++	++	++	++	++
Arizona	0	0	0	0	0	0	0	0	+	0	0	0	0	0	-	-
Arkansas	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-
California	++	+	+	+	+	+	+	0	0	0	0	+	+	+	++	++
Colorado	0	+	0	0	+	+	0	0	0	+	0	+	0	0	0	0
Connecticut	0	0	0	+	+	0	0	0	0	0	0	0	0	0	0	0
Delaware	N/A	N/A	0	0	0	-	0	0	+	0	+	+	0	0	0	0
Dis. of Columbia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Florida	0	+	++	++	++	+	0	+	+	++	+	++	+	+	+	0
Georgia	0	0	0	0	0	0	-	0	0	0	0	0	-	-	-	-
Hawaii	0	0	0	0	0	+	++	++	++	++	0	0	0	0	0	0
Idaho	0	0	0	-	-	0	0	0	0	0	0	0	0	0	0	-
Illinois	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indiana	--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	--
Iowa	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-
Kansas	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-
Kentucky	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Louisiana	+	+	++	++	+	0	0	0	0	0	0	0	0	0	0	0
Maine	++	++	++	++	++	++	++	0	0	0	0	0	0	0	0	0
Maryland	0	-	-	-	-	-	-	-	0	0	0	-	-	0	-	-
Massachusetts	0	0	+	+	+	0	0	0	0	0	0	-	-	0	-	-
Michigan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	++	0	+	0	0	+	0	0	0	0	-	0	-	-	0	0
Mississippi	-	-	0	0	0	0	0	0	-	0	0	0	0	-	0	-
Missouri	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
Montana	++	++	++	+	++	++	++	+	+	++	++	+	+	+	++	0
Nebraska	--	--	-	-	-	-	-	-	-	-	-	0	0	0	0	-
Nevada	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	++	++	+	0	0
New Hampshire	0	0	0	+	+	+	+	+	0	0	0	0	0	0	0	0
New Jersey	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
New Mexico	++	+	++	++	0	+	0	0	0	-	0	-	0	-	-	-
New York	0	-	-	-	0	0	0	+	+	+	+	+	0	+	0	0
North Carolina	--	--	--	--	-	-	-	-	-	-	-	-	-	0	-	-
Oklahoma	0	0	0	0	0	0	0	+	++	++	+	+	+	0	0	0
Oregon	++	++	++	++	0	0	0	+	0	0	0	+	0	0	0	0
Pennsylvania	N/A	0	N/A	N/A	+	++	+	+	+	+	+	0	0	0	0	0
Rhode Island	+	++	++	++	++	++	0	-	-	-	0	-	0	0	0	-
South Carolina	-	-	-	-	-	-	-	-	-	0	-	-	-	0	0	0
South Dakota	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-
Tennessee	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0
Texas	0	0	N/A	+	N/A	0	0	0	0	0	0	0	0	0	0	0
USL&HW	N/A	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
Utah	-	--	--	--	-	-	-	0	-	-	0	-	-	-	-	--
Vermont	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0
Virginia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
West Virginia	++	++	++	++	++	++	++	++	++	++	++	++	++	++	N/A	N/A
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: Tables 2.1985 - 2.1998
 Tables 1.1999 - 1.2000
 (Tables 2.1985 - 2.1998 are available upon request to subscribers to the *Workers' Compensation Policy Review*.)

sion is measured by the standard deviation, which is a commonly used statistical measure of the variability of the values of individual observations around the average value (mean) for all observations.

Several patterns revealed in Table 7 are worth mentioning. First, there is a pronounced tendency for the dispersion among states in incurred benefits to narrow over the 16 years. Second, this narrowing has occurred for cash benefits, for medical benefits, and for total benefits, although all of the narrowing for medical benefits occurred between 1985 and 1991, and the differences among states in medical benefits increased significantly between 1998 and 2000. Third, there was a greater dispersion among states for cash benefits than for medical benefits in every year but 1999 and 2000. Fourth, the dispersion for cash benefits has declined much more substantially than the dispersion for medical benefits.

