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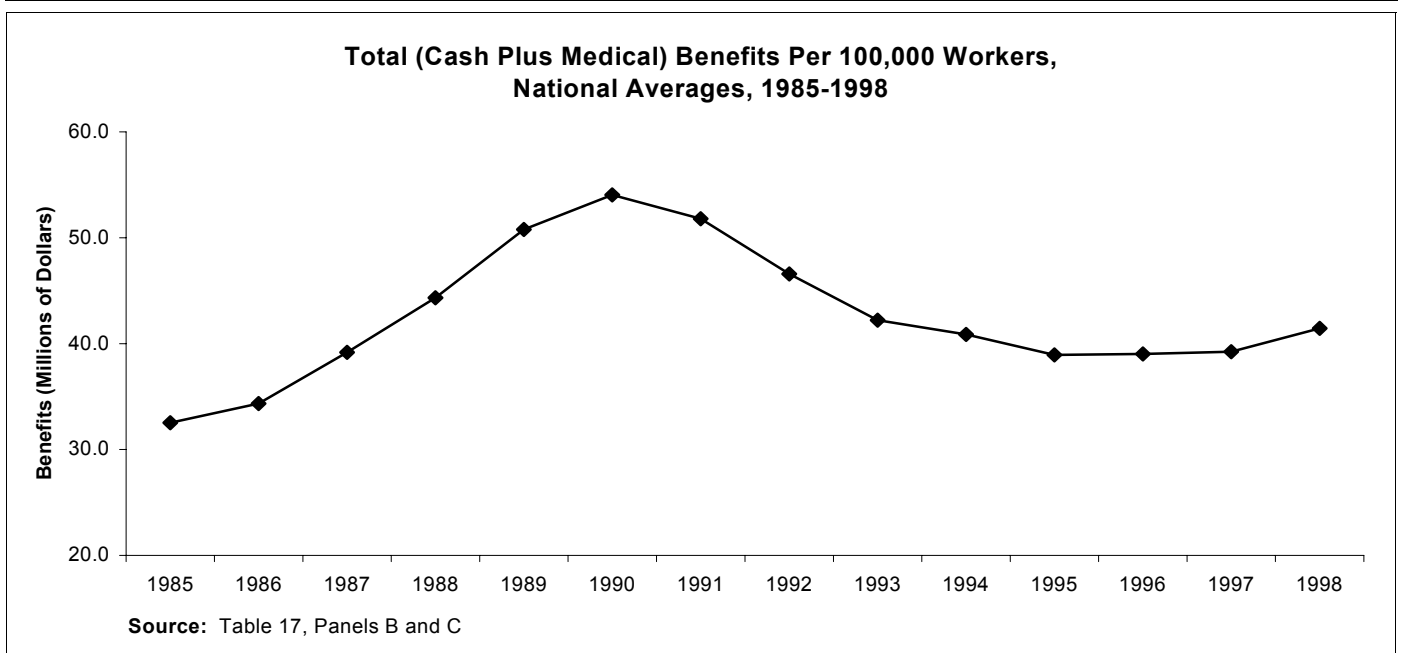
**This issue is being distributed in August 2003. Readers should expect a continuing deluge of issues in the next few months.**

Workers' compensation incurred benefits per 100,000 workers vary markedly among jurisdictions and nationally across time. This issue contains an article that 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 1998.

The figure below provides an historical record for the national averages of total benefits per 100,000 workers for the same 42 jurisdictions between 1985 and 1997, plus the same 41 jurisdictions for 1997 and 1998. (We will add Rhode Island, the missing state for 1998, to our data in a subsequent updating of the data.)

The national average was \$32.5 million total benefits per 100,000 workers in 1985. The national averages rapidly increased to a peak of \$54.1 million total benefits per 100,000 workers in 1990. Then, a five-year period of declining benefits brought the figure to a low point of \$38.9 million of total benefits per 100,000 workers in 1995. Benefits were then essentially flat for two years before modestly increasing to \$41.5 million per 100,000 in 1998 (the latest year with data).

The article examines the changes in cash and medical benefits (as well as total benefits) over the 14 years from 1985 to 1998 both nationally and for individual states. One striking result is that the interstate differences in benefits have narrowed considerably over these years.



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Please note change of address and phone numbers for the *Workers' Compensation Policy Review*, effective 8/1/03:

*Workers' Compensation Policy Review*  
56 Primrose Circle  
Princeton, NJ 08540-9416  
Phone: 732-274-0600  
Fax: 732-274-0678

# Workers' Compensation Incurred Benefits 1985-1998

by John F. Burton, Jr. and Florence Blum

Workers' compensation incurred benefits increased nationally by 5.7 percent in 1998 from the previous year. The data in Figure A show the annual increases for 13 years in total benefits (cash plus medical benefits) per 100,000 workers. The results are based on information from 42 states in most years, although the 1998 data are based on only 41 states and will be revised when data on the missing state (Rhode Island) 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 five percent in every year and were up by more than ten 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. The 5.7 percent increase in total benefits in 1998 is particularly noteworthy because this is the first significant increase since 1990. In es-

sence, between 1985 and 1998, there were five years of increases in incurred benefits, five years of declines in benefits, two years of stable benefits, and one year (1998) when benefits 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 1998, although cash benefits increased somewhat faster (6.7 percent) than medical benefits (4.6 percent). The cash benefit increase of 6.7 percent in 1998 was the first time since 1989 that cash benefits were up by more than two percent. Similarly, the medical benefit increase of 4.6 percent in 1998 was the first time since 1990 that medical benefits were up by more than two percent.

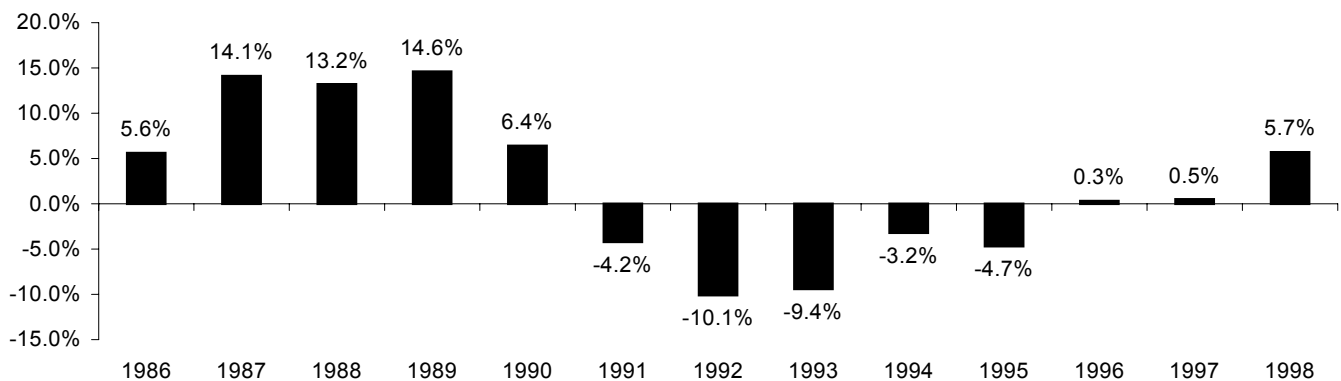
### Plan for Article

A companion article (Blum and Burton 2002) in the previous issue of the *Workers' Compensation Policy Review*

provided three types of data we have not previously published. 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 1998. The previous article also provided brief descriptions of the sources of our data and of our methodology.

The current article presents our traditional tables and figures containing information on cash benefits, medical benefits, and total (cash and medical benefits) per 100,000 workers for 1995 to 1998. 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 both articles.

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



Source: Table 17, Panels B and C.

**National Data**

The incurred benefits per 100,000 workers for 1995 in the 47 jurisdictions for which we have data are provided in Table 16.95. We are able to add West Virginia for this and subsequent tables based on data received from that state's exclusive state workers' compensation insurance fund, increasing by one the number of states in the tables in the previous issue.

Panel A of Table 16.95 presents information on cash benefits, Panel B provides the data for medical benefits, and Panel C presents data for total (cash plus medical) benefits. The entries for Alabama illustrate the procedure we used to construct Table 16.95. As shown in Table 11A of the previous article, there were \$3,406,902 of temporary total disability cash benefits per 100,000 workers in 1995. Tables 12A to 14A indicate there were \$10,746,256 of permanent partial disability cash benefits, \$2,721,928 of permanent total disability cash benefits, and \$605,583 of death benefits incurred per 100,000

Alabama workers in 1995. The sum of these four types of cash benefits is \$17,480,669 per 100,000 Alabama workers in 1995, as shown in column (1) of Table 16.95.

The derivation of the medical benefits per 100,000 workers in Panel B of Table 16.95 is straightforward. For example, the 1995 Alabama medical benefits of \$26,789,475 per 100,000 workers in column (4) of Table 16.95 is identical to the Alabama entry in column (1) of Table 15A. The derivation of the total (cash plus medical) benefits per 100,000 workers in Panel C of Table 16.95 is also straightforward. For example, the 1995 Alabama total benefits of \$44,270,144 per 100,000 workers in column (7) are the sum of the cash benefits of \$17,480,669 in column (1) and the medical benefits of \$26,789,475 in column (4) of Table 16.95.

The data from Tables 16.95 to 16.98 and similar tables for earlier years were used to produce the national data in Table 17. 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 1998. 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' compensation insurance in the state. Since Nevada has paid above average benefits in 1996 to 1998 (as shown in Tables 16.96 to 16.98), the national averages for 1996 to 1998 shown in Panel A of Table 17 are not comparable to the national average for earlier years. There are also some years when data from Delaware, the District of Columbia, Pennsylvania, Rhode Island, and/or Texas are unavailable, which again limits the comparability of the data in Panel A of Table 17.

