From John Burton's Workers' Compensation Resources

# Workers' Compensation Policy Review

Vol 8 Issue 6 November/December 2008

## In This Issue:

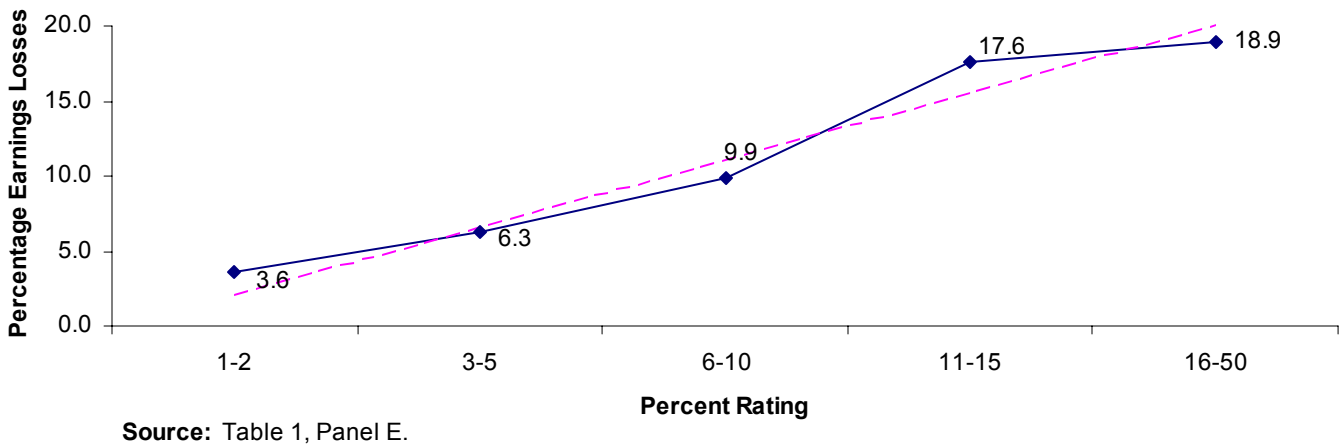
**Featured Topics**



## Summary of the Contents

Workers' compensation cash benefits paid during the temporary disability period (or healing period) are examined in the first article. Temporary total disability (TTD) benefits are provided by all state workers' compensation programs. Several features of each state's TTD benefits are summarized. The article also provides the first comprehensive catalogue of temporary partial disability (TPD) benefits, which are provided in all states but Kentucky, New Jersey, Ohio, and West Virginia. The states' approaches to TPD benefits are rather diverse, to say the least, perhaps due to the lack of prior descriptive information and the unavailability of empirical data on these benefits.

The second article continues a series begun in the March/April 2008 issue that primarily focuses on permanent partial disability (PPD) benefits. The article identifies seven systems of PPD cash benefits used by the states, which are rather diverse, to say the least. The article also offers five criteria for evaluating systems of PPD benefits: equity; adequacy; delivery system efficiency; prevention, compensation, and rehabilitation (PCR) efficiency; and affordability. Several applications of these criteria are provided, including the assessment of the adequacy and equity of the PPD benefits provided by the Wisconsin workers' compensation program. The relationship between the disability ratings and the losses of earnings for Wisconsin workers injured in 1968 is shown below. At this level of aggregation, the Wisconsin rating system did an excellent job of providing vertical equity, but the state did not fare as well on other tests of equity.




**Source:** Table 1, Panel E.

Dear Subscriber:

I write to inform you this is the last issue of the *Workers' Compensation Policy Review*. I decided to end the publication because I want to devote my time to several other important projects and because I do not wish to continue providing the financial subsidy the publication has required in recent years.

This decision was difficult because for 20 years I have served as Editor of publications designed to convey information across disciplines and from academics to policy makers in workers' compensation and related programs. There were 64 bimonthly issues of the *Workers' Compensation Monitor* from 1988 to 1997, when I terminated the partnership publishing the journal. This is the 48th issue of the *Workers' Compensation Policy Review*, which was published bimonthly from 2001 to 2008 and for which I have served as Editor, Publisher, and regular contributor.

I will remain active in workers' compensation and related fields. In the last few years, I have been involved in two studies of the disability benefits program for veterans and I hope to continue examining this topic. I am a member of an American Bar Association Task Force on the American Medical Association *Guides to the Evaluation of Permanent Impairment.* I am Chair of the National Academy of Social Insurance Study Panel on National Data on Workers' Compensation. Xuguang (Steve) Guo and I are continuing our research on workers' compensation and the relationship of the program with Social Security Disability Insurance. And I am clearing my schedule so I can prepare a study of Cash Benefits in Disability Programs, which will serve as the capstone on my long interest in promoting adequate and equitable benefits for disabled persons.

I want to thank you for subscribing to the *Workers' Compensation Policy Review*. I also want to thank the members of the Advisory Board, who are listed on the final page of this issue. I especially want to thank Peter Barth, Keith Bateman, Monroe Berkowitz, Don Elisburg, Jim Ellenberger, Tom Gleason, Nortin Hadler, Allan Hunt, Bill Johnson, John Lewis, Rick Victor, Ed Welch, and Melvin Witt, who have been members of the Advisory Boards for all 112 issues of the *Monitor* and the *Policy Review*. I also want to thank Tim Schmidle and Elizabeth Yates, who served as Associate Editors for the publications.

I particularly want to thank Florence Blum, who has worked with me since 1994. Her official titles are Executive Assistant for Workers' Disability Income Systems, the publisher of the *Workers' Compensation Policy Review*, and Production Coordinator for the *Policy Review*. But her responsibilities far exceed these titles, as she also has conducted much of the research and co-authored many of the articles in the *Policy Review*. When she started, we provided files with the individual articles to the printer, who then prepared the layout, printed and distributed the issues, and handled all the finances for the subscriptions. In recent years, Florence has taken over all of those roles. As you can imagine, we have a very busy office where these activities take place. It is a tribute to her demeanor and character that we have never had a disagreement during all these years.

Finally, I want to thank Janet for her support. When the first issue of the *Workers' Compensation Monitor* was published, she gave me a plaque commemorating the new venture. Now I owe her a monument for her 20 years of support of my publishing venture.

Warm regards to all aficionados of workers' compensation.

John Burton

*WORKERS' COMPENSATION POLICY REVIEW (*ISSN 1532-9984) is published by Workers' Disability Income Systems, Inc., 56 Primrose Circle, Princeton, NJ 08540-9416, tel 732-274-0600/ fax 732-274-0678 or editor@workerscompresources.com.  Editorial inquiries should be directed to John F. Burton, Jr., Editor; or Florence Blum, Production Coordinator, at 56 Primrose Circle, Princeton, NJ 08540-9416 732-274-0600; fax 732-274-0678; email: editor@workerscompresources.com.

# Workers' Compensation Temporary Disability Cash Benefits

by John F. Burton, Jr.

Burton (2008a) identified the building blocks or concepts that are implicitly or explicitly used to design the cash benefits paid by workers' compensation programs. Each workers' compensation programs pays more than one type of cash benefits and thus each has a system of cash benefits.

As shown in Figure 1, three time periods are used in the design of a system of cash benefits. The *preinjury period* is relevant because *inter alia* the employee's average weekly wage is used in calculating the cash benefits after the worker is injured. The *temporary disability period* refers to the time from the onset of the injury or disease until the date of maximum medical improvement (date of MMI) has been reached. Many workers completely recover from their injuries by the date of MMI. However, some workers never fully recover, and for these workers, the *permanent disability period* refers to the period following MMI.

Most workers' compensation programs distinguish between the temporary disability period and the permanent disability period and provide different types of cash benefits in the two periods. During the permanent disability period, states typically provide permanent total disability (PTD) or permanent partial disability (PPD) benefits. Burton (2008a), Welch (2008), and Burton (2008b) primarily focus on PPD benefits. In this article, the focus is on the benefits paid during the temporary disability period, namely temporary total disability (TTD) and temporary partial disability (TPD) benefits. While information on TTD benefits is available from several sources, to the best of my knowledge, this article provides the first comprehensive catalogue of TPD benefits.

## Temporary Total Disability Benefits

Temporary total disability is defined by Sengupta, Reno, and Burton (2008: 40) as "A disability that temporarily precludes a person from performing the preinjury job or another job at the employer that the worker could have performed prior to the injury." Information on temporary total disability benefits in the fifty states plus the District of Columbia as of January 1, 2008 is included in Table 1. The information was obtained from several sources: (1) *Chart VI - Income Benefits for Total Disability* from the U.S. Chamber of Commerce (2008); (2) *Exhibit VII: Benefit Provisions* from the National Council on Compensation Insurance (2008); (3) for several states, appropriate sections of state workers' compensation statutes downloaded from WorkersCompensation.com (2008); (4) a memo sent to almost all states (and responded to by some), which contained an earlier version of a table containing information on both TTD and TPD benefits; and (5) exami-

**Figure 1**
**Three Time Periods in a Workers' Compensation Case Where the Injury Has Permanent Consequences**

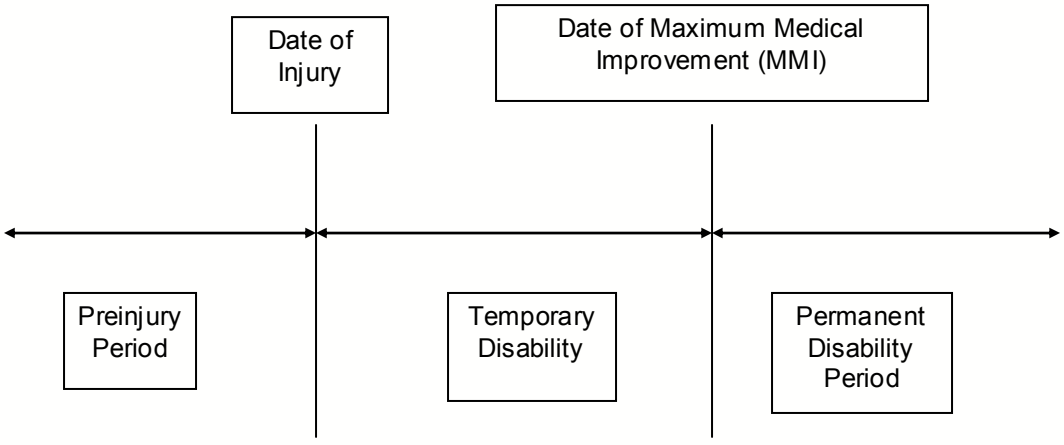


**Table 1**
**Temporary Total Disability Benefits as of 1/1/08**

| | | Minimum (1) | Maximum (2) | Percent (3) | Duration (4) |
|---|---|---|---|---|---|
| Alabama | AL | 188.00 | 682.00 | 66 2/3 | Disability |
| Alaska | AK | 207.00 | 939.00 | 80 S | Disability |
| Arizona | AZ | | 466.06 | 66 2/3 | Disability |
| Arkansas | AR | 20.00 | 522.00 | 66 2/3 | 450 weeks |
| California | CA | 137.45 | 916.33 | 66 2/3 | 104 weeks within 5 years for most injuries |
| Colorado | CO | | 753.41 | 66 2/3 | Disability |
| Connecticut | CT | 215.40 (see note) | 1,077.00 | 75 S | Disability |
| Delaware | DE | 197.42 | 592.25 | 66 2/3 | Disability |
| Dis. Of Columbia | DC | 322.00 | 1,288.00 | 66 2/3 | Disability |
| Florida | FL | 20.00 | 746.00 | 66 2/3 | 104 weeks |
| Georgia | GA | 50.00 | 500.00 | 66 2/3 | 400 weeks for most injuries |
| Hawaii | HI | 174.00 | 696.00 | 66 2/3 | Disability |
| Idaho | ID | 228.00 | 556.00 | 67 | Disability |
| Illinois | IL | Varies with Dependency | 1,178.00 | 66 2/3 | Disability |
| Indiana | IN | 50.00 | 620.00 | 66 2/3 | 500 weeks or $310,000 |
| Iowa | IA | 229.00 | 1,311.00 | 80 S | Disability |
| Kansas | KS | 25.00 | 510.00 | 66 2/3 | Disability $100,000 |
| Kentucky | KY | 134.00 | 670.02 | 66 2/3 | SS Retirement Age or Disability; see note |
| Louisiana | LA | 139.00 | 522.00 | 66 2/3 | Disability |
| Maine | ME | | 574.08 | 80 S | Disability |
| Maryland | MD | 50.00 | 877.00 | 66 2/3 | Disability |
| Massachusetts | MA | 208.71 | 1,043.54 | 60 | 156 weeks |
| Michigan | MI | | 739.00 | 80 S | Disability |
| Minnesota | MN | 130.00 (see note) | 750.00 | 66 2/3 | 104 weeks |
| Mississippi | MS | 25.00 | 398.93 | 66 2/3 | 450 weeks |
| Missouri | MO | 40.00 | 742.72 | 66 2/3 | 400 weeks |
| Montana | MT | | 573.00 | 66 2/3 | Disability |

**Table 1**
**Temporary Total Disability Benefits as of 1/1/08**

| | | Minimum (1) | Maximum (2) | Percent (3) | Duration (4) |
|---|---|---|---|---|---|
| Nebraska | NE | 49.00 | 644.00 | 66 2/3 | Disability |
| Nevada | NV | | 745.50 | 66 2/3 | Disability |
| New Hampshire | NH | 243.60 (see note) | 1,218.00 | 60 | Disability |
| New Jersey | NJ | 198.00 | 742.00 | 70 | 400 weeks |
| New Mexico | NM | 36.00 | 635.46 | 66 2/3 | Physical impairment 700 weeks |
| New York | NY | 100.00 (see note) | 500.00 | 66 2/3 | Disability |
| North Carolina | NC | 30.00 | 786.00 | 66 2/3 | Disability |
| North Dakota | ND | 356.00 (see note) | 653.00 | 66 2/3 | 104 weeks |
| Ohio | OH | 250.33 | 751.00 | 72/12 wks 66 2/3 | Disability |
| Oklahoma | OK | 30.00 | 577.00 | 70 | 300 weeks |
| Oregon | OR | 50.00 (see note) | 1,006.54 | 66 2/3 | Disability |
| Pennsylvania | PA | 403.50 (see note) | 807.00 | 66 2/3 | Disability |
| Rhode Island | RI | | 882.00 | 75 S | Disability |
| South Carolina | SC | 75.00 | 661.29 | 66 2/3 | 500 weeks |
| South Dakota | SD | 286.00 | 571.00 | 66 2/3 | Disability |
| Tennessee | TN | 106.95 | 784.00 | 66 2/3 | 400 weeks or $313,600 |
| Texas | TX | 107.00 | 712.00 | 70 (some exceptions) | 104 weeks |
| Utah | UT | 45.00 | 665.00 | 66 2/3 | 312 weeks |
| Vermont | VT | 338.00 | 1,013.00 | 66 2/3 | Disability |
| Virginia | VA | 204.00 | 816.00 | 66 2/3 | 500 weeks or $408,000 |
| Washington | WA | 43.16 | 993.58 | 60-75 | Disability |
| West Virginia | WV | 156.00 | 615.35 | 66 2/3 | 104 weeks |
| Wisconsin | WI | 20.00 | 805.00 | 66 2/3 | Disability |
| Wyoming | WY | | 3,202.33 (Monthly) | 66 2/3 | 24 Months |

## Explanations of Entries in Table 1

**COLUMN (1)**

Minimum weekly benefit for temporary total disability benefits in dollars. Some states have lower minimums for workers with low preinjury wages, as indicated by the following entries.