Conclusions

Four conclusions seem warranted for the data on workers' compensation benefits presented in this article. First, as shown in Table 2 and Figures A and B, the national averages of incurred benefits per 100,000 workers have experienced dramatic swings in the last 16 years with available data. For example, cash benefits per 100,000 workers averaged increases of almost 12 percent annually for the four years from 1986 to 1989, but then average annual decreases of six percent occurred from 1991 to 1995. The most recent data from 1998 to 2000 show a rapid escalation of benefits, with incurred cash benefits up by more than 14 percent in 2000. Similar turnarounds occurred in the averages of medical benefits and total benefits per 100,000 workers over these 16 years.

Second, data are available for up to 47 jurisdictions for 1985 to 2000 for the averages of cash benefits, medical benefits, and total benefits per

Table 7			
Standard Deviations for State's Benefits as a Percentage of U.S. Average			
Panel A			
Dispersion Among 43 States in Benefits Per 100,000 Workers for Years 1985-1998			
Year	Cash Benefits	Medical Benefits	Total Benefits
1985	100.0	51.1	76.8
1986	96.9	48.0	72.9
1987	76.3	43.6	58.1
1988	69.5	42.1	53.5
1989	67.4	34.6	48.3
1990	63.2	32.3	43.4
1991	49.7	32.5	35.8
1992	48.0	34.5	36.5
1993	46.1	35.8	36.4
1994	46.3	38.2	38.0
1995	39.6	33.9	31.2
1996	37.6	37.3	31.7
1997	38.6	35.8	31.6
1998	38.1	33.7	30.8

Panel B			
Dispersion Among 42 States in Benefits Per 100,000 Workers for Years 1998-2000			
Year	Cash Benefits	Medical Benefits	Total Benefits
1998	34.0	32.8	27.9
1999	35.2	42.2	32.3
2000	36.3	39.3	34.3

Note: The 43 states are those included in Panel B of Table 2. The 42 states are those included in Panel C of Table 2.

100,000 workers. Again, the experience of states varies widely, including the changes in the amounts of benefits in a state relative to the national averages over the 16 years. Some states, such as Alabama, Indiana, Iowa, Michigan, and New Jersey, have shown little variation over the 16 years in their benefits compared to the national averages in those years. But a number of other states, such as New Mexico, Rhode Island, and

Maine, have seen their benefits plummet. Other states, such as New York and Oklahoma, have experienced significant increases in benefits relative to national averages. For better or worse, the amount of incurred benefits in a state is not an immutable condition.

Third, the dispersion in benefits among states has narrowed considerably over the 16 years encompassed

in this study. The explanation of this phenomenon apparent from the data in this article is that the narrowing of the dispersion is due both to the substantial reductions in the amounts of benefits in well above average states as well as some increases in benefits in well below average states.

Fourth, the national averages of benefits per 100,000 workers were basically stable in 1996 and 1997, but then averages for cash, medical and total benefits increased at moderate rates in 1998 and at a rapid rate in 1999 and 2000 (as shown in Table 17 and Figures A and B).

The reasons for the recent acceleration in incurred benefits are not clear. As we discussed earlier in this article, between 1998 and 2000, the injury rate continued to decline, the CPI for medical care increased less than five percent a year, the economy continued to grow, and statutory changes in cash benefits were modest. The one possible explanation for higher medical benefits is that managed care may have lost the ability to constrain the use of medical services.

The rapid increases in incurred benefits from 1998 to 2000 are espe-

cially perplexing in comparison to developments during those years in other measures of workers' compensation benefits. The National Academy on Social Insurance (NASI) data indicate that benefits paid during the year per \$100 of payroll continued to decline between 1998 and 2000 (Williams, Reno, and Burton 2003, Table 12). Moreover, employers' expenditures on workers' compensation as a percent of payroll continued to decline from 1998 to 2000 (Burton 2004). There may be a lag between developments in incurred benefits (which include reserves for future benefit payments for injuries that occur in a given year) and benefits paid in a year and employers' costs for the program. However, the increases in benefits paid in 2001 reported by NASI and in the employers' expenditures on workers' compensation in 2001 to 2003 are more modest than the increases in incurred benefits from 1998 to 2000, which suggests that the explanations of the causes and consequences of the increases in incurred benefits documented in this article are incomplete. We will continue to monitor these perplexing developments in subsequent issues of the *Workers' Compensation Policy Review*.