The data in Panels B and C of Table 17 are more comparable among years than the Panel A data, and were therefore used to produce Figures A

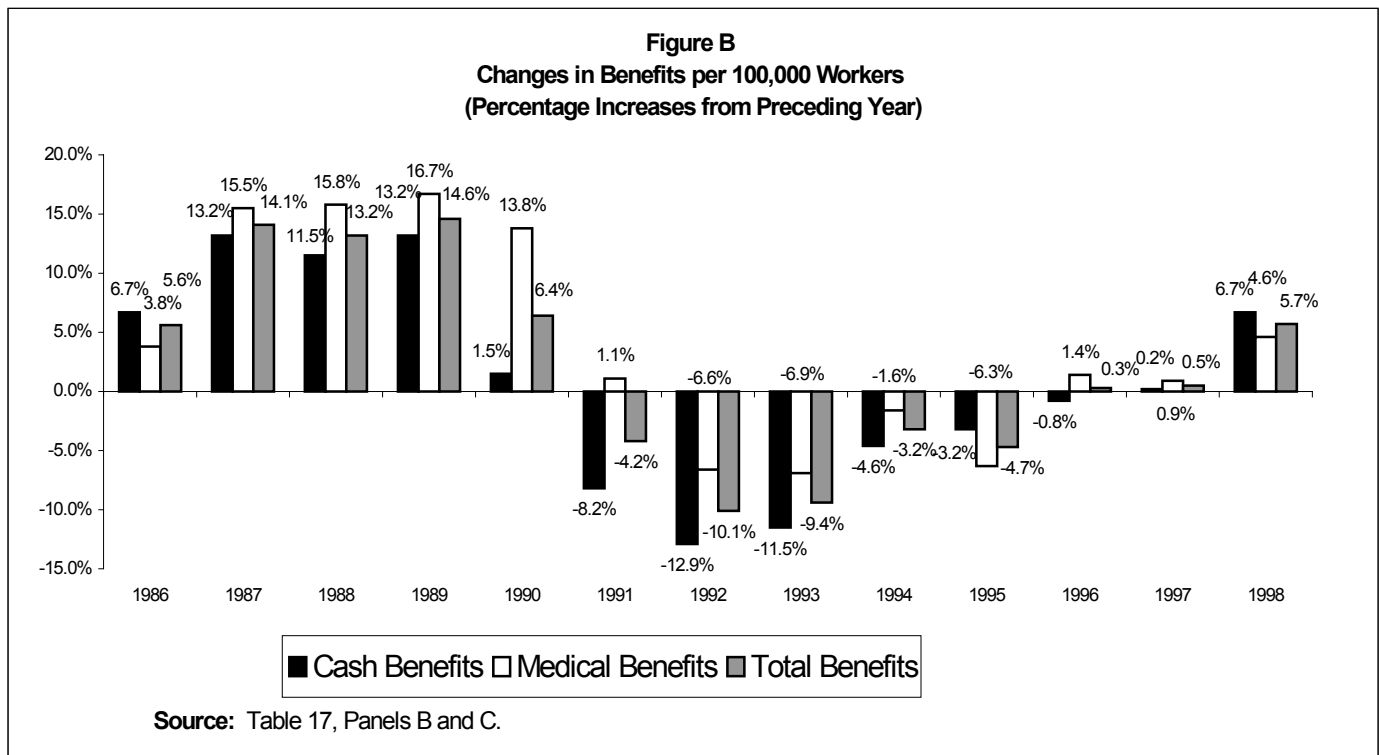


Table 16.95 - Benefits Per 100,000 Workers For Employer Who Purchase Workers' Compensation Insurance for 1995

State	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
	Dollar Amount (1)	State's Benefit as a Percentage of US Average (2)	Rank Among 47 Jurisdictions (3)	Dollar Amount (4)	State's Benefit as a Percentage of US Average (5)	Rank Among 47 Jurisdictions (6)	Dollar Amount (7)	State's Benefit as a Percentage of US Average (8)	Rank Among 47 Jurisdictions (9)
Alabama	17,480,669	86.7	24	26,789,475	139.2	7	44,270,144	112.4	13
Alaska	28,602,458	141.9	7	34,521,704	179.4	3	63,124,162	160.2	4
Arizona	16,872,885	83.7	27	19,341,595	100.5	23	36,214,480	91.9	24
Arkansas	8,670,232	43.0	44	16,367,052	85.1	31	25,037,284	63.6	45
California	26,542,659	131.7	8	20,208,900	105.0	22	46,751,559	118.7	11
Colorado	24,477,649	121.4	10	24,590,960	127.8	11	49,068,610	124.6	10
Connecticut	18,298,017	90.8	19	17,008,888	88.4	28	35,306,905	89.6	26
Delaware	20,027,191	99.4	15	31,936,299	166.0	5	51,963,490	131.9	9
Dis. of Columbia	7,868,891	39.0	46	7,421,504	38.6	47	15,290,395	38.8	47
Florida	21,030,446	104.3	13	33,610,334	174.7	4	54,640,780	138.7	5
Georgia	15,930,904	79.0	31	18,265,878	94.9	26	34,196,782	86.8	29
Hawaii	25,263,066	125.3	9	20,968,896	109.0	19	46,231,962	117.4	12
Idaho	16,396,057	81.3	29	21,162,503	110.0	18	37,558,561	95.3	21
Illinois	19,727,634	97.9	17	15,637,698	81.3	33	35,365,332	89.8	25
Indiana	6,419,274	31.8	47	13,206,488	68.6	43	19,625,762	49.8	46
Iowa	12,934,259	64.2	37	13,602,931	70.7	41	26,537,190	67.4	42
Kansas	11,114,853	55.1	41	15,195,297	79.0	34	26,310,150	66.8	43
Kentucky	15,049,616	74.7	33	25,716,290	133.7	10	40,765,906	103.5	18
Louisiana	19,748,427	98.0	16	21,391,378	111.2	17	41,139,805	104.4	17
Maine	18,071,686	89.7	20	13,865,133	72.1	40	31,936,820	81.1	32
Maryland	16,128,892	80.0	30	14,370,620	74.7	39	30,499,511	77.4	36
Massachusetts	21,587,624	107.1	12	10,193,728	53.0	46	31,781,352	80.7	33
Michigan	20,353,961	101.0	14	16,569,437	86.1	29	36,923,397	93.7	22
Minnesota	14,609,832	72.5	35	14,793,571	76.9	36	29,403,403	74.6	38
Mississippi	11,946,455	59.3	39	20,252,892	105.3	21	32,199,347	81.7	31
Missouri	17,481,656	86.7	23	17,552,260	91.2	27	35,033,916	88.9	27
Montana	29,937,537	148.5	6	36,081,556	187.5	2	66,019,093	167.6	3
Nebraska	11,034,510	54.7	42	16,067,805	83.5	32	27,102,315	68.8	41
Nevada	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New Hampshire	18,883,393	93.7	18	24,452,805	127.1	12	43,336,197	110.0	15
New Jersey	17,323,195	85.9	26	12,910,224	67.1	45	30,233,419	76.7	37
New Mexico	12,097,737	60.0	38	18,593,190	96.6	25	30,690,927	77.9	34
New York	40,807,716	202.5	3	13,524,300	70.3	42	54,332,016	137.9	6
North Carolina	13,473,146	66.8	36	14,684,600	76.3	38	28,157,746	71.5	39
Oklahoma	30,746,397	152.5	4	22,116,267	115.0	14	52,862,664	134.2	7
Oregon	17,529,635	87.0	22	26,011,552	135.2	8	43,541,187	110.5	14
Pennsylvania	30,413,631	150.9	5	22,133,430	115.0	13	52,547,061	133.4	8
Rhode Island	24,270,964	120.4	11	14,843,716	77.2	35	39,114,680	99.3	19
South Carolina	14,748,156	73.2	34	13,047,900	67.8	44	27,796,056	70.6	40
South Dakota	16,515,160	81.9	28	21,925,596	114.0	16	38,440,756	97.6	20
Tennessee	17,360,851	86.1	25	19,094,292	99.2	24	36,455,143	92.5	23
Texas	15,437,442	76.6	32	25,979,568	135.0	9	41,417,010	105.1	16
USL&HW	139,273,786	691.0	1	96,249,480	500.3	1	235,523,266	597.9	1
Utah	8,512,694	42.2	45	22,086,372	114.8	15	30,599,066	77.7	35
Vermont	17,764,773	88.1	21	16,470,610	85.6	30	34,235,383	86.9	28
Virginia	10,687,582	53.0	43	14,781,455	76.8	37	25,469,037	64.7	44
West Virginia	45,715,374	226.8	2	29,459,412	153.1	6	75,174,786	190.8	2
Wisconsin	11,628,941	57.7	40	20,848,212	108.4	20	32,477,153	82.4	30
<b>National Average*</b>	20,156,085			19,238,883			39,394,968		

\*Weighted averaged based on 46 jurisdictions (including the District of Columbia), using 1995 state employment as weights. Data from USL&HW were not used to calculate national averages.

N/A = Data not available.

Sources: NCCI, *Annual Statistical Bulletin*, 1986-2002 editions.

Table 16.96 - Benefits Per 100,000 Workers For Employer Who Purchase Workers' Compensation Insurance for 1996