Connecticut The minimum weekly TTD benefit is $215.40 or 75% of the worker's preinjury wage, whichever is less.

Minnesota The minimum weekly TTD benefit is $130 or 100% of the worker's preinjury wage, whichever is less.

New Hampshire The minimum weekly TTD benefit is $243.60. If worker's preinjury average weekly wage was less than $243.60, the minimum TTD benefit is 100% of the worker's preinjury gross wage or 90% of the worker's preinjury net wage, whichever is less.

New York The minimum weekly TTD benefit is $100 or 100% of the worker's preinjury wage, whichever is less.

North Dakota The minimum weekly TTD benefit is $356 or the worker's preinjury net wages, whichever is less.

Oregon The minimum weekly TTD benefit is $50 or 90% of the worker's preinjury wage, whichever is less.

Pennsylvania The minimum weekly TTD benefit is $403.50 or 90% of the worker's preinjury weekly wage, whichever is less.

**COLUMN (2)**

Maximum weekly benefit for temporary total disability benefits in dollars. The exception is Wyoming, where the figure is a monthly maximum in dollars.

**COLUMN (3)**

For most states, percent is the percent of preinjury gross wages used to calculate the temporary total disability benefit.

For states with an S, percent is the percent of preinjury spendable wages used to calculate the temporary total disability benefit. Spendable wages are gross wages – (federal income taxes, state income taxes, and the employee's share of FICA taxes).

**COLUMN (4)**

Disability means the temporary total disability benefits continue as long as (1) the worker is totally disabled and (2) the worker has not reached the date of maximum medical recovery.

Duration in weeks is the maximum number of weeks after the date of injury for which the benefits can be paid.

500 weeks or $310,000 or similar entries means the temporary total disability benefits cease when 500 weeks have occurred since the date of injury or the worker has received $310,000, whichever is sooner.

Kentucky continues temporary total disability benefits as long as (1) the worker is not able to return to regular and customary work and (2) the worker has not reached the date of maximum medical improvement and (3) the worker is not eligible for Social Security Old Age benefits.

nation of the websites maintained by some state workers' compensation agencies.

Because the information on temporary total disability benefits is widely available from other sources, not all salient aspects of TTD benefits are included in Table 1. For example, every jurisdiction has a waiting period after the date of injury before TTD benefits begin, and every jurisdiction except Hawaii pays the TTD benefits for the waiting period if the disability continues for longer than the retroactive period. This information is available in *Chart IX – Waiting Period for Income/ Medical Benefits* from the U.S. Chamber of Commerce (2008) and *Exhibit VII: Benefit Provisions* from the National Council on Compensation Insurance (2008)

The information in Table 1 pertains to statutory provisions in effect on January 1, 2008. Column (1) contains information on the minimum weekly benefits in dollars for TTD benefits. In most states, the minimum is applicable in all cases. However, as shown in the notes to column (1), some states have lower minimums for workers with low preinjury wages. An example is New York, where the weekly minimum for TTD benefits is $100 or 100 percent of the worker's preinjury wage, whichever is less. There are also two states (Maine and Wyoming) that do not have a minimum weekly benefit for TTD benefits and one state (Illinois) that varies the minimum weekly benefit depending on the number of dependents.

Column (2) of Table 1 provides the maximum weekly benefits in dollars for TTD benefits. The exception is Wyoming, where the maximum TTD benefit is $3,202.33 per month. Among those with maximum weekly benefits, the range is from $398.93 in Mississippi to $1,311 in Iowa.

Column (3) of Table 1 indicates the percent of preinjury wages (the replacement rate) used to calculate the weekly TTD benefits. In most states, the preinjury wages are gross wages, that is, wages prior to any deductions for income or payroll taxes or for employee contributions for health insurance or pensions. In the states using gross wages to determine TTD benefits, the replacement rate in most states is 66 2/3 percent, but ranges from 60 percent in Massachusetts and New Hampshire to 70 percent in New Jersey, Oklahoma, and Texas. In a few states, the percentage of preinjury gross wages used to calculated TTD benefits varies, depending on the duration of the benefits (Ohio) or the marital status and number of dependents (Washington).

In six states identified with an S in column (3) (Alaska, Connecticut, Iowa, Maine, Michigan, and Rhode Island), the preinjury wages used to determine TTD benefits are spendable earnings, which are defined as gross wages minus federal incomes taxes, state income taxes, and the employee's share of the social security (FICA) tax. In most of the spendable earnings states, the replacement rate is 80 percent, but it is only 75 percent in Connecticut and Rhode Island.

Column (4) of Table 1 indicates the maximum duration of the TTD benefits. In most states, as indicated by the entry "Disability," the TTD benefits continue so long as the worker is totally disabled and has not reached the date of maximum medical improvement (date of MMI). The entries in column (4) showing the number of weeks, such as 104 weeks for Florida, indicates the maximum number of weeks after the date of injury for which benefits can be paid, even if the worker is still totally disabled and has not reached the date of MMI. Three states (Indiana, Tennessee, and Virginia) have dual limits on TTD benefits: both a maximum number of weeks and a maximum dollar amount of benefits. Kentucky has a unique approach: TTD benefits continue for the period of disability or until the worker is eligible for Social Security Old Age benefits, whichever occurs first.

## Temporary Partial Disability Benefits

Temporary partial disability is defined by Sengupta, Reno, and Burton (2008: 40) as "A temporary disability that does completely limit a person's ability to work." Information on temporary total disability (TPD) benefits in the fifty states plus the District of Columbia as of January 1, 2008 is included in Table 2. The previous information on TPD benefits is sparse. There is no information on TPD benefits in the 16 charts in the U.S. Chamber of Commerce (2008). Moreover, *Exhibit VII: Benefit Provisions* from the National Council on Compensation Insurance (2008) contains information on TPD benefits for fewer than 20 states. As a result, Table 2 is largely based on three sources: (1) for many states, appropriate sections of state workers' compensation statutes from WorkersCompensation.com (2008); (2) a memo sent to almost all states (and responded to by some), which contained an earlier version of a table containing information on both TTD and TPD benefits.; and (3) examination of the websites maintained by some state workers' compensation agencies.

The information in Table 2 pertains to statutory provisions in effect on January 1, 2008, when there were 47 jurisdictions (all but Kentucky, New Jersey, Ohio, and West Virginia) providing TPD benefits. There are interesting similarities and differences between the TTD and TPD benefits provided by the 46 states plus the District of Columbia.

**Table 2**
**Temporary Partial Disability Benefits as of 1/1/08**

| | | Minimum (1) | Maximum (2) | Percent (3) | Duration (4) |
|---|---|---|---|---|---|
| Alabama | AL | | 682.00 | 66 2/3 | 300 weeks |
| Alaska | AK | | 939.00 | 80 S | 5 years |
| Arizona | AZ | | 466.06 | See Special Formula | Disability |
| Arkansas | AR | 20.00 | 522.00 | 66 | 450 weeks |
| California | CA | | 916.33 | 66 2/3 | 104 weeks for most injuries |
| Colorado | CO | | 753.41 | 66 2/3 | Disability |
| Connecticut | CT | | 1,077.00 | 75 S | 520 weeks |
| Delaware | DE | 197.42 | 592.25 | 66 2/3 | 300 weeks |
| Dis. Of Columbia | DC | | 1,288.00 | 66 2/3 | 5 years |
| Florida | FL | 20.00 | 746.00 | See special formula | 104 weeks |
| Georgia | GA | | 334.00 | 66 2/3 | 350 weeks |
| Hawaii | HI | 174.00 | 696.00 | 66 2/3 | Disability |
| Idaho | ID | | 556.00 | 66 2/3 | Disability |
| Illinois | IL | Varies with Dependency | 1,178.00 | See special formula | Disability |
| Indiana | IN | 50.00 | 620.00 | 66 2/3 | 300 weeks |
| Iowa | IA | | 1,311.00 | 66 2/3 | Disability |
| Kansas | KS | | 510.00 | 66 2/3 | 415 weeks |
| Kentucky | KY | No TPD Benefits | | | |
| Louisiana | LA | | 522.00 | 66 2/3 | 520 weeks |
| Maine | ME | | 574.08 | 80 S | 416 weeks |
| Maryland | MD | | 439.00 | See special formula | Disability |
| Massachusetts | MA | | 782.66 (see note) | 60 | 260 weeks |
| Michigan | MI | | 739.00 | 80 S | Disability |
| Minnesota | MN | | 750.00 (see note) | 66 2/3 | 450 weeks |
| Mississippi | MS | | 398.93 | 66 2/3 | 450 weeks |
| Missouri | MO | | 742.72 | 66 2/3 | 100 weeks |
| Montana | MT | | 573.00 | 66 2/3 | 26 weeks |
| Nebraska | NE | | 644.00 | See special formula | 300 weeks |
| Nevada | NV | | 745.00 | See special formula | 24 months |
| New Hampshire | NH | | 1,218.00 | 60 | 262 weeks |
| New Jersey | NJ | No TPD Benefits | | | |
| New Mexico | NM | 36.00 | 635.46 | 66 2/3 | Physical impairment 700 weeks |
| New York | NY | 100.00 (see note) | 500.00 | See special formula | Disability |
| North Carolina | NC | | 786.00 | 66 2/3 | 300 weeks |
| North Dakota | ND | | 653.00 | 66 2/3 | 5 years |

**Table 2**
**Temporary Partial Disability Benefits as of 1/1/08**

| | | Minimum (1) | Maximum (2) | Percent (3) | Duration (4) |
|---|---|---|---|---|---|
| Ohio | OH | No TPD Benefits | | | |
| Oklahoma | OK | 30.00 | 577.00 (see note) | 70 | 300 weeks |
| Oregon | OR | | 1,006.54 | See special formula | Disability |
| Pennsylvania | PA | | 807.00 | 66 2/3 | 500 weeks |
| Rhode Island | RI | | 882.00 | 75 S | 312 weeks |
| South Carolina | SC | | 661.29 | 66 2/3 | 340 weeks |
| South Dakota | SD | | 571.00 | 50 | Until Dis. Rating |
| Tennessee | TN | 106.95 | 784.00 | 66 2/3 | 400 weeks |
| Texas | TX | 107.00 | 712.00 | 70 | 104 |
| Utah | UT | | 665.00 | 66 2/3 | 312 weeks |
| Vermont | VT | | 1,013.00 | 66 2/3 | Disability |
| Virginia | VA | | 816.00 | 66 2/3 | 500 |
| Washington | WA | | 993.58 | See special formula | Date of MMI |
| West Virginia | WV | No TPD Benefits | | | |
| Wisconsin | WI | | 805.00 | See special formula | Disability |
| Wyoming | WY | | 3,202.33 (Monthly) | See special formula | 12 months |

## Explanations of Entries in Table 2

**COLUMN (1)**

Minimum weekly benefit for temporary partial disability benefits in dollars.

New York The minimum weekly TPD benefit is $100 or 100% of the worker's preinjury wage, whichever is less.

**COLUMN (2)**

Maximum weekly benefit for temporary partial disability benefits in dollars. The exception is Wyoming, where the figure is a monthly maximum in dollars.

Massachusetts TPD benefit cannot exceed 75% of TTD benefit the worker would have received if totally disabled. The TPD benefit plus the worker's actual earnings in the healing period cannot exceed 200% of state's average weekly wage.

Minnesota TPD benefit plus wage the worker is capable of earning in partially disabled condtion cannot exceed 500% of state's average weekly wage.

Oklahoma The TPD benefit plus the worker's actual earnings in the healing period cannot exceed 80% of the worker's preinjury wages.

## Explanations of Entries in Table 2 (continued)

**COLUMN (3)**

Most States: Percentage of wage loss = percentage of (preinjury gross wage - gross wage in healing period).

Some States: Percentage of Wage Loss = Percentage of (preinjury gross wage – [actual gross wage in healing period or earning capacity in healing period, whichever is larger]).

S = Percentage of (spendable earnings in preinjury period - spendable earnings in healing period).

## Special Formulas

Arizona TPD Benefit = 66 2/3% x (preinjury wage - post injury earning capacity in modified duty)

Florida TPD Benefit = 80% of difference between 80% of preinjury wage and 100% of postinjury wage.

Illinois TPD Benefit = 66 2/3% x (current wage of preinjury wage - net actual wage in healing period)

Indiana TPD Benefit = 66 2/3% ([lesser of (1) preinjury wage or (2) wage that produces maximum weekly benefit] - (3) actual wage in healing period)

Maryland TPD Benefit = 50% (preinjury gross wage - [actual gross wage in healing period or earning capacity in healing period, whichever is greater])

Nebraska TPB Benefit = 66 2/3% x (preinjury wage - postinjury earning capacity)

Nevada TPD Benefit = TTD Benefit - 100% of actual wage in healing period

New York TPD Benefit for worker who has returned to work at less than full wages = 66 2/3% x (preinjury wages - actual wages in healing period). New York TPB benefit for worker who has not returned to work = 66 2/3% x (preinjury wages x degree of disability)

Oregon TPD Benefit = TTD Benefit x % [(preinjury wage - actual wage in healing period)/preinjury wage]

Washington TPD Benefit = 80% x (earning capacity in healing period - actual wages in healing period)

Wisconsin TPD Benefit = TTD Benefit x % (preinjury wage - actual wage in healing period)

Wyoming TPD Benefit = 80% x (earning capacity in light duty employment - actual wages in healing period)

**COLUMN (4)**

Disability means the temporary partial disability benefits continue as long as (1) the worker is partially disabled and (2) the worker has not reached the date of maximum medical recovery.