ENDNOTES

1. Presumably, if Nevada data were available and used to construct the national averages for 1985 to 1995, the amounts for those years in Panel A of Table 2 would have been higher.

2. Data on work-related injury and illness incidence rates from 1972 to 1998 are included in Table A.6 of Thomason, Schmdle, and Burton (2001). 1999 and 2000 data are included in Table 50 of *Monthly Labor Review*, Vol. 126. No. 6 (June 2003), p. 93.

3. West Virginia data are not yet available for 1999 and 2000. Based on data from previous years, we anticipate that West Virginia will have total costs that are well above the national average in those years when the data become available.

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APPENDIX A: Data Sources, Terminology and Methodology

This appendix provides additional information on the data sources and methodology used to prepare this article, as well as a discussion of some of the terminology used for workers' compensation data.

Data Sources

The primary source of the data used in this article is the National Council on Compensation Insurance (NCCI). The 2004 edition of the *Annual Statistical Bulletin* published by the NCCI (the *NCCI Bulletin*) provides data for the 46 jurisdictions (including the District of Columbia) in which private insurance carriers sold workers' compensation insurance policies in 1999 and 2000. We also obtained information from one state (West Virginia) with an exclusive state fund. (We appreciate the assistance of Judith Greenwood, formerly of the Research, Information and Analysis Division of the West Virginia Bureau of Employment Programs for providing the West Virginia data used in this study. We expect to have more current data for West Virginia when we prepare the 2005 version of this article.) Comparable data are not available from four states that had exclusive state workers' compensation funds in 1999 and 2000 (North Dakota, Ohio, Washington, and Wyoming). Several previous editions of the *NCCI Bulletin* did not contain data on some states with private carriers. For example, the 2001 *NCCI Bulletin* did not contain information on two states (Delaware and Pennsylvania), and we obtained information directly from the rating bureaus for those states.

Exclusion of the four states with exclusive state funds for which we do not have data means that 47 is the maximum number of jurisdictions we

use in any year to calculate national averages. However, data are lacking for Nevada prior to 1996 and for Delaware, Pennsylvania, Texas, and/or West Virginia in certain years, and the averages in Panel A of Table 2 pertain only to the number of jurisdictions for which data are available in the designated year. (The jurisdictions missing in any year are shown in parentheses.) We also have calculated a national average for those 43 states with data available for all years between 1985 and 1998, and the results are shown in Panel B of Table 2. The latest data for West Virginia are from 1998, and so are not current enough to use for the 1999 and 2000 entries in the tables in the article. One consequence is that there are only 42 states with data available in 1999 and 2000 and so the averages in Panel C of Table 2 pertain to those 42 states.

In addition to the maximum of 47 jurisdictions used to calculate the national averages, the *NCCI Bulletin* also contains information on the federal Longshore and Harbor Workers' Compensation Act (USL&HW). However, the costs for the USL&HW are considerably higher than those in any other workers' compensation program, and so we do not include USL&HW data in calculating the national averages. We do include information on the USL&HW benefit payments in some of our tables, including Tables 1.1999 and 1.2000, where we show the USL&HW program's benefits relative to the national average in the other jurisdictions.

Data on the annual frequencies per 100,000 workers and the average costs for five types of injuries are presented in Exhibits XI and XII of the *NCCI Bulletin*. The five types are fatalities, permanent total disabilities, permanent partial disabilities, temporary

total disabilities, and "medical-only" cases, in which medical benefits but no cash benefits were paid. We used these data to calculate three variants of benefits incurred annually per 100,000 workers: (1) the cash (or "indemnity") benefits (which are the sum of the cash benefits for the four types of cases paying cash benefits); (2) the medical benefits; and (3) the total (cash plus medical) benefits.