State	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
	Dollar Amount (1)	State's Benefit as a Percentage of US Average (2)	Rank Among 48 Jurisdictions (3)	Dollar Amount (4)	State's Benefit as a Percentage of US Average (5)	Rank Among 48 Jurisdictions (6)	Dollar Amount (7)	State's Benefit as a Percentage of US Average (8)	Rank Among 48 Jurisdictions (9)
Alabama	17,782,105	88.4	20	29,376,212	151.3	6	47,158,317	119.3	14
Alaska	31,277,489	155.5	5	37,129,907	191.3	3	68,407,396	173.1	3
Arizona	12,005,726	59.7	39	21,244,537	109.4	17	33,250,263	84.1	28
Arkansas	8,034,308	39.9	46	14,199,826	73.2	37	22,234,134	56.2	46
California	29,848,101	148.4	6	22,111,190	113.9	15	51,959,291	131.4	10
Colorado	25,445,490	126.5	10	24,458,016	126.0	10	49,903,506	126.2	12
Connecticut	20,077,057	99.8	15	16,252,404	83.7	31	36,329,461	91.9	21
Delaware	20,403,280	101.4	14	32,262,616	166.2	5	52,665,896	133.2	8
Dis. of Columbia	8,535,856	42.4	45	8,353,202	43.0	48	16,889,057	42.7	48
Florida	20,839,127	103.6	13	39,288,169	202.4	2	60,127,296	152.1	5
Georgia	15,075,058	74.9	31	14,840,485	76.5	36	29,915,543	75.7	32
Hawaii	21,773,583	108.2	12	19,932,444	102.7	18	41,706,027	105.5	15
Idaho	16,116,695	80.1	26	19,803,760	102.0	19	35,920,455	90.9	22
Illinois	19,532,697	97.1	17	15,566,094	80.2	33	35,098,791	88.8	24
Indiana	6,118,513	30.4	48	13,151,160	67.8	42	19,269,673	48.7	47
Iowa	13,638,866	67.8	36	13,684,336	70.5	41	27,323,202	69.1	40
Kansas	10,737,998	53.4	43	13,844,400	71.3	40	24,582,398	62.2	44
Kentucky	11,991,634	59.6	40	23,394,048	120.5	12	35,385,682	89.5	23
Louisiana	18,499,276	92.0	18	19,658,187	101.3	21	38,157,463	96.5	19
Maine	21,901,205	108.9	11	19,732,494	101.7	20	41,633,699	105.3	16
Maryland	15,170,919	75.4	30	12,430,373	64.0	44	27,601,291	69.8	38
Massachusetts	17,305,085	86.0	21	9,464,208	48.8	47	26,769,293	67.7	42
Michigan	17,864,007	88.8	19	15,482,259	79.8	34	33,346,266	84.4	27
Minnesota	15,010,207	74.6	32	14,889,196	76.7	35	29,899,403	75.6	33
Mississippi	12,049,479	59.9	38	18,621,690	95.9	24	30,671,169	77.6	31
Missouri	15,700,463	78.0	28	15,733,272	81.1	32	31,433,735	79.5	30
Montana	27,463,589	136.5	7	28,499,724	146.8	8	55,963,313	141.6	6
Nebraska	13,855,642	68.9	35	17,624,030	90.8	28	31,479,672	79.6	29
Nevada	41,128,934	204.4	2	25,391,990	130.8	9	66,520,924	168.3	4
New Hampshire	16,082,473	79.9	27	22,312,529	115.0	14	38,395,002	97.1	18
New Jersey	16,240,496	80.7	24	11,338,812	58.4	45	27,579,308	69.8	39
New Mexico	9,906,053	49.2	44	18,274,053	94.1	25	28,180,106	71.3	36
New York	39,679,190	197.2	4	14,139,380	72.8	38	53,818,570	136.2	7
North Carolina	13,468,141	66.9	37	13,136,159	67.7	43	26,604,300	67.3	43
Oklahoma	27,374,546	136.1	8	23,615,550	121.7	11	50,990,096	129.0	11
Oregon	16,237,422	80.7	25	36,167,755	186.3	4	52,405,177	132.6	9
Pennsylvania	27,156,504	135.0	9	22,098,552	113.8	16	49,255,056	124.6	13
Rhode Island	16,794,276	83.5	22	10,344,816	53.3	46	27,139,092	68.7	41
South Carolina	13,879,998	69.0	34	13,881,010	71.5	39	27,761,008	70.2	37
South Dakota	15,474,178	76.9	29	19,473,456	100.3	22	34,947,634	88.4	25
Tennessee	16,312,521	81.1	23	17,715,425	91.3	27	34,027,946	86.1	26
Texas	14,412,729	71.6	33	22,408,684	115.4	13	36,821,413	93.2	20
USL&HW	137,989,881	685.9	1	66,359,285	341.9	1	204,349,166	517.0	1
Utah	7,349,712	36.5	47	17,092,704	88.1	30	24,442,416	61.8	45
Vermont	20,014,825	99.5	16	18,793,460	96.8	23	38,808,285	98.2	17
Virginia	11,961,064	59.5	41	17,323,166	89.2	29	29,284,230	74.1	35
West Virginia	40,092,801	199.3	3	29,120,200	150.0	7	69,213,001	175.1	2
Wisconsin	11,465,387	57.0	42	17,826,298	91.8	26	29,291,685	74.1	34
<b>National Average*</b>	20,118,192			19,410,471			39,528,663		

\*Weighted averaged based on 47 jurisdictions (including the District of Columbia), using 1996 state employment as weights. Data from USL&HW were not used to calculate national averages.

Sources: NCCI, *Annual Statistical Bulletin*, 1986-2002 editions.

Table 16.97 - Benefits Per 100,000 Workers For Employer Who Purchase Workers' Compensation Insurance for 1997

State	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
	Dollar Amount (1)	State's Benefit as a Percentage of US Average (2)	Rank Among 48 Jurisdictions (3)	Dollar Amount (4)	State's Benefit as a Percentage of US Average (5)	Rank Among 48 Jurisdictions (6)	Dollar Amount (7)	State's Benefit as a Percentage of US Average (8)	Rank Among 48 Jurisdictions (9)
Alabama	15,494,855	76.8	30	33,004,598	167.3	4	48,499,453	121.6	11
Alaska	28,691,110	142.3	7	36,150,747	183.2	2	64,841,856	162.5	3
Arizona	11,813,812	58.6	38	19,875,621	100.8	23	31,689,433	79.4	29
Arkansas	7,803,431	38.7	47	12,364,021	62.7	44	20,167,452	50.6	47
California	33,189,448	164.6	5	24,221,274	122.8	11	57,410,722	143.9	5
Colorado	25,784,002	127.9	10	21,666,696	109.8	17	47,450,698	118.9	13
Connecticut	18,343,422	91.0	19	15,054,820	76.3	35	33,398,242	83.7	26
Delaware	16,450,654	81.6	24	28,487,424	144.4	7	44,938,078	112.6	15
Dis. of Columbia	7,810,423	38.7	45	7,374,228	37.4	48	15,184,652	38.1	48
Florida	20,014,980	99.3	14	35,191,063	178.4	3	55,206,043	138.4	6
Georgia	13,781,516	68.3	36	14,297,766	72.5	38	28,079,282	70.4	40
Hawaii	23,755,485	117.8	12	18,921,720	95.9	25	42,677,205	107.0	16
Idaho	17,166,240	85.1	20	23,958,462	121.4	13	41,124,701	103.1	18
Illinois	19,270,553	95.6	16	15,722,253	79.7	30	34,992,806	87.7	24
Indiana	6,765,320	33.6	48	13,843,680	70.2	40	20,609,000	51.7	46
Iowa	13,964,542	69.3	35	14,750,433	74.8	36	28,714,975	72.0	38
Kansas	10,970,960	54.4	41	15,289,188	77.5	32	26,260,148	65.8	43
Kentucky	10,381,879	51.5	43	20,012,544	101.4	22	30,394,423	76.2	31
Louisiana	19,259,248	95.5	17	21,578,968	109.4	18	40,838,216	102.4	19
Maine	23,211,489	115.1	13	22,387,574	113.5	15	45,599,062	114.3	14
Maryland	16,260,725	80.6	27	12,564,802	63.7	43	28,825,528	72.3	37
Massachusetts	19,452,006	96.5	15	9,869,454	50.0	47	29,321,460	73.5	34
Michigan	16,340,223	81.0	26	15,090,487	76.5	34	31,430,711	78.8	30
Minnesota	14,441,505	71.6	34	14,449,444	73.2	37	28,890,949	72.4	36
Mississippi	12,431,898	61.7	37	20,686,560	104.9	20	33,118,458	83.0	28
Missouri	16,867,906	83.7	21	16,393,699	83.1	29	33,261,605	83.4	27
Montana	24,801,081	123.0	11	27,170,760	137.7	8	51,971,841	130.3	7
Nebraska	14,851,813	73.7	32	18,784,750	95.2	26	33,636,563	84.3	25
Nevada	36,334,476	180.2	3	23,841,378	120.9	14	60,175,854	150.8	4
New Hampshire	16,787,938	83.3	22	25,762,577	130.6	9	42,550,514	106.7	17
New Jersey	16,238,123	80.5	28	11,552,256	58.6	46	27,790,379	69.7	41
New Mexico	10,938,469	54.2	42	19,408,498	98.4	24	30,346,967	76.1	32
New York	34,107,256	169.1	4	15,467,322	78.4	31	49,574,578	124.3	10
North Carolina	16,488,175	81.8	23	13,154,640	66.7	42	29,642,815	74.3	33
Oklahoma	26,143,284	129.6	9	24,146,530	122.4	12	50,289,814	126.1	8
Oregon	16,442,371	81.5	25	31,169,054	158.0	5	47,611,425	119.3	12
Pennsylvania	27,623,995	137.0	8	22,085,037	112.0	16	49,709,032	124.6	9
Rhode Island	28,782,926	142.7	6	11,737,182	59.5	45	40,520,108	101.6	21
South Carolina	14,492,168	71.9	33	13,190,544	66.9	41	27,682,712	69.4	42
South Dakota	7,805,566	38.7	46	14,184,639	71.9	39	21,990,205	55.1	45
Tennessee	16,062,804	79.7	29	20,031,054	101.5	21	36,093,858	90.5	23
Texas	15,416,231	76.5	31	25,311,162	128.3	10	40,727,393	102.1	20
USL&HW	125,181,925	620.8	1	99,101,890	502.4	1	224,283,815	562.2	1
Utah	8,119,654	40.3	44	15,243,037	77.3	33	23,362,691	58.6	44
Vermont	18,646,483	92.5	18	21,176,660	107.3	19	39,823,143	99.8	22
Virginia	11,570,900	57.4	39	16,811,305	85.2	28	28,382,205	71.1	39
West Virginia	42,980,160	213.1	2	30,731,216	155.8	6	73,711,376	184.8	2
Wisconsin	11,296,979	56.0	40	17,670,174	89.6	27	28,967,153	72.6	35
<b>National Average*</b>	20,164,819			19,727,556			39,892,375		

\*Weighted averaged based on 47 jurisdictions (including the District of Columbia), using 1997 state employment as weights. Data from USL&HW were not used to calculate national averages.

Sources: NCCI, *Annual Statistical Bulletin*, 1986-2002 editions.