Date of MMI means the TPD benefits can continue until the worker reaches the date of maximum medical improvement.

Duration in weeks in most states is the maximum number of weeks after the date of injury for which the benefits can be paid.

500 weeks or $310,000 or similar entries means the temporary partial disability benefits cease when 500 weeks have occurred since the date of injury or the worker has received $310,000, whichever is sooner.

Column (1) of Table 2 contains information on the minimum weekly benefits in dollars for TPD benefits. In most states, there is no minimum weekly benefit for TPD benefits. Among the ten states with a minimum weekly benefit applicable to all cases, the range is from $20 per week in Arkansas and Florida to $197.42 per week in Delaware. As shown in the notes to column (1) of Table 2, in New York, the weekly minimum for TPD benefits is $100 or 100 percent of the worker's preinjury wage, whichever is less. In addition, in Illinois the minimum weekly benefit for TPD benefits varies depending on the number of dependents.

Column (2) of Table 2 provides the maximum weekly benefits in dollars for TPD benefits. The exception is Wyoming, where the maximum TPD benefit is $3,202.33 per month, which is the same as the maximum for TTD benefits. In most jurisdictions, the maximums for TPD are the same as the maximums for TTD benefits, but in three states (Georgia, Maryland, and Massachusetts), the TPD maximum weekly benefits are lower than the TTD maximum weekly benefits. There are three states (Massachusetts, Minnesota, and Oklahoma) that have special rules for maximum TPD benefits, which are discussed in the notes to Table 2. Among those jurisdictions with maximum weekly benefits for TPD, the range is from $334 in Georgia to $1,311 in Iowa.

Column (3) of Table 2 indicates the replacement rate for TPD benefits, which in most jurisdictions is the percent of wage loss due to the workplace injury or disease used to calculate the TPD benefits, where wage loss is the difference between preinjury wages and actual wages in the healing period. In some jurisdictions, wage loss is the difference between (1) preinjury wages and the greater of (2) actual wages in the healing period or (3) earning capacity in the healing period. (Clarification of which definition of wage loss is used in each jurisdiction requires another study, in part because statutory language is often ambiguous on this matter and so analysis of court decisions or other evidence concerning the application of the statute is needed.)

In most states, the preinjury wages and the wages in the healing period are gross wages, that is, wages prior to any deductions for income or payroll taxes or for employee contributions for health insurance or pensions. In the states using gross wages to determine TPD benefits, the replacement rate in most states is 66 2/3 percent, but ranges from 60 percent in Massachusetts and New Hampshire to 70 percent in Oklahoma, and Texas. In eleven states using gross wages to determine TPD, there are special formulas used to determine the replacement rates, which are discussed in the notes to Column (3) of Table 2. These include Maryland, where the replacement rate is 50 percent of the difference between (1) preinjury gross wages and the greater of (2) actual gross wages in the healing period or (3) earning capacity in the healing period.

In five states identified with an S in column (3) of Table 2 (Alaska, Connecticut, Maine, Michigan, and Rhode Island), the preinjury wages and wages in the healing period used to determine TPD benefits are spendable earnings, which are defined as gross wages minus federal incomes taxes, state income taxes, and the employee's share of the social security (FICA) tax. In most of the spendable earnings states, the replacement rate is 80 percent of the wage loss (spendable earnings before the injury minus spendable earnings in the healing period), but it is only 75 percent in Connecticut and Rhode Island. Iowa is unique: temporary total disability benefits are 80 percent of preinjury spendable earnings, while temporary partial disability benefits are 66 2/3 percent of the difference between preinjury gross wages and the actual gross wages in the healing period.

Column (4) of Table 2 indicates the maximum duration of the TPD benefits. In 12 states, as indicated by the entry "Disability," the TPD benefits continue so long as the worker is partially disabled and has not reached the date of maximum medical improvement (date of MMI), which is the same duration for TTD benefits in those states. However, in many jurisdictions, there is a different maximum duration for TPD benefits than for TTD benefits. In 13 states, the maximum duration for TTD benefits is for the duration of the disability, but the maximum duration of the TPD disabilities is a specified number of weeks (or years). For example, in Delaware, TTD benefits can continue for the duration of the disability, but the TPD benefits can not exceed 300 weeks, even if the worker is partially disabled and has not reached the date of MMI.

There are five jurisdictions (Georgia, Indiana, Missouri, South Carolina, and Wyoming) with maximum numbers of weeks (or months) for TTD benefits that are greater than the maximum numbers of weeks (or months) for TPD benefits. An example is South Carolina, where TTD benefits can continue for a maximum of 500 weeks, while TPD benefits can not exceed 340 weeks. And in a further confirmation of the problematic differences among states in their approaches to workers' compensation, there are also three states (Massachusetts, Minnesota, and North Dakota), where the maximum duration for TPD benefits is greater than the maximum duration for TTD benefits. An example is Minnesota, where TTD benefits must cease after 104 weeks, but TPD benefits can continue for 450 weeks.

## Observations

Several observations seem appropriate based on what I believe is the first systematic survey of both temporary total disability and temporary partial disability benefits

First, I was surprised at the number of states that provide temporary partial disability benefits. My impression prior to conducting the research for this article was that a substantial proportion (perhaps even a majority) of states did not provide TPD benefits. This impression was based in part on the incomplete information in National Council on Compensation Insurance (2008), which includes TPD information for fewer than 20 states. Based on the information in Table 2, however, it appears that only the Kentucky, New Jersey, Ohio, and West Virginia workers' compensation statutes do not provide TPD benefits.

Second, I used the word "appears" in the previous sentence deliberately, because I have no doubt there are errors in this article. Indeed, I would not be surprised if I overlooked a statutory provision in the four states listed as not having TPD benefits. One justification for my caution is the difficulty of obtaining information from states in response to requests for assistance, including a memo containing an earlier draft of the table used to prepare Tables 1 and 2 in the article. Moreover, a number of states either do not appear to have a website with any information on their benefits or the information is incomplete or out of date.

Third, the variety of approaches to permanent partial disability (PPD) benefits used by the states has been widely discussed. I previously contrasted the wide differences in the states' approaches to PPD benefits with the relatively similar approaches of the states to TTD benefits. However, the states approaches to TPD benefits are also rather diverse, shall we say? Perhaps this is due in part to the lack of basic information about TPD benefits, which has allowed states to reinvent wheels with various configurations of spokes and gauges, and I hope this article spurs further examinations into this topic and convergence onto a "best practice" model. But another reason for the blooming of many flowers (to switch metaphors) to the design of TPD benefits is the relative lack of empirical information on TPD benefits. For example, the National Council on Compensation Insurance (2008) contains information on the frequency and average benefits per claim for five types of cash benefits in Exhibits XI and XII, but TPD benefits data are notably lacking.

Finally, I hope this article encourages states without temporary partial disability benefits to consider adoption of such benefits. This appears to be a type of benefit that can benefit both workers and employers. In those states without TPD benefits, once a worker returns to work part time prior to the date of MMI, all temporary disability benefits cease even though the worker may be experiencing substantial earnings losses during the healing period. And for those employers who view rehabilitation and return to work as important components of a cost-effective disability management program, the ability to gradually reintegrate workers into the workforce without those workers fearing the total loss of workers' compensation benefits should justify support for TPD benefits.

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# Workers' Compensation Cash Benefits: Part Two: Cash Benefit Systems and Criteria for Evaluation

by John F. Burton Jr.

An earlier article (Burton 2008a) indentified the building blocks or concepts that are implicitly or explicitly used to design the cash benefits paid by workers' compensation programs. Each workers' compensation program pays more than one type of cash benefits and each has a system of cash benefits.

This current article begins with a brief summary of the earlier article, provides a taxonomy of the systems of permanent partial disability (PPD) benefits used in U.S. jurisdictions, and offers a set of criteria that can be used to evaluate a state's system of cash benefits. A third article by Ed Welch (2008) provided a comprehensive catalogue of the variety of approaches used by the states to provide PPD benefits, and a fourth article in the current issue (Burton 2008b) provides information on cash benefits provided during the temporary disability period. This set of articles reflects my quest to both describe and assess the various approaches to providing workers' compensation cash benefits.

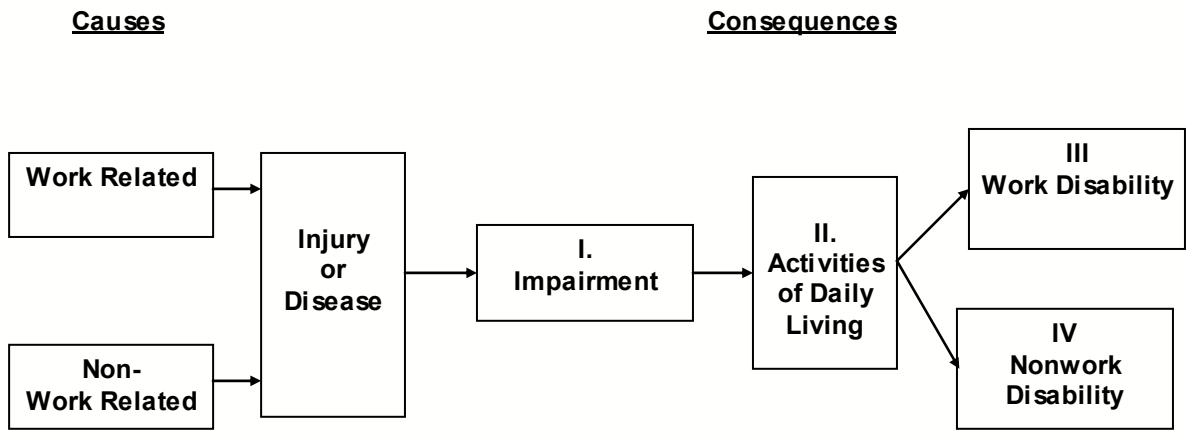
## A SUMMARY OF THE EARLIER ARTICLE

Figure 1 in Burton (2008a) identified three time periods pertinent in designing a system of cash benefits: the *preinjury period*, the *temporary disability period*, and the *permanent disability period*.[1] Figure 2 of Burton (2008a) included the concepts representing the permanent consequences of an injury or disease. Figure 1 in the current article, which is a modified version of Burton (2008) Figure 2, provides a simplified version of the permanent consequences of an injury or disease, namely I. I*mpairment* (the medical consequences); II. L*imitations in the Activities of Daily Living*; III. *Work Disability*, which includes both the presumed loss of earning capacity and the actual loss of earnings; and IV. *Nonwork Disability*, which includes both the presumed and the actual loss of quality of life.

In addition to these consequences, Figure 1 identifies the causes of the injury or disease, namely Work-Related Causes and Non-Work-Related Causes. An injury that has a work-related cause can result in both work disability (e.g., loss of wages) and nonwork disability (e.g., inability to visit with friends). Likewise, an injury that has a non-work-related cause (such as an auto accident) can result in both work disability and non-work disability.[2]

Figure 4 of Burton (2008a) summarized three basic operational approaches to cash benefits in workers' compensation: the *impairment approach* (the amount of cash benefits depends on the rating of the seriousness of the worker's impairment); the *loss of earning capacity approach* (which requires the worker to have an impairment and then bases the amount of cash benefits on the extent of the worker's loss of earning capacity); and the *actual wage loss approach* (which requires the worker to have both an impairment and a loss of earning capacity, and then bases the amount of cash bene-

**Figure 1**
**Causes and Consequences of an Injury or Disease**



fits on the extent of the workers' actual loss of earnings).[3]

Burton (2008a) argues that temporary total disability (TTD) and temporary partial disability (TPD) cash benefits rely solely on the *actual wage loss operation approach*, and that the sole *purpose* of the TTD and TPD benefits is to compensate for actual wage loss (and not the other consequences in Figure 2 or 2A.)

Permanent partial disability benefits (PPD) are more complicated. Burton (2008a: 19-25) argues that the *purpose* of most PPD benefits is to compensate for actual loss of wages (work disability). However, there are three *operational approaches* for PPD benefits for which the purpose is work disability: the *permanent impairment operational approach*, in which the PPD benefits are based on the permanent impairment (PI) rating and the PI rating is serving as a proxy or predictor of actual wage loss; the *loss or earnings capacity operational approach*, in which the PPD benefit are based on the loss of earning capacity (LEC) rating and the LEC rating is serving as a proxy for actual wage loss; and the *actual wage loss operational approach*, in which the PPD benefits are based on the actual loss of wages.

Burton (2008a: 25-26) argues there are a limited number of states (for example, Massachusetts) in which there are two tracks of PPD benefits: one track for which the *purpose* is work disability and one track for which the *purpose* is nonwork disability. For the track for which the purpose is nonwork disability, the *permanent impairment operational approach* is utilized to determine the amount of benefits. Thus ends the summary of Burton (2008a).

## HOW STATES DESIGN SYSTEMS OF PPD BENEFITS

### Common Distinctions Within and Among States for PPD Benefits

All jurisdictions have different PPD benefits (measured by weekly amount or duration) for different categories of injuries and diseases, and some jurisdictions use different operational approaches for different categories of injuries. Burton (2005: 88-89) provides an extended discussion of three factors involved in the most common distinctions.

*(1) Distinctions between injuries and diseases.* Several states provide more restricted PPD benefits for diseases than for injuries.

*(2) Distinctions between different types of injuries.* Most states treat scheduled injuries differently than nonscheduled injuries. Unfortunately, these terms are not used in a uniform fashion. The most common meaning is that a *scheduled injury* is any injury that is specifically listed in the workers' compensation statute, which typically involves injuries to the upper and lower extremities. A *nonscheduled injury* (or unscheduled injury) is any injury to the trunk, back, internal organs, nervous system, or other body systems not included in the list of injuries found in the statute.

A significant minority of states do not distinguish between scheduled injuries and nonscheduled injuries. These unitary rating system states treat all injuries the same way in the workers' compensation statute, either by specifying that a particular rating system should be used for all injuries or by authorizing the workers' compensation agency to adopt a comprehensive rating system.

*(3) Distinctions between injuries with different degrees of severity.* Many jurisdictions provide more generous benefits (in terms of weekly amount and/or potential duration) for more serious injuries than for less serious injuries. Some states also distinguish between injuries that result in amputations of body members and injuries that involve permanent loss of use of the body member. The former are entitled to PPD benefits (or benefits with extended durations), while the latter are not.