Insurance Terminology

The benefits are the incurred benefits for the injuries that occurred during the policy periods indicated in Exhibits XI and XII in the 2004 and earlier editions of the *NCCI Bulletin*. The following definitions of terms, such as "policy period" and "incurred," are based on the more definitive descriptions in Appendix B of Thomason, Schmidle, and Burton (2001).

Policy Period. Data for a policy period include reports on all the financial transactions for all the insurance policies with coverage beginning during the policy period. The policy period typically is a 12-month period. In some states, the policy period begins on January 1, and thus the policy period and the calendar year correspond. (For example, the 1999 policy period for South Dakota began on January 1, 1999 and ended on December 31, 1999.) However, the policy period in many states begins on a date other than January 1. (For example, the 1999-2000 policy period for Alabama began on May 1, 1999 and ended on April 30, 2000.) The experience in a single policy period occurs over a 24-month time span because a policy may be effective on any date during the policy period and does not expire until 12 months later. Thus the 1999-2000 policy-period experience for Alabama includes those accidents

that occurred between May 1, 1999 and April 30, 2001, and that were covered by policies sold during the 1999-2000 policy period.

One of the challenges we faced in preparing this article is that the policy period was changed in Florida between the 2003 and 2004 editions of the *NCCI Bulletins*. The policy period for Florida reported in the 2003 *NCCI Bulletin* was for the twelve months between October 31, 1998 and September 30 of 1999, while the policy period for Florida reported in the 2004 *NCCI Bulletin* was for the twelve months between January 1, 2000 and December 31, 2000. This meant that the successive issues of the *NCCI Bulletins* did not include information on the three months from October 1, 1999 to December 31, 1999. The NCCI provided us unpublished data for these three missing months for Florida, which we used to prepare the tables in this article. (We appreciate the assistance of Derek Schaff, of the NCCI, who provided us the missing data.)

First Reports. The data included in the *NCCI Bulletins* are based on the first reports for the each of the policies that are sold in the policy period. These first reports are based on an evaluation of the claims as of 18 months after the inception of each of the policies. Thus, the 1999-2000 policy-period experience for Alabama is based on evaluations made between November 1, 2000 (for policies effective May 1, 1999) and October 31, 2001 (for policies effective April 30, 2000).

Paid Benefits and Incurred Benefits. The first reports contain information on the paid benefits (paid losses) that the insurance company has paid as of the valuation date for all the accidents occurring during the policy period. The first reports also contain information on the incurred benefits for these claims. Incurred benefits are the carrier's estimates of the benefits that will ultimately be paid for all of these claims. These incurred benefits include the

benefits actually paid to the date of the first report, plus case reserves (anticipated payments for the claims that are known as of the evaluation date), bulk reserves, and IBNR reserves (incurred but not reported reserves) that are reserves for claims that have not yet been reported as of the valuation date even though the claims occurred in the specified period (e.g., during the policy period).

Loss Development. The incurred loss development factor is the ratio between (1) incurred losses for a particular policy period (or policy year or accident year) at a particular evaluation date and (2) comparable estimates at a later evaluation date. Incurred loss development factors are available for each state based on historical experience in the state. An incurred loss development factor of 1.200 for first to second means that a 20 percent growth is expected between the first report and the second report. Incurred loss development factors are available from first to second, second to third, etc. through eighth to ultimate. Chain multiplication of the loss development factors means that once a first report is received on actual experience for a policy year, the incurred benefit estimated as of the evaluation date for the first report can be multiplied by the subsequent loss development factors to produce an estimate of the ultimate benefits that will be paid for the injuries and diseases that occurred during that policy period.

The frequency data in Exhibit XII of the 2004 *NCCI Bulletin* are based on actual data from the first reports developed to the fifth reporting basis. The average cost per case (benefits per case) data in Exhibit XI of the 2004 *NCCI Bulletin* are based on actual data from the first reports developed to the ultimate reporting basis in most states. (The losses are only developed to the fifth reporting basis in California, Massachusetts, New Jersey, and New York.)