Table 16.98 - Benefits Per 100,000 Workers For Employer Who Purchase Workers' Compensation Insurance for 1998

State	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
	Dollar Amount (1)	State's Benefit as a Percentage of US Average (2)	Rank Among 46 Jurisdictions (3)	Dollar Amount (4)	State's Benefit as a Percentage of US Average (5)	Rank Among 46 Jurisdictions (6)	Dollar Amount (7)	State's Benefit as a Percentage of US Average (8)	Rank Among 46 Jurisdictions (9)
Alabama	15,226,695	71.5	33	29,596,060	143.6	6	44,822,755	107.0	14
Alaska	32,107,346	150.8	5	42,100,808	204.3	2	74,208,155	177.1	3
Arizona	12,599,525	59.2	39	22,121,857	107.3	21	34,721,382	82.9	30
Arkansas	8,017,910	37.6	45	13,204,760	64.1	44	21,222,670	50.6	46
California	35,198,318	165.3	4	26,930,227	130.7	8	62,128,545	148.3	4
Colorado	25,818,807	121.2	8	19,542,512	94.8	25	45,361,319	108.3	13
Connecticut	21,515,808	101.0	16	15,542,328	75.4	39	37,058,136	88.4	25
Delaware	17,486,752	82.1	22	28,123,032	136.5	7	45,609,784	108.8	11
Dis. of Columbia	N/A			N/A			N/A		
Florida	21,545,345	101.2	15	33,341,868	161.8	3	54,887,213	131.0	5
Georgia	13,843,820	65.0	35	13,333,632	64.7	43	27,177,452	64.9	41
Hawaii	22,927,904	107.7	11	15,988,405	77.6	34	38,916,309	92.9	21
Idaho	18,180,101	85.4	21	23,271,623	112.9	12	41,451,723	98.9	18
Illinois	20,513,628	96.3	19	16,791,827	81.5	30	37,305,454	89.0	24
Indiana	6,808,609	32.0	46	14,516,074	70.4	41	21,324,683	50.9	45
Iowa	16,670,922	78.3	27	16,454,891	79.8	32	33,125,813	79.1	33
Kansas	13,059,610	61.3	38	17,283,237	83.9	29	30,342,847	72.4	38
Kentucky	10,535,903	49.5	42	22,597,500	109.7	18	33,133,403	79.1	32
Louisiana	21,384,255	100.4	17	23,302,618	113.1	11	44,686,873	106.6	15
Maine	22,309,519	104.8	14	21,574,472	104.7	22	43,883,991	104.7	16
Maryland	17,481,901	82.1	23	17,665,997	85.7	28	35,147,898	83.9	29
Massachusetts	22,467,893	105.5	13	10,885,438	52.8	46	33,353,330	79.6	31
Michigan	16,416,346	77.1	28	15,938,064	77.3	36	32,354,411	77.2	35
Minnesota	14,815,267	69.6	34	15,674,592	76.1	38	30,489,859	72.8	37
Mississippi	13,640,867	64.1	36	17,763,791	86.2	27	31,404,658	74.9	36
Missouri	18,949,912	89.0	20	19,767,328	95.9	24	38,717,240	92.4	22
Montana	23,425,055	110.0	10	30,482,300	147.9	5	53,907,355	128.6	6
Nebraska	15,869,326	74.5	30	21,120,307	102.5	23	36,989,633	88.3	26
Nevada	31,336,441	147.1	6	22,331,246	108.4	19	53,667,687	128.1	7
New Hampshire	17,347,470	81.5	25	24,432,575	118.6	10	41,780,045	99.7	17
New Jersey	15,337,869	72.0	32	11,313,540	54.9	45	26,651,409	63.6	42
New Mexico	12,149,963	57.1	40	17,811,960	86.4	26	29,961,923	71.5	39
New York	36,708,620	172.4	3	16,112,624	78.2	33	52,821,244	126.1	8
North Carolina	21,058,745	98.9	18	14,825,559	71.9	40	35,884,304	85.6	27
Oklahoma	25,500,344	119.7	9	23,105,104	112.1	14	48,605,448	116.0	10
Oregon	15,750,014	74.0	31	22,691,900	110.1	16	38,441,914	91.7	23
Pennsylvania	26,473,154	124.3	7	22,669,524	110.0	17	49,142,678	117.3	9
Rhode Island	N/A			N/A			N/A		
South Carolina	17,016,808	79.9	26	15,980,130	77.5	35	32,996,938	78.7	34
South Dakota	8,923,879	41.9	43	15,881,454	77.1	37	24,805,333	59.2	43
Tennessee	17,358,665	81.5	24	22,205,820	107.8	20	39,564,485	94.4	20
Texas	15,938,978	74.8	29	25,234,902	122.5	9	41,173,880	98.3	19
USL&HW	123,619,092	580.5	1	102,522,240	497.5	1	226,141,332	539.7	1
Utah	8,449,098	39.7	44	14,179,420	68.8	42	22,628,518	54.0	44
Vermont	22,469,954	105.5	12	23,137,808	112.3	13	45,607,763	108.8	12
Virginia	11,083,572	52.0	41	16,591,228	80.5	31	27,674,800	66.0	40
West Virginia	43,961,146	206.4	2	32,083,898	155.7	4	76,045,044	181.5	2
Wisconsin	13,120,906	61.6	37	22,714,992	110.2	15	35,835,898	85.5	28
<b>National Average*</b>	21,296,567			20,607,447			41,904,014		

\*Weighted averaged based on 45 jurisdictions (including the District of Columbia), using 1998 state employment as weights. Data from USL&HW were not used to calculate national averages.

N/A = Data not available.

Sources: NCCI, *Annual Statistical Bulletin*, 1986-2002 editions.



Table 17: 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)	21,985,147	8.7%	13,573,684	5.8%	35,558,831	7.6%
1987	44 (NV, PA, TX)	24,076,722	9.5%	14,936,712	10.0%	39,013,434	9.7%
1988	46 (NV)	27,393,892	13.8%	17,945,293	20.1%	45,339,185	16.2%
1989	44 (DC, NV, TX)	31,289,911	14.2%	20,944,330	16.7%	52,234,241	15.2%
1990	46 (NV)	31,374,472	0.3%	23,795,986	13.6%	55,170,458	5.6%
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)	22,094,348	-11.9%	20,713,872	-8.1%	42,808,220	-10.1%
1994	46 (NV)	21,107,038	-4.5%	20,530,511	-0.9%	41,637,549	-2.7%
1995	46 (NV)	20,156,085	-4.5%	19,238,883	-6.3%	39,394,968	-5.4%
1996	47	20,118,192	-0.2%	19,410,471	0.9%	39,528,663	0.3%
1997	47	20,164,819	0.2%	19,727,556	1.6%	39,892,375	0.9%
1998	45 (DC, RI)	21,296,567	5.6%	20,607,447	4.5%	41,904,014	5.0%

Panel B: Forty-two States with Data for Policy Years 1985 - 1997

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	42	20,022,384	--	12,511,620	--	32,534,004	--
1986	42	21,361,970	6.7%	12,981,252	3.8%	34,343,222	5.6%
1987	42	24,183,609	13.2%	14,990,089	15.5%	39,173,698	14.1%
1988	42	26,972,235	11.5%	17,359,403	15.8%	44,331,638	13.2%
1989	42	30,535,180	13.2%	20,255,039	16.7%	50,790,219	14.6%
1990	42	31,006,668	1.5%	23,057,924	13.8%	54,064,592	6.4%
1991	42	28,479,229	-8.2%	23,313,288	1.1%	51,792,517	-4.2%
1992	42	24,801,038	-12.9%	21,785,272	-6.6%	46,586,310	-10.1%
1993	42	21,939,307	-11.5%	20,278,052	-6.9%	42,217,359	-9.4%
1994	42	20,930,754	-4.6%	19,949,667	-1.6%	40,880,421	-3.2%
1995	42	20,255,133	-3.2%	18,683,935	-6.3%	38,939,068	-4.7%
1996	42	20,086,289	-0.8%	18,952,679	1.4%	39,038,968	0.3%
1997	42	20,116,691	0.2%	19,115,754	0.9%	39,232,445	0.5%

Panel C: Forty-One States with Data for Policy Years 1997 - 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
1997	41	20,077,148	--	19,149,421	--	39,226,569	--
1998	41	21,414,541	6.7%	20,038,774	4.6%	41,453,315	5.7%

\* 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, the District of Columbia, Nevada, Pennsylvania, and Texas.

\*\*\*The states excluded from Panel C are the same states missing in Panel B plus Rhode Island.

and B. Panel B of Table 17 presents national averages for cash, medical and total benefits per 100,000 workers for the same 42 states for 1985 to 1997. Because data for Rhode Island are not yet available for 1998, Panel C presents national averages for cash, medical, and total benefits per 100,000 workers for the same 41 states for 1997 to 1998. The national

averages in Panels B and C are not comparable (since the exclusion of Rhode Island data lowers the 1997 national average for cash benefits and total benefits, but increases the national average for medical benefits); but the percentage increases for benefits between 1997 and 1998 shown in Panel C are based on the same set of states and therefore the

percentage increases for 1997 to 1998 are reasonably comparable to the increases in earlier years.

The data in Panels B and C of Table 17, 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 work-

Table 18 - National Averages of Benefits Per 100,000 Workers By Year in Current and Constant Dollars

## Panel A: Forty-two States with Data for Policy Years 1985 - 1997

Policy Year	No of States Used to Construct Avg.	Cash Benefits				Medical Benefits				Total Benefits		
		Dollar Amounts (1)	CPI (2)	Benefits in 82-84 \$ (3)	Increase from Previous Year (4)	Dollar Amounts (5)	CPI (6)	Benefits in 82-84 \$ (7)	Increase from Previous Year (8)	Dollar Amounts (9)	Benefits in 82-84 \$ (10)	Increase from Previous Year (11)
1985	42	20,022,384	107.2	18,677,597	--	12,511,620	113.5	11,023,454	--	32,534,004	29,701,051	--
1986	42	21,361,970	108.8	19,634,164	5.1%	12,981,252	122.0	10,640,370	-3.5%	34,343,222	30,274,534	1.9%
1987	42	24,183,609	112.6	21,477,450	9.4%	14,990,089	130.1	11,521,975	8.3%	39,173,698	32,999,425	9.0%
1988	42	26,972,235	117.0	23,053,192	7.3%	17,359,403	138.6	12,524,822	8.7%	44,331,638	35,578,014	7.8%
1989	42	30,535,180	122.4	24,947,042	8.2%	20,255,039	149.3	13,566,670	8.3%	50,790,219	38,513,713	8.3%
1990	42	31,006,668	128.8	24,073,500	-3.5%	23,057,924	162.8	14,163,344	4.4%	54,064,592	38,236,844	-0.7%
1991	42	28,479,229	133.8	21,284,925	-11.6%	23,313,288	177.0	13,171,349	-7.0%	51,792,517	34,456,274	-9.9%
1992	42	24,801,038	137.5	18,037,119	-15.3%	21,785,272	190.1	11,459,901	-13.0%	46,586,310	29,497,020	-14.4%
1993	42	21,939,307	141.2	15,537,753	-13.9%	20,278,052	201.4	10,068,546	-12.1%	42,217,359	25,606,299	-13.2%
1994	42	20,930,754	144.7	14,464,930	-6.9%	19,949,667	211.0	9,454,818	-6.1%	40,880,421	23,919,749	-6.6%
1995	42	20,255,133	148.6	13,630,641	-5.8%	18,683,935	220.5	8,473,440	-10.4%	38,939,068	22,104,081	-7.6%
1996	42	20,086,289	152.8	13,145,477	-3.6%	18,952,679	228.2	8,305,293	-2.0%	39,038,968	21,450,770	-3.0%
1997	42	20,116,691	156.3	12,870,564	-2.1%	19,115,754	234.6	8,148,233	-1.9%	39,232,445	21,018,796	-2.0%