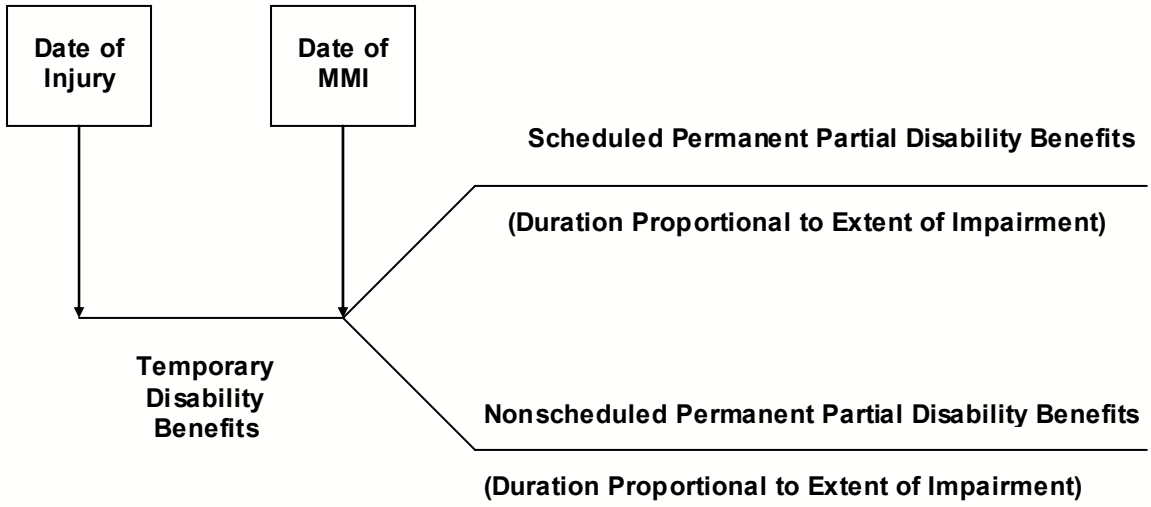
### State Systems of PPD Benefits

Barth and Niss (1999) provided detailed descriptions of the workers' compensation benefits for permanent partial disability (PPD) in the fifty states and Washington, DC. These descriptions can be used to construct a taxonomy of seven systems of PPD benefits used in the U.S.[4] The taxonomy represents an attempt to capture the essence of the various approaches to PPD benefits. Additional details can be found in Barth and Niss (1999); Burton (2005); and Berkowitz and Burton (1987).

*System I PPD benefits: Scheduled/nonscheduled distinction states that rely on the permanent impairment operational approach for nonscheduled injuries.* Most states have PPD benefit systems that distinguish between scheduled and nonscheduled injuries. In about a dozen states that rely on this distinction, including New Jersey, both scheduled and nonscheduled injuries receive PPD benefits based on the extent of permanent impairment. System I PPD benefits are illustrated in Figure 2.

*System II PPD benefits: Scheduled/nonscheduled distinction states that rely on the loss of earning capacity operational approach for nonscheduled injuries.* In

**Figure 2**
**Permanent Disability Benefits in Impairment States**
**(System I)**




several states, including Iowa, scheduled injuries receive PPD benefits based on the extent of permanent impairment and nonscheduled injuries receive PPD benefits based on the loss of earning capacity. Figure 2 can also be used to illustrate the System II PPD benefits by changing the description of the nonscheduled permanent partial disability benefits to indicate the duration is proportional to the extent of loss of earning capacity.

*System III PPD benefits: Scheduled/nonscheduled distinction states that rely on the actual wage loss operational approach for nonscheduled injuries.* In New York, scheduled injuries receive PPD benefits based on the extent of permanent impairment and nonscheduled injuries receive PPD benefits based on the actual loss of earnings. Figure 2 can also be used to illustrate the System III PPD benefits by changing the description of the nonscheduled permanent partial disability benefits to indicate the duration of benefits depends on the duration of the actual loss of wages.

*System IV PPD benefits: Unitary rating system states with a single operational approach for PPD benefits.* California is an example or a jurisdiction in which all injuries are rated using the same approach, as illustrated in Figure 3. California relies on a formula to combine the impairment ratings with age and occupa-

**Figure 3**
**Permanent Partial Disability Benefits in States with Unitary Rating Systems**
**(System IV)**

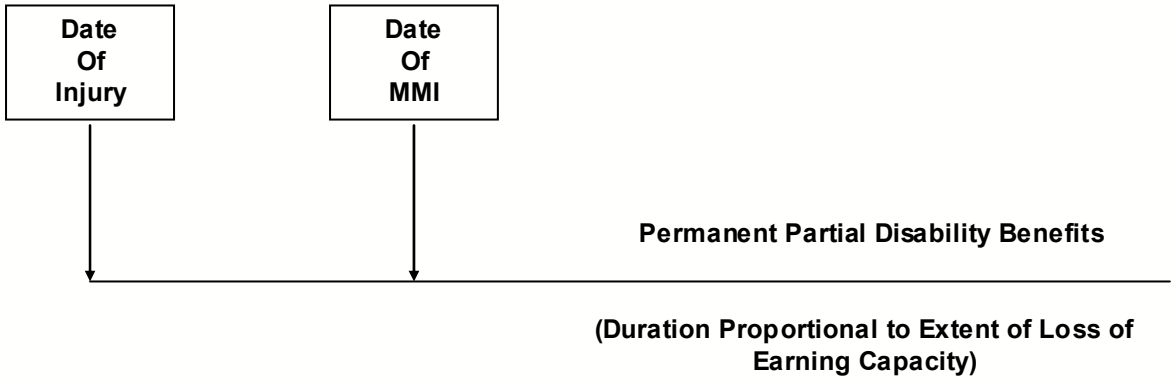
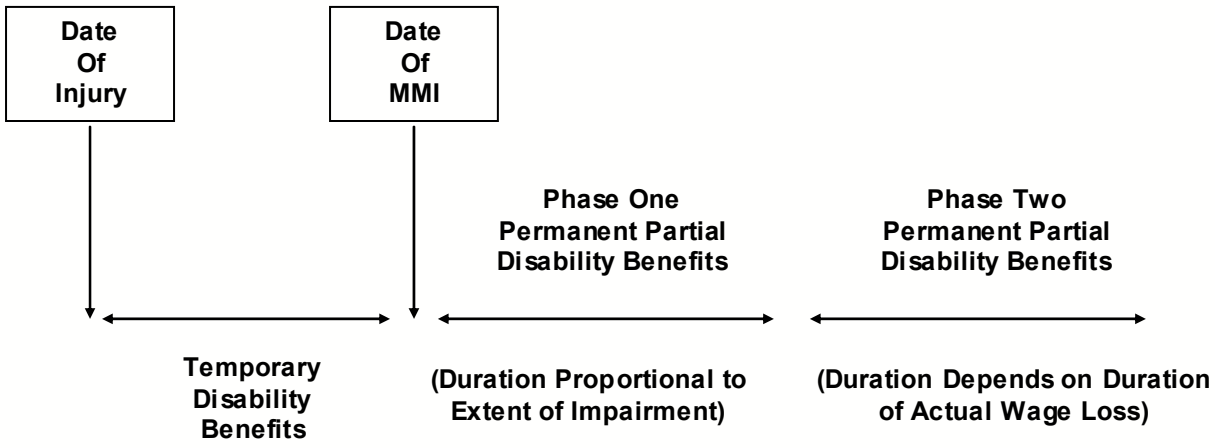


**Figure 4**
**Permanent Partial Disability Benefits in States Using the Hybrid Approach**
**(System V States)**




tional factors to produce a disability rating, which is a variant of the loss of earning capacity approach.

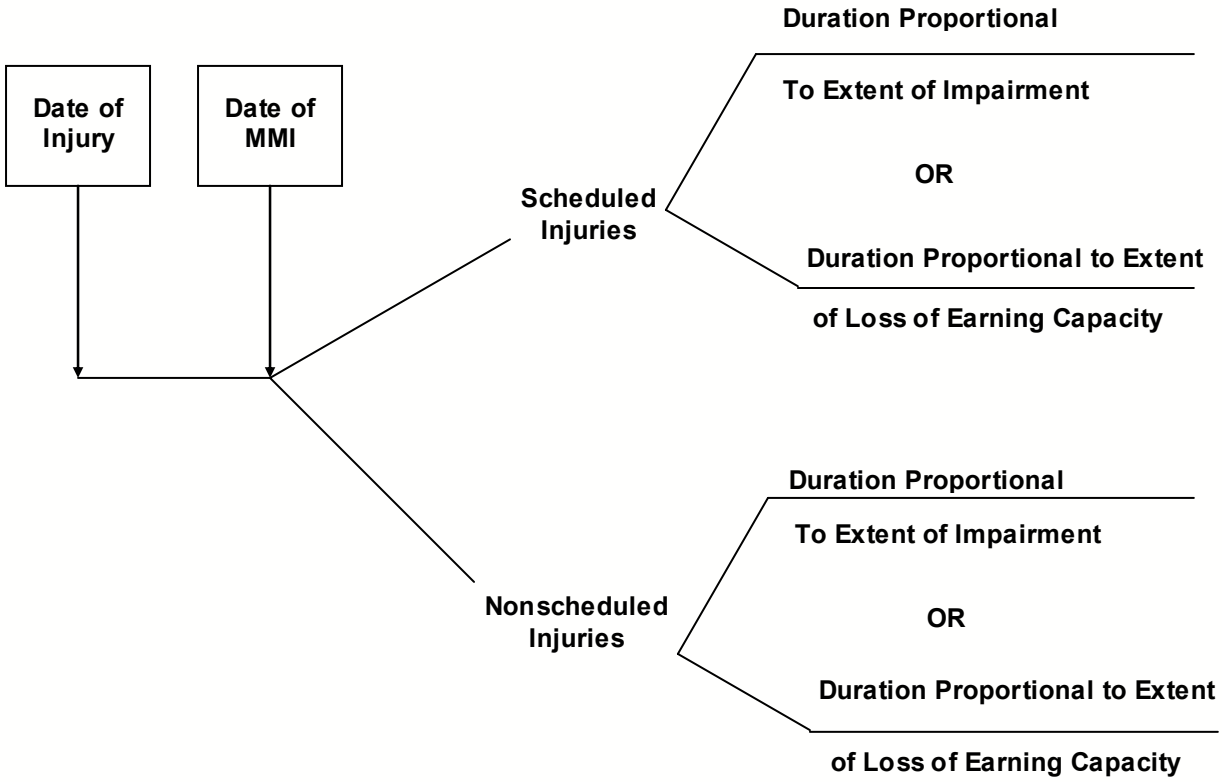
*System V PPD benefits: States with multiple operational approaches for PPD benefits for the same injury, which are paid on a sequential basis (the hybrid approach).* The essence of the hybrid approach is that potentially two types of PPD are paid on a sequential basis, as shown in Figure 4. The approach is used in Connecticut and Texas, and was used in Florida between 1994 and 2003. In Texas, the initial phase of PPD benefits are based on the impairment approach, with three weeks of PPD benefits for each 1 percent impairment rating using the American Medical Association *Guides to the Evaluation of Permanent Impairment [AMA Guides]*. Those workers who have a permanent impairment rating of at least 15 percent have an opportunity to receive actual wage loss benefits (known as "supplemental income benefits" in Texas) after the impairment benefits expire.

*System VI PPD benefits: States with multiple operational approaches for PPD benefits for the same injury, which are paid on an alternative basis.* This is termed the bifurcated approach by Barth and Niss (1999: 96). An example is North Carolina, where a worker with a scheduled injury (such as an injury to the arm) can choose between two operational approaches to determine benefits: *either* the impairment approach *or* the loss of earning capacity approach. The worker in North Carolina with an unscheduled injury (such as an injury to the back) can also chose *either* the impairment approach *or* the loss of earning capacity approach as the basis for benefits. The North Carolina PPD benefits are illustrated in Figure 5.

*System VII PPD benefits: The concurrent or dual benefits approach (work disability benefits and/or non-work disability benefits) depending on the type of injury.* Although earlier I assumed that the sole purpose of PPD benefits was to compensate for work disability, there are a few examples of states that have explicitly paid non-work disability (or non-economic loss) benefits in addition to work disability benefits. Florida had two types of PPD benefits between 1979 and 1990, although the formulations of the benefits changed over time.[5] Impairment benefits were paid for certain types of permanent impairments, including amputations, loss of 80 percent or more of vision, and serious head or facial disfigurements. Other types of permanent impairments, such as total or partial loss of use of a body member without amputation, did not qualify for the impairment benefits. In addition to the impairment benefits, workers who experienced at least a 15 percent decline in wages as a result of their workplace injury were eligible for actual wage loss benefits. A worker with a permanent impairment might quality for both the wage-loss and impairment benefits, on one or the other or neither, depending on the nature and severity of the injury and the extent of the actual loss of wages. The Florida PPD benefits are illustrated in Figure 6

Massachusetts and Rhode Island apparently are the only states that currently provide two tracks of benefits that are paid concurrently, one of which is designed to compensate for work disability and one is designed to compensate for nonwork disability. The Massachusetts law provides that "In addition to all other compensation . . . .the employee shall be paid the sums hereafter designated for the following specific injuries . . ." The statute then provides a list of injuries with a cor-

**Figure 5**
**Permanent Partial Disability Benefits in North Carolina, which uses the Bifurcated Approach**
**(System VI States)**




responding amounts of payments, such as a worker with the amputation of permanent and total loss of use of the major arm is paid a sum equal to the state's average weekly wage (SAWW) multiplied by 43, while a worker with the amputation or total loss of use of either leg is paid a sum equal to the SAWW multiplied by 39.[6]

## CRITERIA FOR EVALUATION OF PPD BENEFITS

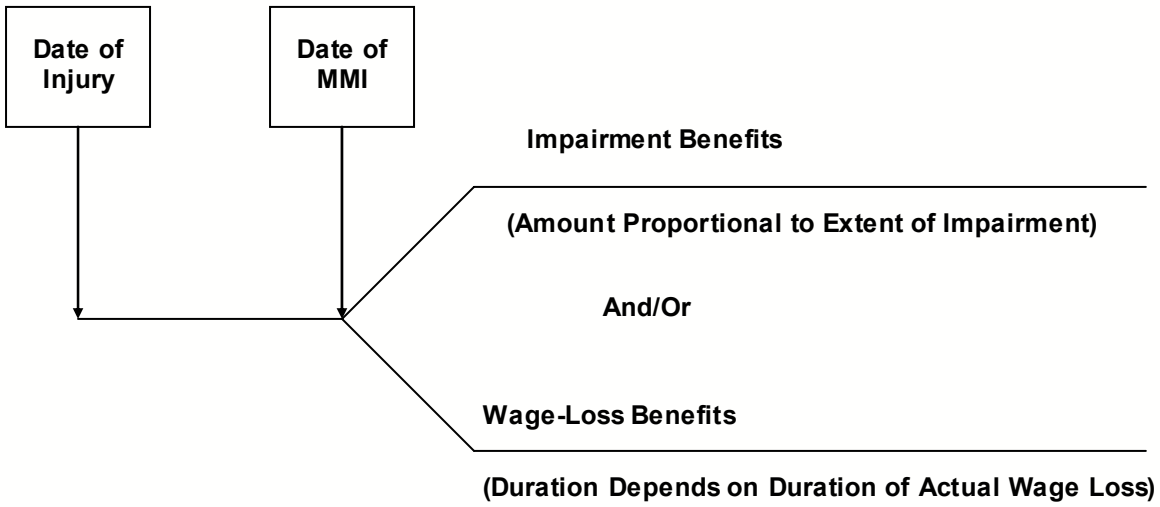
Each state's workers' compensation program provides PPD benefits. As previous sections indicate, there are three basic operational approaches for PPD benefits, which have been used to design a variety of systems of PPD benefits. What are the advantages and disadvantages of the different operational approaches and PPD benefit systems? This section provides five criteria that can be used to answer these questions and attempts some answers. There are several caveats to this exercise: the criteria are not universally endorsed; there are only a limited number of studies that use the criteria in the evaluation of PPD benefits; the application of different criteria sometimes leads to conflicting assessments of the same program; and the existing literature generally does not compare the performance of the different basic operational approaches or PPD benefit systems. These caveats mean there are virtually endless opportunities for research in this area, some of which are discussed in Burton (2005).