Methodology

There are some limitations of the data on average benefits (losses) per case and frequency per 100,000 workers included in Exhibits XI and XII of the *NCCI Bulletins*. Some are inherent, such as the absence of data from the states with exclusive state workers' compensation funds for which the NCCI does not collect data. Another inherent limitation is that the data pertain only to the experience of employers who purchase insurance from private carriers and from some of the competitive and exclusive state workers' compensation funds. The most significant problem is that the experience of self-insuring employers is not included.

Other drawbacks of the data included in Exhibits XI and XII of the *NCCI Bulletins* can be overcome, however. We are able to add two states (Delaware and Pennsylvania) with data we obtained directly from these states. Another problem with the information in the *NCCI Bulletins* used to generate the data for this article is that in some editions of the *NCCI Bulletin*, the age of the policy years varies considerably. In the 2004 *NCCI Bulletin*, the policy years ranged from the oldest results for Nevada (July 1999 to June 2000) to the most recent results for Louisiana and Mississippi (September 2000 to August 2001). There is also considerable variation among policy years in earlier editions of the *NCCI Bulletin*. In the 1997 edition, for example, the policy years ranged from Georgia and Mississippi (January to December 1992) to Montana and South Dakota (January to December 1994). Given the recent volatility in workers' compensation costs, it is questionable whether, for example, the Georgia and Montana data in the 1997 *NCCI Bulletin* were comparable, since the Montana data were two years more current. Finally, the fact that different states often do not correspond in terms of the months included in their policy years

complicates comparisons. For example, as noted, the Alabama policy period in the 2004 *NCCI Bulletin* covered May 2000 to April 2001, while the South Dakota data covered January to December 2000.

We have dealt with the problem of data with different vintages in a particular issue of the *NCCI Bulletin* and with different months of inclusion in the policy periods by creating a series of tables that reallocate – by calendar year – data from the 1988 to 2004 issues of the *NCCI Bulletin*. Thus three months of data from the Michigan policy period from April 1999 to March 2000 that were published in the 2003 *NCCI Bulletin* were combined with nine months of data from the Michigan policy period from April 2000 to March 2001 that were published in the 2004 *NCCI Bulletin* to calculate a twelve-month average for calendar year 2000 for Michigan.

Table 1.1999 and Tables 2 to 6 present information for those jurisdictions for which data for at least six months in 1999 are found in any of the 16 issues of the *NCCI Bulletin*, or for which unpublished data were provided to us by the NCCI, or for which we were able to obtain data directly from state workers' compensation agencies. In similar fashion, Table

1.2000 and Tables 2 to 6 present information on those jurisdictions for which data for at least six months in 2000 are available from any of these sources. Tables similar to Tables 1.1999 and 1.2000 for years 1985 through 1998 are available to subscribers to the *Workers' Compensation Policy Review*.

The data included in this and the previous issues of the *Workers' Compensation Policy Review* are largely derived from data published in various editions of the *NCCI Bulletin*. There are several ways in which our tables and analysis are unique, however. First, we have added data from several states not included in the *NCCI Bulletin*. Second, the NCCI has provided us some unpublished data, such as data for policy periods or months skipped in successive issues of the *NCCI Bulletin*. Third, we have corrected some of the NCCI data based on error checks of the data and correspondence with the NCCI. Fourth, we have calculated incurred benefits per 100,000 workers, which are results not included in the *NCCI Bulletin*. Finally, we have reallocated policy period data as published in the *NCCI Bulletin* to calendar years.

The meaning of our data can be illustrated by reference to Table 1.2000. The data pertain to the incurred cash, medical, and total (cash plus medical) benefits for the policies that were first effective in the twelve months between January and December 2000. For a policy effective on January 1, 2000, the experience thus includes all injuries that occurred between January 1 and December 31, 2000. For a policy effective on December 31, 2000, the experience thus includes all injuries that occurred between December 31, 2000 and December 30, 2001. Thus our calendar year data encompass experience for injuries that occurred over a 24-month period. Ideally, we would like "calendar-accident" year data, which would pertain strictly to those injuries that occurred during a calendar year. That is, 2000 calendar-accident year data would pertain to the experience of all injuries that occurred between January 1 and December 31, 2000. Unfortunately, as far as we know, there are no published frequency and average benefits per case data on a calendar-accident year basis.

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