## Panel B: Forty-One States with Data for Policy Years 1997 - 1998

Policy Year	No of States Used to Construct Avg.	Cash Benefits				Medical Benefits				Total Benefits		
		Dollar Amounts	CPI	Benefits in 82-84 \$	Increase from Previous Year	Dollar Amounts	CPI	Benefits in 82-84 \$	Increase from Previous Year	Dollar Amounts	Benefits in 82-84 \$	Increase from Previous Year
1997	41	20,077,148	156.3	12,845,264	--	19,149,421	234.6	8,162,584	--	39,226,569	21,007,848	--
1998	41	21,414,541	158.6	13,502,233	5.1%	20,038,774	241.2	8,307,949	1.8%	41,453,315	21,810,182	3.8%

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).

ers increased on average almost 12 percent a year. The fastest growth year was 1989, when total benefits were up 14.6 percent from the previous year. Then a sudden deceleration occurred, with total benefits per 100,000 workers up only 6.4 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 5.7 percent increase in 1998, 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 17 and Figure B provide information on the development in all three measures 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 relatively stability in 1996 and 1997, followed by an increase in both types of benefits in 1998.

The data in Table 17 are for benefits in current dollars unadjusted for inflation. The benefits adjusted for changes in the CPI are shown in Table 18. 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 27.4 percent in the 42 jurisdictions between 1990 and 1997 (Table 18, Column (9)). Measured in constant dollars, total benefits per 100,000 workers declined by 45.0 percent from 1990 to 1997 (Table 18, 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.

## 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 27.4 percent in the 42 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 35.1 percent and medical benefits down 17.1 percent measured in current dollars.

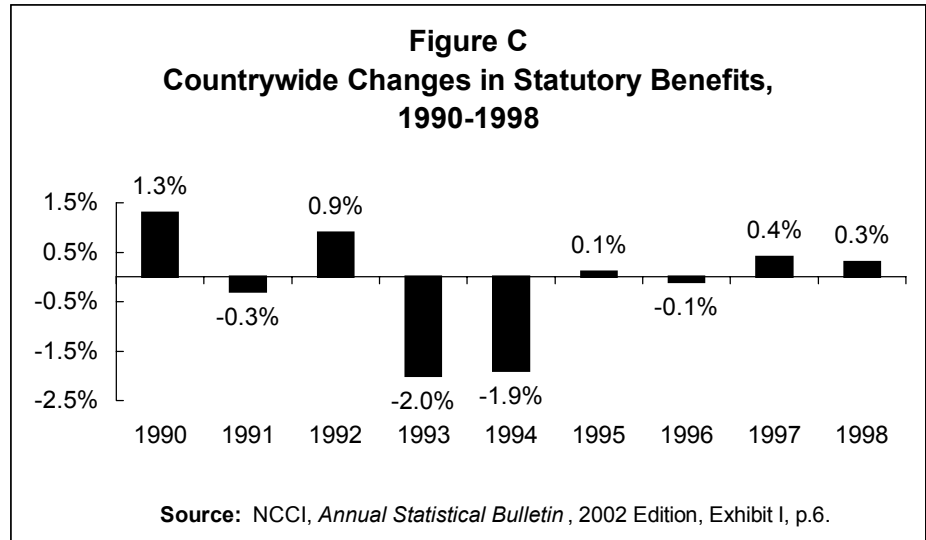
Why did incurred benefits decline so rapidly during these years? One partial explanation is that the workplace appears to have become safer during the 1990s. The annual number of lost workday cases per 100 full-time workers in the private sector dropped from 4.1 in 1990, to 3.8 in 1994, to 3.3 in 1997, and then to 3.1 in 1998. These declines in the occupa-

tional 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 nine years between 1990 and 1998, and the net effects of the statutory changes during the nine 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 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, PPDs, 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 was 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) estimate 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 may not reflect just the beneficial consequences of safer workplaces and the reductions of unnecessary medical treatment resulting from managed care, but may also reflect 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.

This catalogue of the possible causes and consequences of the rapid decline in cash and medical benefits from 1991 to 1997 is 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.

The moderate increases in cash and medical benefits in 1998 suggest that we may be entering a new phase in the cycle of workers' compensation benefits in the U.S. We will publish an article later this year that will update the incurred benefit data through 1999, and if that article indicates that the increases in 1998 were not aberrations, we will attempt to explain the sources of these developments.

### Comparisons of Individual States for 1998

The 1998 data in Table 16.98 allow comparisons among 46 jurisdictions for that year. The cash benefits per 100,000 workers in 1998 ranged from \$123,619,092 in the USL&HW program to \$6,808,609 in Indiana. Medical benefits per 100,000 workers varied from \$102,522,240 in the USL&HW program to \$10,885,438 in Massachusetts. Total benefits (cash plus medical) per 100,000 workers were highest in the USL&HW program at \$226,141,332 and were lowest in Arkansas at \$21,222,670. 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 1998 is shown in column (2) of Panel A of Table 16.98. States were ranked in Figure D in terms of how their cash benefits compared to the national average.

Four 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 Alaska (where benefits were 51 percent above the national average) to West Virginia (where benefits were 106 percent above the national

average). In addition, the USL&HW program had cash benefits that were almost six times the national average. Nevada (where benefits were 47 percent above the national average) was the only state that had cash benefits that were “above average” – cash benefits were more than 25 percent, but less than 50 percent above the national average.

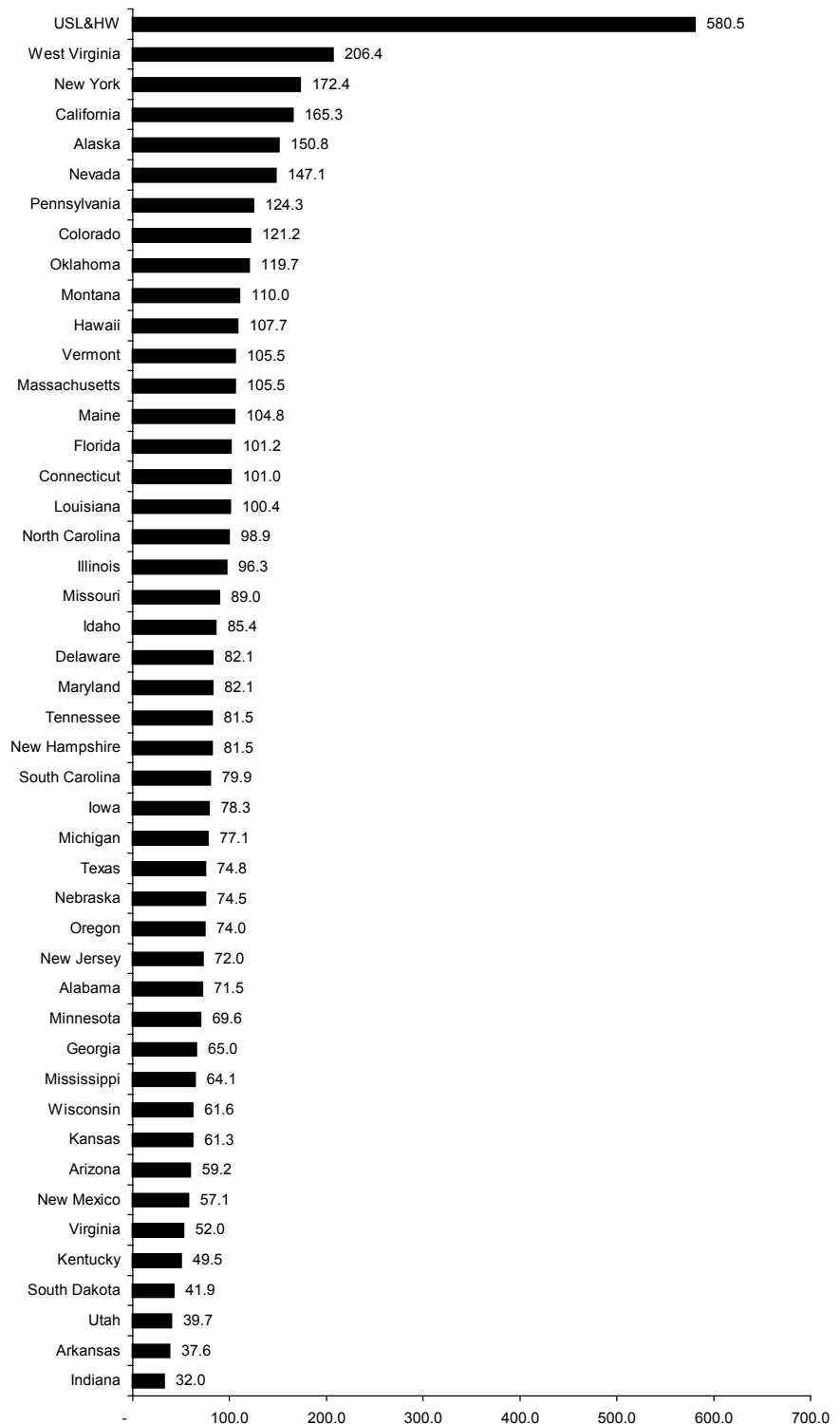
Other states had much lower cash benefits relative to the national average in 1998. Five states had cash benefits that were “well below average” – benefits were at least 50 percent below the national average. These states ranged from Kentucky (where benefits were slightly more than 50 percent below the national average) to Indiana, where cash benefits were 68 percent below the national average. In addition, 13 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 Texas (where benefits were slightly more than 25 percent below the national average) to Virginia (where benefits were 48 percent below the national average).