### Equitable Benefits

#### Definition of the Equity Criterion

The equity criterion for permanent disability benefits has two dimensions: *horizontal equity* and *vertical equity*. *Horizontal equity* requires that workers who are equivalent should be treated equally. Thus workers with equal losses of earnings should receive equal benefits. A narrow test of *vertical equity* requires that workers with different losses of income should receive benefits proportional to their losses. A more general test *for vertical equity* only requires that there be a consistent relationship between losses and benefits. A state may decide, for example, that the proportion of benefits to losses should increase (or decrease) as losses increase.

**Figure 6**
**Permanent Partial Disability Benefits in Florida, which used the Dual Benefits Approach between 1979 and 1990**




The previous paragraph applied the horizontal and vertical equity tests to the relationships between losses of earnings and benefits (the replacement rates). However, the equity tests can be applied to other aspects of PPD cases. For example, do workers with the same disability rating have the same proportional earnings losses? Other aspects of cases to which the equity tests could be applied include the workers' characteristics, such as age, occupation, and sex, the types of injuries experienced by workers, and workers' compensation system characteristics, such as whether the cases were litigated or not.

**Application of the Equity Criterion**

**The Wisconsin Workers' Compensation Program.** Berkowitz and Burton (1987) conducted a wage-loss study of Wisconsin, Florida, and California workers who were injured in 1968. The results for one of the two samples from Wisconsin are shown in Table 1. The sample consists of Wisconsin male workers who received permanent partial disability (PPD) benefits without a legal contest.

During the temporary disability period, most Wisconsin workers in the study qualified for temporary total disability (TTD) benefits. Once the worker reached the date of MMI, the TTD benefits stopped and most workers with permanent disabilities qualified for permanent partial disability (PPD) benefits.[7] *Scheduled PPD benefits* were paid to workers who had an injury included in a list (or schedule) of body parts included in the Wisconsin workers' compensation statute. *Nonscheduled PPD benefits* were paid to workers who had an injury not included in the list of body parts in the statute. As of 1968, the ratings for both the scheduled and nonscheduled PPD benefits were based on an evaluation of medical impairment, corresponding to the extent of Anatomical Loss (IA) or Functional Loss (1B) shown in Figure 2 in Burton (2008a). In short, while the purpose of the Wisconsin PPD benefits was to compensate for work disability, in 1968 the operational approach for the benefits was to measure the extent of medical impairment and to use the rating as a proxy for work disability.[8]

**Summary of the Wisconsin Results**. The male Wisconsin workers who were injured in 1968 and received PPD benefits were separated into two categories. Most workers were paid benefits without litigation or use of compromise and release (C&R) agreements. These uncontested cases are shown in Table 1 (which corresponds to Table 10.1 in Berkowitz and Burton 1987), which contains seven panels of information.

*Panel A.* The Wisconsin uncontested cases were selected using a stratified sampling procedure that selected a higher proportion of cases in cells with fewer workers. The sample represented a total of 1,685 workers from age 20 to 59 (line 1). The sample was placed into columns based on the permanent disability ratings and into rows corresponding to ten-year age categories (lines 2 to 5) and into rows corresponding to four locations of injury (lines 6 to 9). The mean disability rating

**Table 1**
**Wisconsin Uncontested Permanent Partial Disability Cases for Men with 1968 Injuries**

| Classification of workers | Percent rating 1-2 | 3-5 | 6-10 | 11-15 | 16-50 | 51-100 | Mean ratings | Total |
|---|---|---|---|---|---|---|---|---|
| **Panel A** | **Weighted counts of workers and mean disability ratings** | | | | | | | |
| 1. Workers age 20-59 | 941.0 | 467.0 | 177.0 | 52.0 | 48.0 | | 3.70 | 1,685.0 |
| 2. Workers age 20-29 | 294.0 | 105.5 | 36.0 | 15.0 | 14.0 | | 3.54 | 464.5 |
| 3. Workers age 30-39 | 226.0 | 122.0 | 39.5 | 10.0 | 14.0 | | 3.69 | 411.5 |
| 4. Workers age 40-49 | 219.5 | 140.5 | 53.5 | 11.0 | 13.0 | | 3.68 | 437.5 |
| 5. Workers age 50-59 | 201.5 | 99.0 | 48.0 | 16.0 | 7.0 | | 3.71 | 371.5 |
| 6. Upper extremities | 785.0 | 192.0 | 82.0 | 20.0 | 20.0 | | 2.80 | 1,099.0 |
| 7. Trunk cases | 17.0 | 93.0 | 42.0 | 10.0 | 0.0 | | 5.83 | 162.0 |
| 8. Lower extremities | 120.0 | 150.0 | 34.0 | 9.0 | 4.0 | | 3.76 | 317.0 |
| 9. All other cases | 19.0 | 32.0 | 19.0 | 13.0 | 24.0 | | 9.62 | 107.0 |
| **Panel B** | **Mean potential earnings (1968-73, in dollars)†** | | | | | | | |
| 1. Workers age 20-59 | 42,567 | 43,938 | 43,320 | 42,472 | 37,960 | | | 42,892 |
| 2. Workers age 20-29 | 40,144 | 44,412 | 38,743 | 41,693 | 32,671 | | | 40,829 |
| 3. Workers age 30-39 | 43,641 | 46,232 | 47,880 | 52,464 | 42,605 | | | 44,995 |
| 4. Workers age 40-49 | 45,298 | 44,383 | 48,995 | 48,364 | 41,628 | | | 45,414 |
| 5. Workers age 50-59 | 41,925 | 39,973 | 36,673 | 32,905 | 32,434 | | | 40,159 |
| 6. Upper extremities | 42,740 | 44,084 | 41,644 | 39,699 | 35,516 | | | 42,706 |
| 7. Trunk cases | 37,364 | 44,193 | 45,224 | 44,276 | | | | 43,748 |
| 8. Lower extremities | 42,497 | 43,123 | 43,355 | 37,036 | 37,720 | | | 42,670 |
| 9. All other cases | 40,529 | 46,136 | 46,279 | 49,113 | 40,036 | | | 44,159 |
| **Panel C** | **Mean earnings losses (1968-73, in dollars)†** | | | | | | | |
| 1. Workers age 20-59 | 1,554 | 2,759 * | 4,292 * | 7,483 * | 7,175 * | | | 2,519 * |
| 2. Workers age 20-29 | 1,714 | 1,890 | 1,337 | 6,627 | 8,757 * | | | 2,096 |
| 3. Workers age 30-39 | 3,009 | 7,595 * | 6,399 * | 13,028 * | 9,611 * | | | 5,162 * |
| 4. Workers age 40-49 | 2,822 | 954 | 4,647 * | 4,131 | 4,241 | | | 2,520 * |
| 5. Workers age 50-59 | -1,694 | 287 | 4,379 | 7,124 * | 4,586 | | | 117 |
| 6. Upper extremities | 1,535 | 1,688 | 2,913 | 5,098 | 7,503 * | | | 1,838 * |
| 7. Trunk cases | 4,583 | 5,417 * | 3,395 | 8,916 | | | | 5,022 * |
| 8. Lower extremities | 1,808 | 2,307 | 9,349 * | 11,740 | 1,984 | | | 3,137 * |
| 9. All other cases | -1,978 | 3,581 | 3,178 | 7,102 * | 7,766 * | | | 3,889 * |
| **Panel D** | **Standard deviation of mean earnings losses (1968-73, in dollars)†** | | | | | | | |
| 1. Workers age 20-59 | 860 | 1,150 | 1,138 | 2,236 | 2,046 | | | 662 |
| 2. Workers age 20-29 | 1,482 | 2,057 | 2,987 | 4,479 | 3,398 | | | 1,237 |
| 3. Workers age 30-39 | 2,194 | 2,449 | 2,272 | 6,193 | 3,059 | | | 1,559 |
| 4. Workers age 40-49 | 1,768 | 1,951 | 1,760 | 5,321 | 5,055 | | | 1,228 |
| 5. Workers age 50-59 | 1,294 | 2,596 | 2,248 | 2,250 | 4,129 | | | 1,213 |
| 6. Upper extremities | 875 | 1,952 | 1,726 | 2,754 | 2,328 | | | 809 |
| 7. Trunk cases | 4,430 | 1,364 | 2,132 | 5,040 | | | | 1,115 |
| 8. Lower extremities | 1,639 | 1,160 | 2,351 | 8,283 | 4,188 | | | 935 |
| 9. All other cases | 2,613 | 3,354 | 3,767 | 3,513 | 3,436 | | | 1,596 |
| **Panel E** | **Proportional earnings losses** | | | | | | | |
| 1. Workers age 20-59 | 0.036 | 0.063 | 0.099 | 0.176 | 0.189 | | | 0.059 |
| 2. Workers age 20-29 | 0.043 | 0.043 | 0.035 | 0.159 | 0.268 | | | 0.051 |
| 3. Workers age 30-39 | 0.069 | 0.164 | 0.134 | 0.248 | 0.226 | | | 0.115 |
| 4. Workers age 40-49 | 0.062 | 0.021 | 0.095 | 0.085 | 0.102 | | | 0.055 |
| 5. Workers age 50-59 | -0.040 | 0.007 | 0.119 | 0.216 | 0.141 | | | 0.003 |
| 6. Upper extremities | 0.036 | 0.038 | 0.070 | 0.128 | 0.211 | | | 0.043 |
| 7. Trunk cases | 0.123 | 0.123 | 0.075 | 0.201 | | | | 0.115 |
| 8. Lower extremities | 0.043 | 0.053 | 0.216 | 0.317 | 0.053 | | | 0.074 |
| 9. All other cases | -0.049 | 0.078 | 0.069 | 0.145 | 0.194 | | | 0.088 |

**Table 1 (continued)**
**Wisconsin Uncontested Permanent Partial Disability Cases for Men with 1968 Injuries**

| Classification of workers | Percent rating 1-2 | 3-5 | 6-10 | 11-15 | 16-50 | 51-100 | Mean ratings | Total |
|---|---|---|---|---|---|---|---|---|
| **Panel F** | **Mean benefits of legal fees (1968-73, in dollars)** | | | | | | | |
| 1. Workers age 20-59 | 696 | 2,479 | 4,957 | 7,807 | 10,980 | | | 2,150 |
| 2. Workers age 20-29 | 742 | 2,316 | 5,078 | 8,388 | 12,846 | | | 2,047 |
| 3. Workers age 30-39 | 626 | 2,509 | 5,451 | 7,224 | 10,286 | | | 2,136 |
| 4. Workers age 40-49 | 706 | 2,316 | 4,999 | 7,360 | 10,327 | | | 2,201 |
| 5. Workers age 50-59 | 696 | 2,846 | 4,412 | 7,934 | 9,851 | | | 2,234 |
| 6. Upper extremities | 593 | 2,057 | 4,503 | 6,716 | 11,641 | | | 1,453 |
| 7. Trunk cases | 1,288 | 3,141 | 5,371 | 8,410 | | | | 3,850 |
| 8. Lower extremities | 1,261 | 2,636 | 5,803 | 10,254 | 13,537 | | | 2,809 |
| 9. All other cases | 842 | 2,348 | 4,485 | 7,326 | 10,003 | | | 4,782 |
| **Panel G** | **Replacement rates: benefits as proportion of earnings losses** | | | | | | | |
| 1. Workers age 20-59 | 0.45 | 0.90 | 1.15 | 1.04 | 1.53 | | | 0.85 |
| 2. Workers age 20-29 | 0.43 | 1.23 | 3.80 | 1.27 | 1.47 | | | 0.98 |
| 3. Workers age 30-39 | 0.21 | 0.33 | 0.85 | 0.55 | 1.07 | | | 0.41 |
| 4. Workers age 40-49 | 0.25 | 2.43 | 1.08 | 1.78 | 2.44 | | | 0.87 |
| 5. Workers age 50-59 | a | 9.91 | 1.01 | 1.11 | 2.15 | | | 19.11 |
| 6. Upper extremities | 0.39 | 1.22 | 1.55 | 1.32 | 1.55 | | | 0.79 |
| 7. Trunk cases | 0.28 | 0.58 | 1.58 | 0.94 | | | | 0.77 |
| 8. Lower extremities | 0.70 | 1.14 | 0.62 | 0.87 | 6.82 | | | 0.90 |
| 9. All other cases | a | 0.66 | 1.41 | 1.03 | 1.29 | | | 1.23 |

* Significant at the .05 level.
† 1968 present value dollars discounted at 6 percent.
a. The replacement rate is not shown because the mean earnings loss estimate is negative.

for the entire sample was 3.70 percent. The mean ratings varied by age (from 3.54 percent for workers age 20-29 to 3.71 percent for workers age 50-59) and by location of injury (from 2.80 percent for upper extremities to 9.62 percent for all other cases).

*Panel B.* The potential earnings for each worker were calculated by multiplying the worker's actual earnings in 1966-67 by his expected earnings growth ratio (EGR). The EGR was derived from the ratio of the actual earnings in 1968-73 to the actual earnings in 1966-67 of workers in the control group, as shown in Social Security earnings records.

The *control group* workers were matched to the injured Wisconsin workers in the sample on the basis of each worker's sex, age in 1968, and level of actual earnings in 1966-67. The potential earnings in Panel B represent the estimate of what the workers in the sample would have earned between 1968 and 1973 if they had not been injured in 1968. The mean potential earnings for all workers in the sample were $42,892. (All dollar figures in Table B1 are in 1968 dollars.) For workers with injuries to the upper extremity rated at 1-2 percent, the mean potential earnings were $42,740.

*Panel C.* The actual earnings for each worker from 1968 to 1973 were determined based on Social Security earnings records. The actual earnings were subtracted from the potential earnings to determine the earnings losses shown in Panel C. The mean earnings losses for all workers in the sample were $2,519. For workers with injuries to the upper extremity rated at 1-2 percent, the mean earnings losses were $1,535.[9]

*Panel D.* The earnings losses varied significantly for workers in the sample of Wisconsin workers. The standard deviations (a measure of dispersion) of the mean earnings losses are shown in Panel D. The standard deviation for all workers in the sample was $662. The mean for all workers was $2,519. The ratio of the standard deviation to the mean is low enough that we can be 95 percent certain that the mean earnings losses for all workers in the sample were greater than zero. The significance at the .05 level of significance is shown by the asterisk by the $2,519 entry in Panel C. In contrast, the standard deviation for workers with injuries to the upper extremity rated at 1-2 percent was $875, and so we cannot be 95 percent certain that the mean earnings losses of $1,535 were greater than zero. A perusal of Panel C shows that a number of entries are not significant.

*Panel E.* The proportional earnings losses are shown in Panel E. These figures represent the mean earnings losses in Panel C divided by the mean potential earnings in Panel B. The proportional earnings loss for all workers in the sample was 0.059 ($2,519 divided by $42,892), which means that all workers had earnings losses that were 5.9 percent of potential earnings. For workers with injuries to the upper extremities rated at 1-2 percent, the proportional earnings loss was 0.036 ($1,535 divided by $42,740), which means that the earnings losses for workers with this type of injury were 3.6 percent of potential earnings.

*Panel F.* The mean workers' compensation benefits net of legal fees are shown in Panel F. These include all temporary disability benefits as well as permanent partial disability benefits received between 1968 and 1973. The mean benefits for all workers in the sample were $2,150. For workers with injuries to the upper extremity rated at 1-2 percent, the mean benefits net of legal fees were $593.

*Panel G.* The replacement rates are shown in Panel G. The replacement rates are the mean benefits net of legal fees received by the Wisconsin workers between 1968 and 1973 (Panel F) divided by the mean earnings losses for these workers during those six years (Panel C). For all workers in the sample, the replacement rate was 0.85 ($2,150 divided by $2,519), which means these workers received benefits that replaced 85 percent of their earnings losses. For workers with injuries to the upper extremity rated at 1-2 percent, the replacement rate was 0.39 ($875 divided by $1,535), which means these workers received benefits that replaced 39 percent of their earnings losses. A perusal of Panel G indicates there were great variations in replacement rates, ranging from 21 percent for workers age 30-39 with injuries rated at 1-2 percent to 991 percent for workers age 50-59 with injures rated at 3-5 percent. There were also two entries (shown in Panel G with "a") where the workers in the category received workers' compensation benefits but on average had no earnings losses.

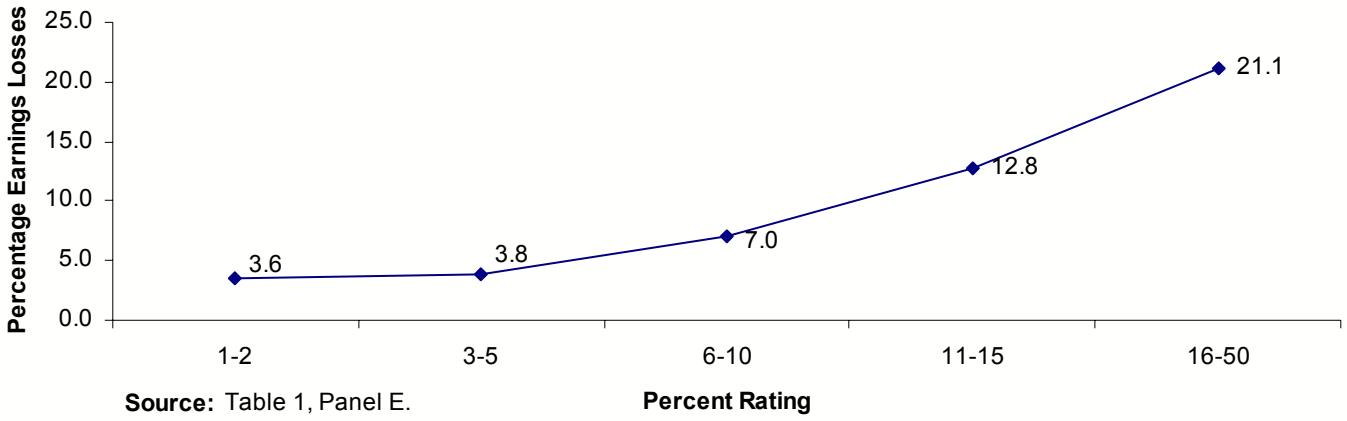
**The Wisconsin Disability Rating System and Equity**

The balance of this subsection discusses a series of figures derived from the information in Table 1 pertaining to the Wisconsin workers' compensation program.

**Vertical equity for ratings** – the data in Figure 7 can be used to explain vertical equity for disability ratings. *Vertical equity requires that actual wages losses increase in proportion to the increase in disability ratings.* In this instance, there is reasonably good vertical equity in the ratings of the upper extremity injuries. With the exception of the lowest and highest disability category, the percentage earnings losses are close to the midpoint of the corresponding category of disability ratings. For example, workers with disability ratings of 11-15 percent experienced 12.8 percent earnings losses.[10]

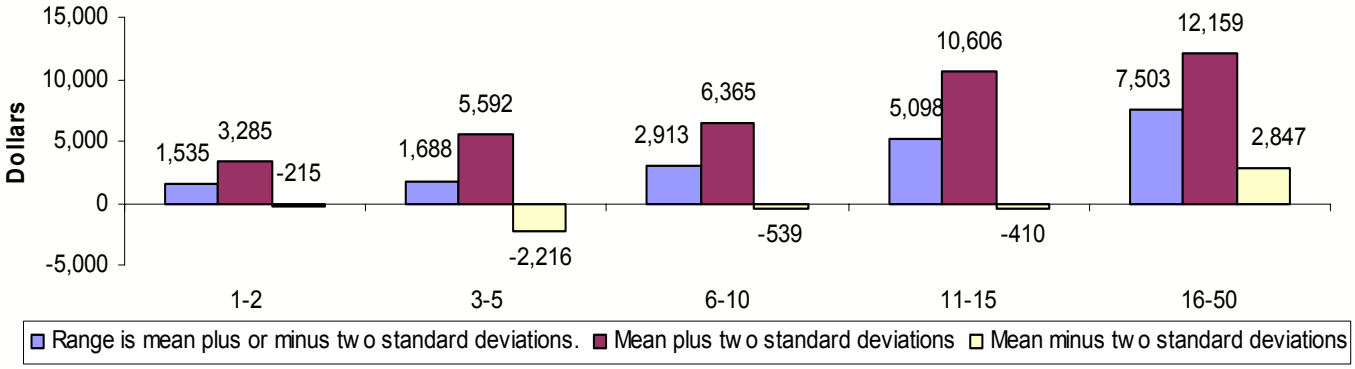
**Intra-injury horizontal equity for ratings** – requires that the actual wage losses for workers with the same disability ratings and the same type of injury should be the same or similar. The data for upper extremities shown in Figure 8 indicates there are substantial variations in earnings losses for workers with upper extremities with the same disability ratings. The entries include the mean amount of earnings losses for workers in each rating category, plus the earnings losses associated with plus or minus two times the standard deviation for the earnings losses. As can be seen, the

**Figure 7**
**Percentage Earnings Losses for Wisconsin Workers with Upper Extremity Injuries**




**Source:** Table 1, Panel E.

**Figure 8**
**Earnings Losses for Wisconsin Workers with Upper Extremity Injuries: Means and Ranges of Losses**




**Source:** Table 1, Panels C and D.

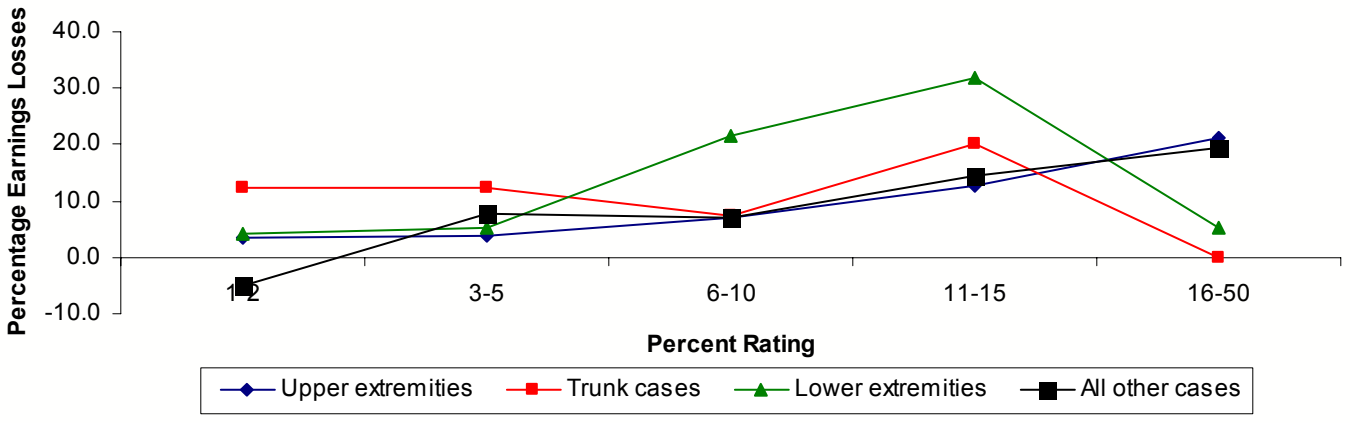
range of earnings losses contains some workers who had negative earnings losses in the six years after their injuries.[11] Indeed, the earnings losses are only statistically significantly different than zero for workers with upper extremities with ratings of 16-50 percent.

One "lesson" of Figure 8 in conjunction with Panels C and D of Table 1 is that the Wisconsin workers' compensation program did a reasonably good job on vertical equity for upper extremity cases when the emphasis is placed on mean values of losses, but that the program did not do as well on intra-injury horizontal equity, as shown by the considerable variability in lost wages for workers with similar disability ratings.

**Inter-injury horizontal equity for ratings** – requires that the actual wage losses for workers with the same disability ratings but different types of injuries should be the same or similar. However, the results in Figure 9 suggest there are significant differences among the types of injuries in the relationships between disability ratings and lost earnings. For example, for workers with disability ratings of 11 to 15 percent, earnings losses ranged from 31.7 percent for lower extremities to 12.8 percent for upper extremities.

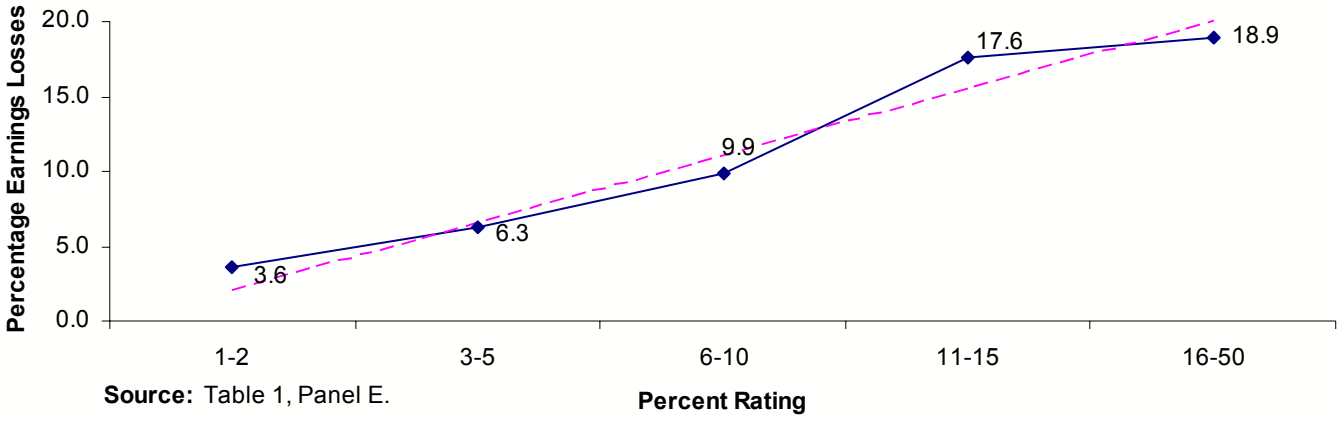
**Vertical equity for ratings – revisited**. Figure 9 is also useful in illustrating the challenges of achieving vertical equity for particular types of injuries. As shown earlier in Figure 7, there is a reasonably close relationship between higher ratings for workers with upper ex-

**Figure 9**
**Percentage Earnings Losses for Wisconsin Workers with Four Types of Injuries**




**Source:** Table 1, Panel E.

**Figure 10**
**Percentage Earnings Losses For All Wisconsin Workers**




**Source:** Table 1, Panel E.

tremity injuries and higher earnings losses. However, the data in Figure 9 "tell" a somewhat different story. For two types of injuries (upper extremities and all other cases), earnings losses generally increase with higher disability ratings. However, for trunk cases and lower extremities, earnings losses are much lower for workers in the most serious rating category than in most of the categories with lower disability ratings.

**Vertical equity for ratings – revisited again!** Shall we look at the trees (represented by Figures 8 and 9) or the forest (represented by Figure 10)? As shown in Figure 10, for all Wisconsin workers, there is a very close relationship between rating categories and percentage earnings losses. The dashed line represents an exact correspondence between ratings and losses (for example, an eight percent disability rating equals an eight percent earnings loss). At this level of aggregation, the Wisconsin rating system does an excellent job of providing vertical equity.