There were also 22 states with “average” cash benefits – the cash benefits were within 25 percent of the national average. These states ranged from Michigan (where benefits were 23 percent below the national average) to Pennsylvania (where benefits were 24 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 1998 is shown in column (5) of Panel B of Table 16.98. States were ranked in Figure E in terms of how their medical benefits compared to the national average.

Three 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. The states

**Figure D - Cash Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 1998**



Source: Table 16.98, Panel A

ranged from Alaska (where benefits were 104 percent above the national average) to West Virginia (where benefits were 56 percent above the national average). In addition, the USL&HW program had medical benefits that were almost five times the national average. There were four states where medical benefits were “above average” – cash benefits were more than 25 percent, but less than 50 percent above the national average. These states ranged from California (where benefits were 31 percent above the national average) to Montana (where benefits were 48 percent above the national average).

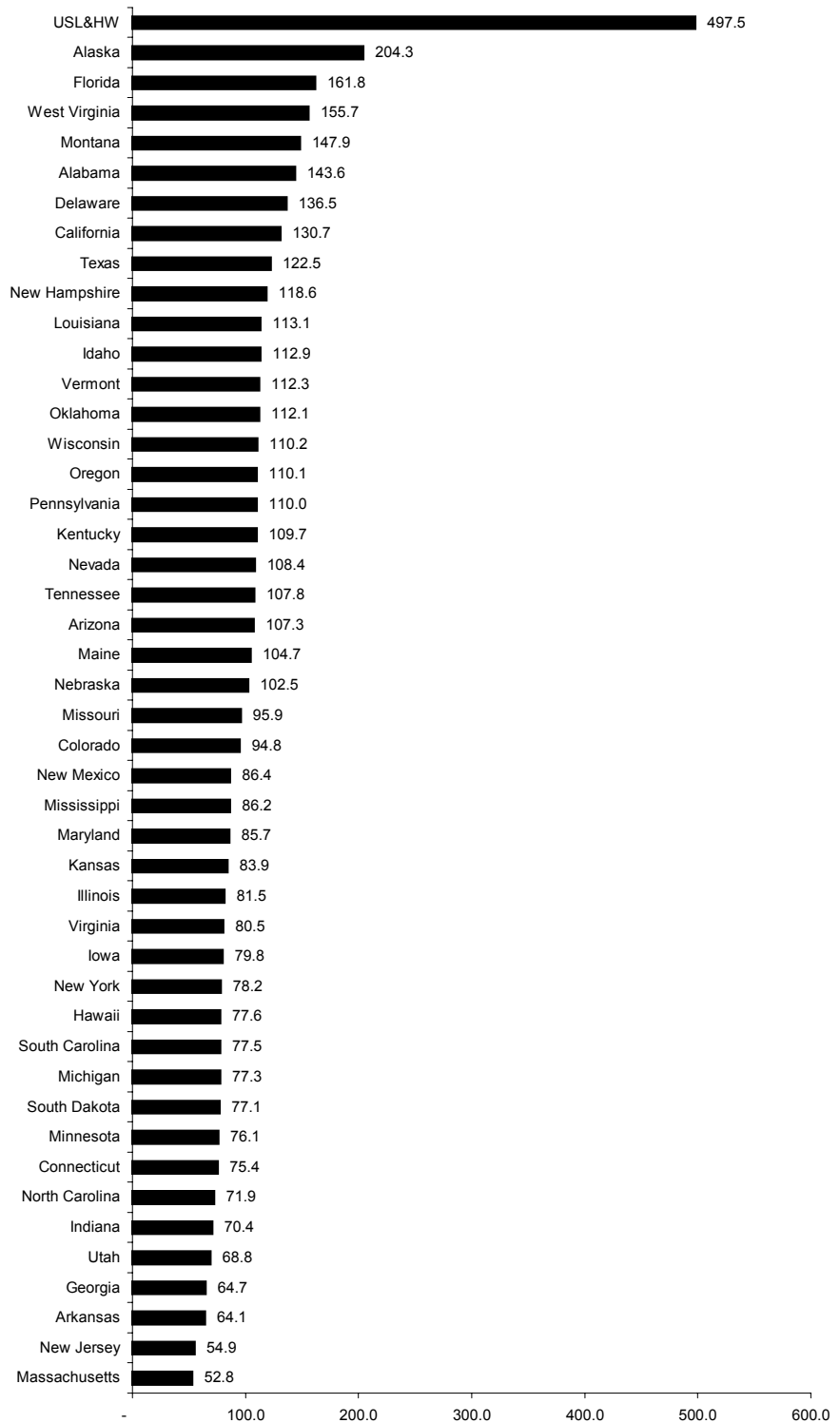
Other states had much lower cash benefits relative to the national average in 1998. Seven states had medical benefits that were “below average” – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from North Carolina (where benefits were slightly more than 28 percent below the national average) to Massachusetts, where medical benefits were 47 percent below the national average. There were no states with medical benefits “well below average” – benefits were at least 50 percent below the national average.

There were also 31 states with “average” cash benefits – the cash benefits were within 25 percent of the national average. These states ranged from Connecticut (where benefits were almost 25 percent below the national average) to Texas (where benefits were 22.5 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 1998 is shown in column (8) of Panel C of Table 16.98. 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

**Figure E - Medical Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 1998**



Source: Table 16.98, Panel B

“well above average” – the benefits were more than 50 percent above the national average. The states ranged from Alaska (where benefits were 77 percent above the national average) to West Virginia (where benefits were 81 percent above the national average). In addition, the USL&HW program had cash benefits that were more than five times the national average. There were five states that had total benefits that were “above average” – cash benefits were more than 25 percent, but less than 50 percent above the national average. They ranged from New York (where benefits were 26 percent above the national average) to California (where benefits were 48 percent above the national average).

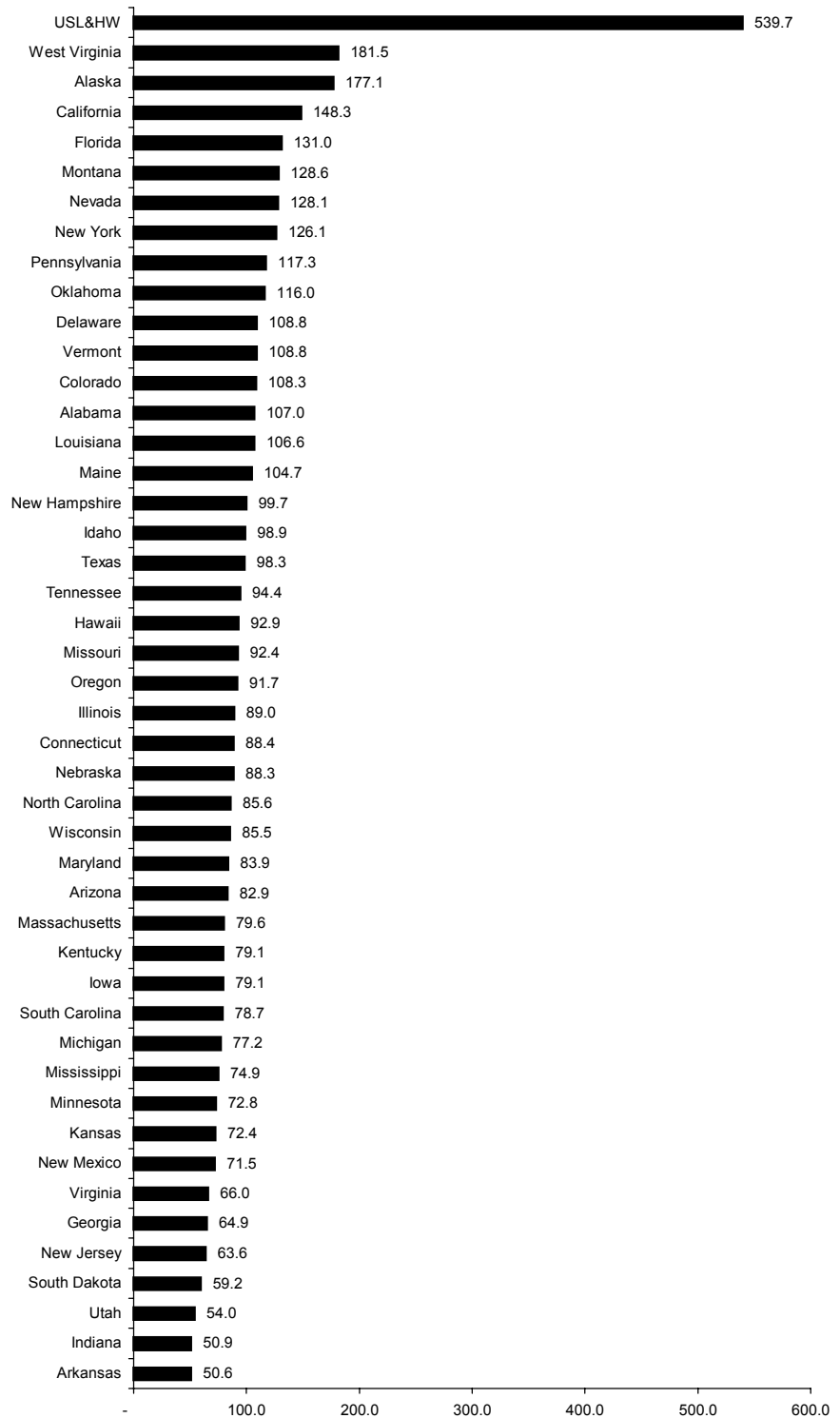
Other states had much lower total benefits relative to the national average in 1998. Eleven states had cash benefits that were “below average” – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from Mississippi (where benefits were slightly more than 25 percent below the national average) to Arkansas (where benefits were 49 percent below the national average). There were no states that had total benefits that were “well below average” – benefits were at least 50 percent below the national average.