## Adequate Benefits

### Definition of the Adequacy Criterion

The meaning of the adequacy criterion will only be briefly examined here because the topic is extensively examined in Hunt (2004), which is the result of a multi-year study by the National Academy of Social Insurance (NASI).[12] The primary test for adequacy adopted by NASI can be explained by reference to Figure 3 in Burton (2008a). The NASI standard is that after the date of MMI, PPD benefits should replace two-thirds of the difference between the worker's potential earnings (along line BC) and the worker's actual earnings (along line FG). Alternatively stated, benefits are adequate if the replacement rate -- the PPD benefits divided by "true" wage loss – is at least 66 2/3 percent.[13]

### Application of the Adequacy Criterion

The adequacy criterion was carefully applied by Boden, Reville, and Biddle (2005). The essence of their findings is that in the five jurisdictions they examined (California, New Mexico, Oregon, Washington and Wisconsin), PPD benefits replaced between 16 and 26 percent of earnings losses in the ten years after workers were injured, which meant the "replacement rates do not approach the 2/3 benchmark for adequacy."

### The Wisconsin Replacement Rates: Adequacy and Equity

It is useful to separate the analysis of the ability of the rating system to predict earnings losses from the analysis of the ability of the system of cash benefits to replace an appropriate portion of lost earnings with benefits. It is possible, for example, that the rating system does an excellent job in predicting earnings losses, but the design or implementation of the benefit system results in a poor match between benefits and lost wages. The next set of figures looks at the equity and adequacy of the Wisconsin workers' compensation benefits for workers with PPD benefits.

The generally accepted standard of adequacy for workers' compensation, that workers' compensation benefits should replace two-thirds of lost wages, is shown by the horizontal line 66.67 percent in Figures 11 to 13, which can be used to assess the adequacy of benefits provided by the 1968 Wisconsin workers' compensation program for workers receiving permanent

partial disability benefits. One meaning of adequacy is to consider the replacement rate for the entire sample of injured workers. In Wisconsin, cash benefits replaced 85 percent of earnings losses for the entire sample, as shown in Panel G of Table 1, which clearly met the adequacy test.

### The Wisconsin Replacement Rates and Equity

**Vertical equity for benefits –** the data in Figures 11 to 13 can also be used to examine vertical equity of the PPD benefits. Vertical equity requires that the same proportion of lost wages should be replaced for workers at all disability ratings. (This definition is refined in the next paragraph.) In Figure 11, there is pretty good vertical equity for the benefits for upper extremity injuries. The least serious category (1-2 percent ratings) has a replacement rate of only 39 percent, but the other categories have replacement rates that are within the range of 122 to 155 percent. The results for the four types of injuries in Figure 12 suggest that there was a reasonable degree of vertical equity for the four lowest rating categories, but there were serious equity problems for the highest rating category.

**Vertical equity for benefits – revisited.** Vertical equity has two possible meanings. A narrow view asserts that all levels of severity should have the same proportion of earnings losses replaced by benefits. An alternative view is that more serious injuries should have a higher replacement rate. Those who subscribe to the alternative view can take some comfort from Figure 13, which indicates the Wisconsin workers' compensation program was in general replacing a higher proportion of loss earnings for workers with more serious disability ratings.

**Inter-injury horizontal equity for benefits** requires that the replacement rates for workers with the same disability ratings and different types of injuries should be the same or similar. The results in Figure 12 suggest there are significant differences among the types of injuries concerning the relationships between benefits and lost earnings.

### Observations on the Wisconsin Results

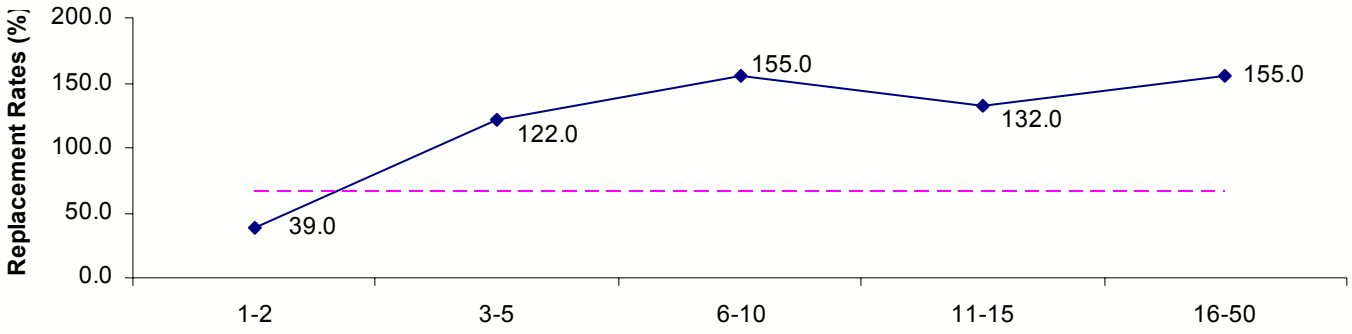
1. It is important to distinguish between the ability of the disability rating system to accurately predict earnings losses (discussed in entries 2 to 5 below) and the ability of the benefit system to match benefits to earnings losses (discussed in entries 6 to 8). These are related but different matters.

2. At the most aggregate level – the entire sample of Wisconsin workers – the Wisconsin rating system did an excellent job of providing vertical equity. As shown in Figure 10, there is a close correspondence between higher disability ratings and greater earnings losses.

3. When the Wisconsin sample is separated into the four injury types, the Wisconsin rating system does not do as well in terms of vertical equity. As shown in Figure 9, the earnings losses generally increase with higher ratings for two types of injuries, but there are serious problems with vertical equity for two other types of injuries.

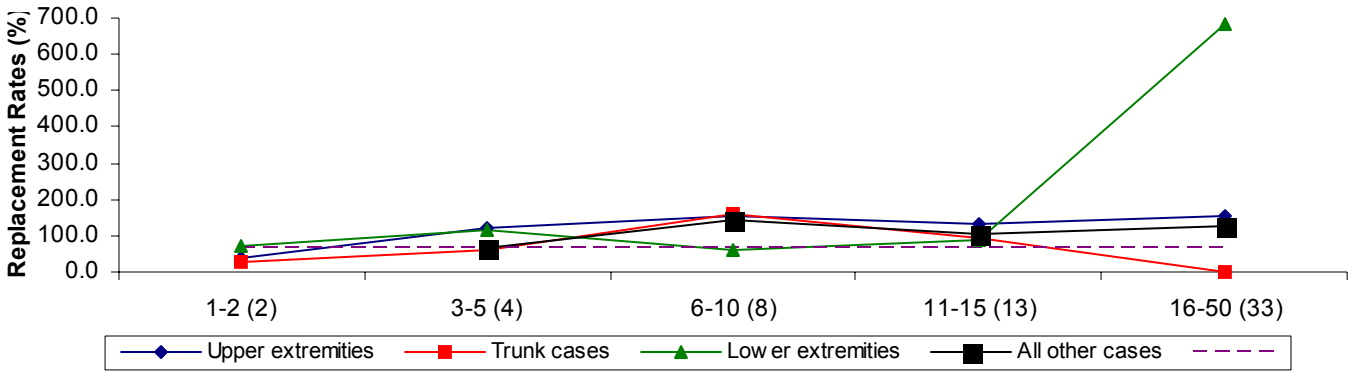
4. There are also serious problems with the Wisconsin rating system in terms of inter-injury horizontal equity. As shown in Figure 9, there are significant differences among the four types of injuries in the relationships between disability ratings and lost earnings.

**Figure 11**
**Replacement Rates (Benefits as a Percentage of Earnings Losses)**
**for Wisconsin Workers with Upper Extremity Injuries**




**Source:** Table 1, Panel G.
- - - - - 66.67 percent replacement rate

**Figure 12**
**Replacement Rates (Benefits as a Percentage of Earnings Losses)**
**for Wisconsin Workers with Four Types of Injuries**




**Source:** Table 1, Panel G.
- - - - - 66.67 percent replacement rate

5. There are also serious problems with the Wisconsin rating system in terms of intra-injury horizontal equity. As shown in Figure 8 (and in Panels C and D of Table B1), with cells defined by injury type (or age) and percent rating, there are large variations in earnings losses among different workers with similar injuries and disability ratings.

6. The Wisconsin cash benefits system met the generally accepted test of adequacy, since the average replacement rate for the entire sample was more than 66.67 percent.

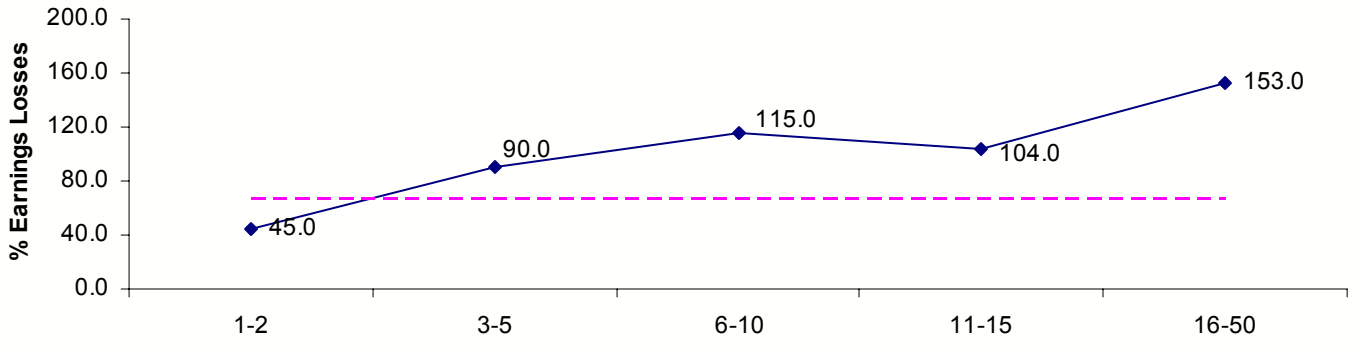
7. The Wisconsin did a fairly good job of providing vertical equity for benefits. As shown in Figure 12, the replacement rates generally were roughly the same for workers with different ratings for the same injury (although there were some important exceptions).

## Delivery System Efficiency

### Definition of the Delivery System Efficiency Criterion

The benefits and services in workers' compensation are provided by a delivery system comprised of employers, carriers, state agencies, attorneys, doctors, and other participants. Berkowitz and Burton (1987, 26-28) evaluated the efficiency of this delivery system by examining the relationship between two variables. One

**Figure 13**
**Replacement Rates (Benefits as a Percentage of Earnings Losses)**
**For All Wisconsin Workers**




**Source:** Table 1, Panel G.
- - - - - 66.67 percent replacement rate

variable measures the administrative costs of providing benefits incurred by the participants in the workers' compensation delivery system. The other variable measures the quality of the workers' compensation benefits, where quality is assessed on the basis of one or more of the other criteria used to evaluate a PPD benefits system, such as adequacy and equity.

Berkowitz and Burton (1987, 27-28) suggest that one meaning of delivery system efficiency, panoramic efficiency, is that benefits of a particular quality are provided at the least possible administrative costs. Another meaning of delivery system efficiency, myopic efficiency, is only concerned with reducing administrative costs without concern for the quality of the program.

**Application of the Delivery System Efficiency Criterion**

Evaluation using the delivery system efficiency criterion is especially difficult.[14] For one thing, data on the expenses of administering the program that are borne by employers and others in the private sector, plus the amount of attorneys' fees for both workers and employers, as well as other types of data relevant to the assessment of the efficiency of the delivery system are scarce. Another reason the delivery system efficiency criterion is hard to apply is that the quality of the benefits and the administrative costs must be simultaneously considered in order to evaluate the panoramic efficiency of a state's workers' compensation program.

An important aspect of the delivery system efficiency test concerns the delivery system model used to provide workers' compensation benefits. One model relies on an active state agency that makes many decisions itself, closely supervises the operation of employers and private carriers, and limits the role for attorneys.[15] A considerably different model relies on the private parties, particularly attorneys, to make most of the decisions about benefits payments.[16] The agency is essentially passive, although it will resolve disputes brought to it by the private parties. An intermediate model involves a state agency that conducts a minimal review of decisions made by the private parties and that resolves disputes in a relatively high proportion of the cases, but that nonetheless relies on extensive attorney involvement to make the delivery system operate.[17]

How attorneys are used is an important feature differentiating these three delivery system models. As recounted by many commentators on the history of workers' compensation, the original notion was that the elimination of the fault concept and the prescription of benefits by statute would enable employees to protect their interests without external assistance. From that standpoint, the substantial reliance on lawyers suggests at the minimum a lack of myopic efficiency. And yet the involvement of attorneys can also be viewed as a *prima facie* indictment of the idea that workers' compensation laws can be self-administering; attorneys may be in the system because they help achieve the criteria of adequate and equitable benefits. In other words, the involvement of attorneys may represent a lack of myopic efficiency but not necessarily a lack of panoramic efficiency.

Whether, in fact, attorneys help achieve the equity and adequacy of benefits is not clear *a priori*. On one hand, they receive fees that generally are subtracted from the workers' awards, which, in a nominal sense, reduces the adequacy of the benefits. On the other hand, attorneys may increase the awards in some cases in which they are involved and possibly have an indirect impact on the amount of benefits in other cases in which they are not involved. Thus on *a priori* grounds, the impact of attorneys on the adequacy of benefits is unclear. Likewise, the impact of attorneys on the equity of benefits is unclear. They may take cases in which benefits would otherwise be inappropriately low, or alternatively their involvement may be on a basis unrelated to the relative under-compensation of the case, such as the worker's membership in a union.

Thomason and Burton (1993) studied the effect of attorney involvement on the outcome of cases paying nonscheduled PPD benefits in New York, and found that attorneys increase the probability of lump-sum settlements, reduce the amounts of those settlements, and have no statistically significant effect on the size of litigated awards. While this study is confined to one state, it suggests that assuming the use of attorneys improves the adequacy or equity of PPD benefits is inappropriate without supporting evidence.