There were also 27 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 23 percent below the national average) to Pennsylvania (where benefits were 17 percent above the national average).

**Historical Comparisons of Individual States**

Tables 16.95 to 16.98, 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

**Figure F - Total (Cash plus Medical) Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 1998**



Source: Table 16.98, Panel C

Table 19 - Cash Benefits Per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
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
Connecticut	0	0	+	+	+	+	+	0	0	0	0	0	0	0
Delaware	0	0	-	-	-	-	-	-	0	0	0	0	0	0
Dis. of Columbia	--	--	--	--	N/A	--	--	--	--	--	--	--	--	N/A
Florida	0	+	++	++	++	+	0	0	0	0	0	0	0	0
Georgia	-	-	0	0	-	0	-	0	0	0	0	-	-	-
Hawaii	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
Indiana	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iowa	-	-	-	-	--	-	-	-	-	-	-	-	-	0
Kansas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kentucky	-	-	-	-	0	0	0	0	0	0	-	-	-	--
Louisiana	+	+	++	++	0	0	0	0	0	0	0	0	0	0
Maine	++	++	++	++	++	++	++	+	0	-	0	0	0	0
Maryland	0	-	-	-	-	-	-	-	0	0	0	0	0	0
Massachusetts	+	+	++	++	++	++	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	++	+	+	+	0	+	0	0	0	0	-	-	-	-
Mississippi	--	-	-	-	-	-	-	-	-	-	-	-	-	-
Missouri	--	-	-	-	-	-	-	-	0	0	0	0	0	0
Montana	++	++	++	+	++	++	++	+	+	++	+	+	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	++	++	+
New Hampshire	0	0	0	+	+	+	+	+	0	0	0	0	0	0
New Jersey	-	-	-	-	-	-	-	0	0	0	0	0	0	-
New Mexico	++	+	++	+	0	0	0	-	-	-	-	--	-	-
New York	0	0	0	0	0	0	+	++	++	++	++	++	++	++
North Carolina	--	--	--	--	--	--	--	-	-	-	-	-	0	0
Oklahoma	0	0	0	0	0	0	+	++	++	++	++	+	+	0
Oregon	++	++	++	++	0	0	0	0	0	0	0	0	0	-
Pennsylvania	0	+	+	+	+	++	+	++	++	++	++	+	+	0
Rhode Island	++	++	++	++	++	++	++	-	-	0	0	0	+	N/A
South Carolina	-	-	-	-	-	-	-	-	0	-	-	-	-	0
South Dakota	-	-	-	-	-	-	-	0	-	-	0	0	--	--
Tennessee	--	-	-	-	-	-	-	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
Virginia	--	-	-	-	-	-	-	--	--	--	-	-	-	-
West 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:** Tables 2.85 - 2.94  
 Tables 16.95 - 16.98  
 (Tables 2.85 - 2.94 are available upon request to subscribers to the *Workers' Compensation Policy Review*.)

each state for each year between 1985 and 1997. Some readers (and surely the authors) are likely to find that much data hard to assimilate. Tables 19 to 21 are designed to facilitate that assimilation.

**Cash Benefits.** Table 19 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 14 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 19 to 21.)

The entries in Table 19 permit a quick assessment of how the cash benefits in each jurisdiction have compared to the national averages during the 14 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. Illinois and Michigan had average benefits (benefits were within 25 percent of the national average) in all 14 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 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 14-year period and moved among adjacent categories. Nevada had above average or well 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. Table 19 contains a number of other states in which the cash benefits moved between adjacent categories.

More interesting are the states that moved among three categories in terms of their cash benefits relative to the national average over the 14 years. Eleven states (Alaska, California, Colorado, Florida, Hawaii, Louisiana, Massachusetts, Montana, New York, Oklahoma, and Pennsylvania) varied between average and well above average cash benefits during the 14 years. Of these states, only Alaska, California, and New York had well above average benefits in 1998, while the other eight states had average cash benefits in 1998, obviously well below their relatively high benefits in earlier years. Six states (Iowa, Kentucky, Missouri, North Carolina, South Dakota, and Tennessee) varied between average and well below average cash benefits between 1985 and 1998. Texas varied between above average and below average cash benefits during these years.

Four states had cash benefits relative to the national average that varied among four categories during the 14 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 1998. 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 1998. Oregon had a similar pattern: cash benefits were well above average in 1985, dropped to average cash benefits for most of the 1990s, and had below average benefits in 1998. Rhode Island had a unique pattern, beginning with cash benefits well above the national average for seven years, then dropped to below average or average cash benefits for most of the 1990s, before increasing to above average benefits in 1997 (the last year with data for the state).

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 19. The experiences in Maine, Minnesota, Rhode Island, and New Mexico clearly demonstrate that significant reductions in cash benefits are possible. There are also several states whose experience over the 14 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 and well above average cash benefits from 1992 to 1998.

**Medical Benefits.** Table 20 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 14 years included in this study. The entries in Table 20 permit a quick assessment of how generous the medical benefits have been in each jurisdiction during the 14 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 14 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 jurisdiction (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 14 years.

There were a number of states that had relatively stable medical costs over the 14 years, with only movements among adjacent categories of relative generosity. Alaska, for example, moved between above average and well above average medical benefits between 1985 and 1998. Colorado and Kentucky are examples



Table 20 - Medical Benefits Per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Alabama	0	0	0	+	+	+	+	+	+	+	+	++	++	+
Alaska	++	++	++	++	++	++	+	+	++	++	++	++	++	++
Arizona	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
Delaware	N/A	N/A	0	0	0	0	0	0	++	+	++	++	+	+
Dis. of Columbia	--	--	--	--	N/A	--	--	--	--	--	--	--	--	N/A
Florida	+	+	++	++	++	++	+	++	++	++	++	++	++	++
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	-	-
Hawaii	+	0	0	0	0	+	+	++	++	++	0	0	0	0
Idaho	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	-	-	-	-	-	-	-	0	0	0	0	0	0	0
Indiana	--	--	-	-	-	-	-	-	-	-	-	-	-	-
Iowa	-	--	-	-	-	-	-	-	-	-	-	-	-	0
Kansas	-	-	-	-	0	0	0	0	0	-	0	-	0	0
Kentucky	0	0	0	0	0	0	+	+	+	+	+	0	0	0
Louisiana	++	++	++	++	++	+	0	0	0	0	0	0	0	0
Maine	+	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	0
Minnesota	++	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
Missouri	-	-	-	-	-	-	0	0	0	0	0	0	0	0
Montana	+	++	++	+	0	+	+	+	+	++	++	+	+	+
Nebraska	-	-	-	-	-	-	-	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
New Jersey	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Mexico	+	+	++	++	+	++	+	+	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
Oregon	++	++	++	++	+	0	0	+	+	0	+	++	++	0
Pennsylvania	N/A	0	N/A	N/A	++	++	+	+	0	0	0	0	0	0
Rhode Island	0	0	-	0	0	0	-	--	--	--	0	-	-	N/A
South Carolina	-	-	-	--	-	-	-	-	0	0	-	-	-	0
South Dakota	-	-	-	-	-	-	0	0	0	0	0	0	-	0
Tennessee	-	-	-	0	0	0	0	0	0	0	0	0	0	0
Texas	+	+	N/A	+	N/A	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
Virginia	-	0	-	-	0	0	-	0	0	-	0	0	0	0
West Virginia	+	+	+	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 2.85 - 2.94  
 Tables 16.95 - 16.98  
 (Tables 2.85 - 2.94 are available upon request to subscribers to the *Workers' Compensation Policy Review*.)

of states that moved between average and above average medical benefits during the 14 years. Georgia had average benefits from 1985 to 1996 and then dropped to below average medical benefits in 1997 and 1998. Indiana began with well below average medical benefits and moved to below average benefits during the period between 1985 and 1998. There are a number of other states that moved between adjacent categories of relative generosity of medical benefits during the 14 years included in Table 20.

As Table 20 also illustrates, there were 16 states that moved among non-adjacent categories during the 14 years. Ten states (Alabama, California, Delaware, Hawaii, Louisiana, Montana, New Mexico, Oregon, Pennsylvania, and West Virginia) varied among the average, above average, and well above average categories between 1985 and 1998. 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 1998. One state (Arkansas) varied among below average, average and above average in the years encompassed by Table 20.

The experiences in California, Hawaii, Louisiana, Maine, Minnesota, New Mexico, and Pennsylvania clearly demonstrate that significant reductions in medical benefits paid to workers are possible. There were also two states -- New York and North Carolina -- that had well below average medical benefits in 1985 or 1986, but that paid average medical benefits in 1995, 1996, 1997, or 1998. 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 1998, 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 two years between 1994 to 1998. The "solutions" to high medical costs in these states are worth further examination.

**Total Benefits.** Table 21 provides summary information on the relative generosity of total (cash plus medical) benefits for each of the 45 states plus the District of Columbia and the USL&HW program for the 14 years included in this study. The entries in Table 21 permit a quick assessment of how generous the total benefits have been in each jurisdiction during these 14 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 14 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 14 years.

A number of states had relatively constant total benefits throughout the 14 years and only moved between adjacent categories of relative generosity. Ten states had been in a single category for at least 11 years and changed to an adjacent category for the remaining years. Two states (Arizona and Connecticut) had average benefits for at least 12 years and moved to above average benefits for one or 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 three 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 or two years. One state (Indiana) had well below average benefits in 11 years, but paid only below average benefits in three years.

As shown in Table 21, there were 14 states that moved among non-adjacent categories during the 14 years shown. Eight states (California, Florida, Hawaii, Louisiana, Maine, Oklahoma, Oregon, and Pennsylvania) had total benefits that varied between average and well above average during the 14 years. Three states (Delaware, Massachusetts, and New York) had total benefits that varied among the above average, average, and below average categories of generosity during the 14 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 21.

Finally, Minnesota, New Mexico and Rhode Island experienced an exhilarating ride over the 14 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 three most recent years.

The experiences in six jurisdictions (Hawaii, Louisiana, Maine, Oklahoma, Oregon, and Pennsylvania) that had average benefits in 1998 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 21. 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.