Berkowitz and Burton (1987) compared Florida, California, and Wisconsin and concluded that the Wisconsin had the best record of delivery system efficiency at the time. The Wisconsin benefits were more adequate and equitable than those in California and Florida, while the costs of the Wisconsin delivery system – including the expenses of operating the state agency as will of the cost of attorneys' fees for claimants, employers, and carriers – were lower than those in the other two states.[18]

I am unaware of any research that systematically considers the possible relationship of delivery system efficiency to different operational approaches to benefits and PPD benefit systems. PPD benefit systems that rely on the permanent impairment or loss of earn-

ings capacity approaches to benefits are likely to require fewer resources to operate than benefit systems that incorporate elements of the actual wage-loss approach (because the latter approach requires cases to remain open for extended periods and to be periodically monitored), which means the wage-loss approach is probably less efficient using the myopic meaning of efficiency. But is the wage-loss approach less or more efficient using the panoramic meaning of efficiency?

## Prevention, Compensation, and Rehabilitation (PCR) Efficiency

### Definition of PCR System Efficiency

Prevention, compensation, and rehabilitation (PCR) system efficiency is concerned with avoiding adverse effects of the PPD benefits on the fundamental objectives of the workers' disability system, namely to prevent injuries and diseases; to compensate disabled workers adequately and equitably; and to rehabilitate workers and return them to work.[19]

### Applying the PCR System Efficiency Criterion to the Prevention Objective[20]

One of the objectives of the PCR system is the prevention of injuries and diseases among workers. Increasing the level of PPD benefits can have a number of effects on the behavior of employers and employees.[21] Because the premiums for the employers of most workers are experience rated, the higher PPD benefits cause the potential costs of the workers' compensation program to increase for employers. These higher potential workers' compensation costs should lead to behavioral changes by employers, which have been labeled the "safety effect." The safety effect includes all those safety improvements (including not only changes in the physical plant, but changes in training, safety monitoring, etc.) that are cost effective. Although the theory that experience rating provides safety incentives has been postulated since the first state workers' compensation program was enacted in Wisconsin in 1911, there is still a controversy about whether that theory is valid. Thomason (2003) indicates that most recent studies show that experience rating does matter for safety, and to the extent this is true, then increasing PPD benefits has an indirect effect that is desirable.

There are, however, other effects of increasing the level of PPD benefits. A number of studies during the last 15 years have shown that as statutory workers' compensation benefits rise, both claims frequency and the reported severity of injuries increase. For example, Butler (1994, I-85) indicates that claims frequency rises from 3 to 8 percent in response to a 10 percent increase in the real level of benefits.

Whether the increased frequency and severity are adverse consequences of the higher PPD benefits depends on the nature of the changes in employee behavior that result in these increases. The "true injury effect" postulates that workers will take less care on the job (and thus incur more work injuries) because the higher benefits mean they will have increased income security if they are injured. The "reporting effect" postulates that workers will report claims for injuries that would not have been reported in the absence of the greater monetary incentives resulting from the higher potential benefits. The "duration effect" postulates that workers will extend their period of reported disability (and thus increase the apparent severity) because of the higher benefits.[22]

If the evidence demonstrating that higher benefits result in increased frequency and severity of injuries were due to the true injury effect, this would be considered an unintended and adverse consequence of the higher benefits. Fortunately, Durbin and Butler (1998) report that most recent studies argue that the true injury effect is not the major reason for the positive relationship between benefits and the measures of workplace safety. Instead, the relationships appear to primarily be due to the reporting effect and the duration effect.

## Affordability

Affordability is concerned with designing a system of PPD benefits that employers, workers, and the public can afford without serious adverse consequences, such as loss of jobs.

### An Historical Perspective on Affordability

Affordability generally has not been explicitly recognized as a criterion for evaluating workers' compensation programs in general and a system of PPD benefits in particular. However, the importance of affordability was recognized in the *National Commission Report* (1972, 125):

> While the facts dictate that no State should hesitate to improve its workmen's compensation program for fear of losing employers, unfortunately this appears to be an area where emotion too often triumphs over fact. . . .whenever a State legislature contemplates an improvement in workmen's compensation which will increase insurance costs, the legislators will hear claims from some employers that the increase in costs will force a business exodus. It will be virtually

> impossible for the legislators to know how genuine are these claims. . . .
>
> When the sum of these inhibiting factors is considered, it seems likely that many States have been dissuaded from reform of their workmen's compensation statute because of the specter of the vanishing employer, even if that apparition is a product of fancy not fact. A few States have achieved genuine reform, but most suffer with inadequate laws because of the drag of laws of competing States.

The National Commission offered a solution to the inhibitions to reform caused by potential employer departures. That solution was federal standards for 19 essential attributes of state workers' compensation programs pertaining to extent of coverage and levels of benefits.

While the affordability issue was obviously important 35 years ago – it probably was the major reason why the National Commission recommended federal standards – affordability has probably become even more important in recent decades. One ironical reason is the legacy of the National Commission: while federal standards were never enacted, for a period in the 1970s the threat of standards was taken seriously and many states improved the levels of cash benefits in their workers' compensation programs. One consequence of the higher benefits was higher costs: the average costs nationally peaked at about 2.2 percent of payroll in the early 1990s, almost double the percentage in the early 1970s. Employers' costs relative to payroll have since dropped in response to various factors, including a declining injury rate and more stringent eligibility rules for workers' compensation programs (Guo and Burton 2009). Moreover, the differences in costs of workers' compensation insurance have probably widened since 1972,[23] which means the specter of the vanishing employer is more credible now than it was when the National Commission characterized the threat as "a product of fancy not fact."

### Affordability for Whom?

The definition of the affordability criterion indicated that the purpose is to design a system of PPD benefits that employers, workers, and the public can afford without serious adverse consequences, such as loss of jobs. The primary focus in the affordability discussion is usually on the costs of workers' compensation to employers in the form of insurance premiums or the equivalent expenditures by self-insuring employers. However, the affordability criteria must be formulated in terms of the three possible bearers of the costs of workers' compensation.[24]

Employers are likely to bear much of the cost of higher workers' compensation premiums in the short run in the form of lower profits, and in the long run are also likely to experience some reduction in profits. Consumers also bear part of the cost of higher workers' compensation benefits and premiums in the long run in the form of higher prices and reduced consumption. Workers also bear part of the cost of higher workers' compensation benefits and premiums in the long run in the form of lower wages and less employment. The empirical evidence suggests that workers bear most of the costs of higher benefits in the form of lower wages. To be sure, workers are also the primary beneficiaries of the higher benefits, but those benefits are largely paid for by the workers in the form of lower wages.

This point is worth emphasizing because the debates over workers' compensation reform in general, and PPD reform in particular, are generally cast as a trade off between adequacy of benefits (which presumably is primarily of interest to workers) and affordability (which presumably is primarily of interest to employers). In fact, there are positive aspects for employers of more adequate benefits (including higher morale and greater productivity among workers who feel they are being treated fairly, as well as the lower wages that eventually will result from the higher benefits)[25] and there are negative aspects for workers from higher benefits (including loss of jobs and lower wages).

## Observations on the Criteria

There is a danger expanding the evaluation criterion from the traditional trinity (adequacy, equity, and efficiency) to the five criterion presented in this article. This is particularly true because the criteria often come into conflict in evaluating PPD benefit systems, and the more criteria we use, the greater the number of conflicts and tradeoffs that must be considered in the evaluation process.

I am persuaded, however, that the use of all five criteria serves a useful purpose. "Efficiency" is a term that has been used by some economists to include both what I term "delivery system efficiency" and "prevention compensation, and rehabilitation system efficiency," and the explicit separation should help distinguish between the two meanings of efficiency. "Affordability" has seldom been explicitly mentioned as a criterion, but has always been an implicit factor lurking in the background. Indeed, in recent years, affordability may have *de facto* become the dominant criterion in the reform of PPD benefits in many states, and explicit recognition of affordability as a criterion may improve the policy debates associated with efforts to reform PPD benefits.

Researchers and policymakers may find my list of five evaluation criteria too cumbersome, and I encourage efforts to develop a more parsimonious set of evaluations standards. Yet there is also the possibility that the list of factors that govern the design of PPD benefit systems is incomplete. Perhaps a missing criterion that would help explain the evolution of PPD benefit systems is risk minimization or risk shifting: how can the system be designed to reduce the overall uncertainty associated with the payment of PPD benefits, or how can the system be designed to reduce the risks of long-term disability borne by the participants in the workers' compensation system?

## ENDNOTES

1. Figure 1 of Burton (2008a) is the same as Figure 1 in Burton (2008b), which is in the current issue of the *Workers' Compensation Policy Review*.

2. I added the causes of the injury or the disease because some readers of Burton (2008a) assumed that non-work disability (a consequence) meant that the cause must be non-work-related.

3. Variations on the three operational approaches are included in Burton (2005: Table 4.2).

4. Systems I to V and VII of the PPD benefits are discussed in Burton (2005: 89-94). System VI of the PPD benefits is discussed in EconSys (2008: 30).

5. Berkowitz and Burton (1987: Chapter 9) review the origins and initial experience with the dual benefits approach in Florida.

6. While only a few states have adopted the concurrent or dual benefits approach, most Canadian provinces currently use the approach, as described in Chapter VI of EconSys (2008).

7. A limited number of Wisconsin workers qualified for permanent total disability (PTD) benefits. However, the number of PTD cases was so small that the workers were not included in the study.

8. As discussed by Berkowitz and Burton (1987:195-97), Wisconsin began to base nonscheduled permanent partial disability (PPD) benefits on the loss of earning capacity beginning in the 1970s. Thus the results in this section probably would not be applicable to workers who receive permanent partial disability benefits from the current Wisconsin workers' compensation program.

9. Of interest, there are two entries in Panel C in which the mean earnings losses are negative: the mean actual earnings exceeded the mean potential earnings for workers in those categories.

10. The top category (16-50 percent ratings) is very broad because of confidentiality considerations and most of the observations are likely to involve injuries at the lower end of the category, and so the lack of correspondence between the extent of wage loss and the midpoint of the range is understandable.

11. "Negative earnings losses" means these workers had actual earnings that exceeded the estimates of their potential earnings.

12. Examinations of the adequacy criterion are also found in Berkowitz and Burton (1987, 365-373) and Boden, Reville, and Biddle (2005).

13. This formulation of the adequacy test assumes that the sole purpose of PPD cash benefits is to compensate for work disability.

14. Roberts (2003) is one of the few studies that have examined the efficiency of workers' compensation delivery systems, including the effects of workers' compensation agency activism on outcomes for employers, employees, and insurance carriers.

15. Berkowitz and Burton (1987) used Wisconsin as an example of this approach.

16. Berkowitz and Burton (1987) used the federally operated Longshore and Harbor Workers' Compensate Act as an example of this approach.

17. Berkowitz and Burton (1987) used Florida and California as examples of this approach when they conducted their study of workers injured in 1968.

18. The positive assessment of the efficiency of the Wisconsin workers' compensation program is based on a study involving injuries that occurred in 1968. Based on inconsistent and fragmentary information, I am not certain that the current Wisconsin workers' compensation program would receive an equally positive assessment. Boden, Reville, and Biddle (2005) found that the PPD benefits in Wisconsin were less adequate than the PPD benefits in the other four jurisdictions examined in their study.

19. The PCR system includes an array of programs. The prevention components of the workers' compensation program and the Occupational Safety and Health Act; the cash benefits provided by public programs (such as workers' compensation and the Disability Insurance (DI) component of the Social Security system), and by employers (such as long-term disability (LTD) benefits); the health care provided by public programs (such as workers' compensation and Medicaid) and by employers (such as group health plans); and the rehabilitation provided by workers' compensation programs and by state vocational rehabilitation agencies are examples of these programs.

20. Burton (2005: 102-03) applies the prevention, compensation, and rehabilitation (PCR) system efficiency test to the rehabilitation objective.

21. These behavioral effects are discussed in Burton (2009)

22. The three-fold distinction among the "true injury effect," the "reporting effect,'" and the "duration effect" is an extension of the two-fold distinction discussed by Burton (2009).

23. Thomason, Schmidle, and Burton (2001, Table C.18, p. 376) report that the means and standard deviations (in parentheses) for the average insurance rates for 71 insurance classes for weighted observations for 42 states were 0.910 (0.377) in 1975 and 2.929 (0.823) in 1995. The standard deviation is a statistical measure of the dispersion among the observations (in this case, states) and thus the data indicate the dispersion among states in the costs of workers' compensation insurance roughly tripled between 1972 and 1995. Although more recent data using a consistent measure or workers' compensation insurance rates are not available, it seems unlikely that the interstate differences in the costs of workers' compensation insurance have narrowed appreciably since 1995.

24. This discussion of the incidence of the costs of the workers' compensation program is based on Chelius and Burton (1992 and 1994), which are reprinted in Burton and Schmidle (1995). Their approach is summarized in Leigh, Markowitz, Fahs, and Landrigan (2000, 178) who assert "Chelius and Burton (1994) conclude that all premiums are passed down to workers in the form of lower wages. They acknowledge that their conclusion is 'radical' (25)." More precisely, Chelius and Burton (1994, 24-25) summarized the research of Moore and Viscusi (1990) as "radical" in this passage: "The conclusion that may be inferred from the finding of this study – that higher workers' compensation benefits, from the employer's perspective, more than pay for themselves in the form of lower wages – is a radical one that undoubtedly will be sharply contested by many members of the workers' compensation community." Chelius and Burton's own views were more modest (1994, 26): "We have a reasonable degree of confidence that social science research has indeed provided an answer to our question of who actually pays for workers' compensation: *a substantial proportion of workers' compensation costs (and even, according to some estimates, all of the costs) are shifted onto workers*." (Italics in the original.)

25. If the costs of higher workers' compensation benefits are largely paid for by employees in the form of lower wages and reduced employment, then why do employers place so much emphasis on the affordability criterion when reforms of PPD benefits are undertaken? First, many employers are unaware of the economic analysis that suggests that workers bear much of the costs of improved benefits in the form of lower wages. Or, if they are aware of the argument, they are not persuaded by the logic or supporting evidence. Second, in the short run, the costs of higher workers' compensation benefits are largely borne by employers in the form of lower profits until prices and wages can be adjusted to reflect these higher costs.

Third, the affordability issue does not just involve employers and workers in the U.S. workers' compensation programs, but also involves private carriers. Much of the zeal for reform of PPD benefits in the early 1990s can be traced to the significant underwriting losses that workers' compensation carriers experienced in the late 1980s and early 1990s. Whatever advantages may accrue to employers from more adequate benefits, much of the cost of the workers' compensation program was being borne by carriers for whom higher workers' compensation insurance rates were harder to obtain from employers and regulators than were lower insurance rates resulting from legislative reforms that reduced benefits.

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