Table 21 - 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
Alabama	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
Connecticut	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	--	--	--	--	N/A	--	--	--	--	--	--	--	--	N/A
Florida	0	+	++	++	++	+	0	+	+	++	+	++	+	+
Georgia	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
Illinois	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Indiana	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iowa	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Kansas	-	-	-	-	-	-	-	0	0	-	-	-	-	-
Kentucky	-	-	-	-	0	0	0	0	0	0	0	0	0	0
Louisiana	+	+	++	++	+	0	0	0	0	0	0	0	0	0
Maine	++	++	++	++	++	++	++	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
Minnesota	++	0	+	0	0	+	0	0	0	-	0	-	-	-
Mississippi	-	-	0	0	0	0	0	0	-	0	0	0	0	-
Missouri	-	-	-	-	-	-	-	-	0	0	0	0	0	0
Montana	++	++	++	+	++	++	++	+	+	++	++	+	+	+
Nebraska	--	--	--	--	--	--	--	--	--	--	--	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	++	++	+
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	+
North Carolina	--	--	--	--	-	-	-	-	-	-	-	-	-	0
Oklahoma	0	0	0	0	0	0	0	+	++	++	+	+	+	0
Oregon	++	++	++	++	0	0	0	+	0	0	0	+	0	0
Pennsylvania	N/A	+	N/A	N/A	+	++	+	+	+	+	+	0	0	0
Rhode Island	+	++	++	++	++	++	0	-	-	-	0	-	0	N/A
South Carolina	-	-	-	-	-	-	-	-	0	0	-	-	-	0
South Dakota	-	-	-	-	-	-	0	0	0	0	0	0	-	-
Tennessee	-	-	-	-	-	-	0	0	0	0	0	0	0	0
Texas	0	+	N/A	+	N/A	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
Virginia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
West Virginia	++	++	++	++	++	++	++	++	++	++	++	++	++	++

**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 2.85 - 2.94  
 Tables 16.95 - 16.98  
 (Tables 2.85 - 2.94 are available upon request to subscribers to the *Workers' Compensation Policy Review*.)

## Are the States Converging or Diverging?

A casual perusal of the information in Tables 19 to 21 suggests that the differences among states in workers' compensation benefits have narrowed over the 14 years for which we have data. For example, in terms of the data on total benefits (cash plus medical) shown in Table 21, there were eight states with well above average benefits and four jurisdictions with well below average benefits in 1985, while in 1998 there were only three states with well above average benefits and no jurisdictions with well below average benefits.

A more rigorous examination of whether the differences among states in the amounts of incurred benefits are narrowing over the 14 years for which we have data is presented in Table 22. For each of the years between 1985 and 1997, Panel A shows the dispersion among the same 42 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 22 shows the dispersion among the 41 states with data for 1997 and 1998. The dispersion 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 22 are worth mentioning. First, there is a pronounced tendency for the dispersion among states in incurred benefits to narrow over the 14 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 has increased to some extent since 1991. Third, there was a greater dispersion among states for cash benefits than for medical benefits in every year, al-

though the dispersion for cash benefits has declined much more substantially than the dispersion for medical benefits.

## Conclusions

Five conclusions seem warranted for the data on workers' compensation benefits presented in this article and the companion article (Blum and Burton, 2002) in the previous issue of the *Workers' Compensation Policy Review*. First, as shown in Table 17 and Figures A and B, the national averages of incurred benefits per 100,000 workers have experienced dramatic swings in the last 14 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 eight percent occurred from 1991 to 1995. Similar turnarounds occurred in the averages of medical benefits and total benefits per 100,000 workers over these 14 years.

Second, as shown in Tables 1A to 15A and Tables 1B to 15B (in Blum and Burton, 2002), states differ widely in the frequency, average benefits per claim, and benefits per 100,000 workers for four different types of cash benefits and for medical benefits. These data are only available for four years (1995 to 1998), and show a general tendency for the frequencies of claims to decline over these years.

**Table 22**  
Standard Deviations for State's Benefits  
as a Percentage of U.S. Average

### Panel A

#### Dispersion Among 42 States in Benefits Per 100,000 Workers for Years 1985-1997

Year	Cash Benefits	Medical Benefits	Total Benefits
1985	100.3	51.0	76.9
1986	98.9	48.5	74.2
1987	76.3	42.6	57.7
1988	69.6	41.5	53.2
1989	67.3	33.7	47.8
1990	63.2	31.6	43.0
1991	49.5	31.6	35.1
1992	47.8	33.1	35.6
1993	46.0	34.7	35.7
1994	46.3	37.3	37.4
1995	39.3	32.7	30.3
1996	37.6	36.7	31.3
1997	38.3	34.7	30.7

### Panel B

#### Dispersion Among 41 States in Benefits Per 100,000 Workers for Years 1997-1998

Year	Cash Benefits	Medical Benefits	Total Benefits
1997	37.8	34.5	31.1
1998	36.7	32.3	29.9

**Note:** The 42 states are those included in Panel B of Table 17. The 41 states are those included in Panel C of Table 17.

Third, data are available for up to 47 jurisdictions for 1985 to 1998 for the averages of cash benefits, medical benefits, and total benefits per 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 14 years. Some states, such as Alabama, Indiana, Iowa, Michigan, and New Jersey, have shown little variation over the 14 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.

Fourth, the dispersion in benefits among states has narrowed considerably over the 14 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.

Fifth, 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 (as shown in Table 17 and Figures A and B). We will publish an article incorporating 1999 results later this year, when we will be able to better determine if the increases in 1998 are the start of a new

trend toward higher benefits or are an aberration.

## ENDNOTES

<sup>1</sup> The information on the state's medical benefits as a percent of the U.S. average in column (5) of Table 16.95 differs from the state's medical benefits as a percent of the U.S. average in column (2) of Table 15A because Table 16.95 includes West Virginia and Table 15A does not include West Virginia.

<sup>2</sup> 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 17 would have been higher.

<sup>3</sup> Data on work-related injury and illness incidence rates from 1972 to 1998 are included in Table A.6 of Thomason, Schmidle, and Burton (2001).

## APPENDIX A : Data Sources, Terminology and Methodology

This appendix provides additional information on the data sources and methodology used to prepare the articles in this and the preceding (Blum and Burton 2002) issues of the *Workers' Compensation Policy Review*, as well as a discussion of some of the terminology used for workers' compensation data. The tables and figures are numbered consecutively for the two articles in order to facilitate analysis and discussion of the data.

### Data Sources

The primary source of the data used in the articles is the National Council on Compensation Insurance (NCCI). The 2002 edition of the *Annual Statistical Bulletin* published by the NCCI (the *NCCI Bulletin*) provides data for the 45 jurisdictions (including the District of Columbia) in which private insurance carriers sold workers' compensation insurance policies in 1998. The 2002 *NCCI Bulletin* also contains information for 1996 to 1998 for Nevada, in which the exclusive state fund was privatized in

1999. We also obtained information from one state (West Virginia) with an exclusive state fund. Comparable data are not available from four states that had exclusive state workers' compensation funds in 1998 (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, the District of Columbia, Pennsylvania, and/or Texas in certain years, and the averages in Panel A of Table 17 pertain only to the number of jurisdictions for which data are avail-

able in the designated year. (The jurisdictions missing in any year are shown in parentheses.) We also have calculated a national average for those 42 states with data available for all years between 1985 and 1997, and the results are shown in Panel B of Table 17. The latest data for Rhode Island in the 2002 *NCCI Bulletin* are from 1997, and so are not current enough to use for the 1998 entries in the tables in the two articles. One consequence is that there are only 41 states with data available in both 1997 and 1998, and so the averages in Panel C of Table 17 pertain to those 41 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 in-

formation on the USL&HW benefit payments in a number of our tables, including Tables 16.95 to 16.98, 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. The previous article (Blum and Burton 2002) presented tables for each of these types of cases showing the frequency per 100,000 workers, the average benefits per case, and the benefits per 100,000 workers. In the current article, we used these data to calculate three variants of benefits paid 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 2002 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 includes reports on all the financial transactions for all the insurance policies with coverage beginning during the policy period used in the state. The policy period typically is a 12-month period. In many states, the policy period begins on January 1, and thus the policy period and the policy period correspond. (For example, the 1998 policy period for Alabama began on January 1, 1998 and ended on De-

ember 31, 1998.) However, the policy period in many states begins on a date other than January 1. (For example, the 1998-99 policy period for Alaska began on April 1, 1998 and ended on March 31, 1999.) 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 1998-99 policy-period experience for Alaska includes those accidents that occurred between April 1, 1998 and March 31, 2000, and that were covered by policies sold during the 1998-99 policy period.

**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 1998-99 policy-period experience for Alaska is based on evaluations made between October 1, 1999 (for policies effective April 1, 1998) and September 31, 2000 (for policies effective March 31, 1999).

**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 through 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 2002 *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 2002 *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 four 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 three states (Delaware, Pennsylvania, and West Virginia) 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 2002 *NCCI Bulletin*, the policy years ranged from the oldest results for Rhode Island (January to December 1997) to the most recent results for Massachusetts (July 1998 to June 1999). 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 Massachusetts policy period in the 2002 *NCCI Bulletin* covered July 1998 to June 1999, while many states covered January to December 1998.

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 2002 issues of the *NCCI Bulletin*. Thus three months of data from the Michigan pol-

icy period from April 1997 to March 1998 that were published in the 2001 *NCCI Bulletin* were combined with nine months of data from the Michigan policy period from April 1998 to March 1999 that were published in the 2002 *NCCI Bulletin* to calculate a twelve-month average for calendar year 1998 for Michigan.

Tables 1 to 15 and Table 16.95 present information for those jurisdictions for which data for at least six months in 1995 are found in any of the 15 issues of the *NCCI Bulletin*. In similar fashion, Tables 1 to 15 and Tables 16.96, 16.97, and 16.98 present information on those jurisdictions for which data for at least six months in 1996, 1997, or 1998 are available from any of these issues. Tables similar to Tables 16.95, 16.96, 16.97, and 16.98 for years 1985 through 1994 are available upon request 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 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 16.98. 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 1998. For a policy effective on January 1,

1998, the experience thus includes all injuries that occurred between January 1 and December 31, 1998. For a policy effective on December 31, 1998, the experience thus includes all injuries that occurred between December 31, 1998 and December 30, 1999. 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, 1998 calendar-accident year data would pertain to the experience of all injuries that occurred between January 1 and December 31, 1998. 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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