Permanent Partial Disability Benefits

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Permanent partial disability (PPD) cash benefits constitute the most expensive and complex type of benefit provided by workers’ compensation programs. PPD benefits are paid to workers whose workplace injuries have consequences that are permanent but not totally disabling. This chapter provides an overview of the previous research on PPD benefits, with particular emphasis on the contributions of Terry Thoma-son, and indicates the topics for which additional research is needed.

INTRODUCTION TO PPD BENEFITS

The importance of PPD benefits in the U.S. workers’ compensation program and the variability among states in the relative importance of PPD benefits are shown in 1999 data on incurred cash benefits (Blum and Burton 2003). Nationally, temporary total disability (TTD) benefits are more common than PPD benefits (Figure 4.1), and permanent total disability (PTD) benefits and fatal benefits are much more expensive per case than PPD benefits (Figure 4.2). However, the total expenditures on PPD benefits per 100,000 workers account for over 70 percent of all cash benefits nationally (Figure 4.3). Blum and Burton (2003) also report that nationally PPD cash benefits increased from $14.4 million per 100,000 workers in 1996 to $17.2 million in 1999.

There are significant differences among states in these measures of incurred PPD benefits, as shown in the lowest, first quartile, mean, median, third quartile, and highest values for the 46 jurisdictions with data. The frequency of PPD claims per 100,000 workers varies from
1,221 in California to 128 in the District of Columbia, almost a tenfold difference (Figure 4.4). The average cost of cash benefits per PPD case varies from $86,872 in Michigan to $13,909 in Indiana, a more than sixfold difference (Figure 4.5). As measured by total expenditures on PPD cash benefits per 100,000 workers, the $43.3 million in California is more than 10 times the $4.1 million in Utah (Figure 4.6).

One research task is to explain the interstate and intertemporal differences in these measures of incurred PPD benefits. One logical determinant of the amount of incurred cash benefits in a state is the generosity of the benefits prescribed by the state’s workers’ compensation statute. Another obvious candidate for a variable that would explain interstate differences in incurred benefits is the state’s injury rate.  

A CONCEPTUAL FRAMEWORK FOR EXAMINING PPD BENEFITS

Permanent Consequences of Workplace Injuries and Diseases: Terminology and Concepts

There are significant differences among the states and provinces in their approaches to compensating permanent disabilities. Furthermore,
Figure 4.2 Average Cash Benefits per Case in 1999, National Averages ($)

Figure 4.3 Cash Benefits per 100,000 Workers in 1999, National Averages (in Millions $)
among jurisdictions using the same approach, the terminology used to describe the same approach may differ. Thus, a common set of terms is a practical necessity for effective interjurisdictional comparisons regarding PPD benefits.

**Three time periods**

As shown in Figure 4.7, three time periods are pertinent in compensating a worker with an injury serious enough to result in PPD benefits. The *preinjury period* is relevant because *inter alia* the employee’s average 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 (MMI) has been reached; the *permanent disability period* refers to the period following MMI. The distinction between the temporary and permanent disability periods is important because workers’ compensation programs provide different types of cash benefits in the two periods.

**What are the permanent consequences?**

Most workers injured on the job fully recover by the date of MMI and thus sustain no permanent consequences from the injury. For those
Figure 4.5  Permanent Partial Disability Benefits, Average Cash Benefits per Case in 1999, Variations among States

Figure 4.6  Permanent Partial Disability Benefits, Cash Benefits per 100,000 Workers in 1999, Variations among States
workers with relatively serious injuries, several permanent consequences are possible. There may be a persistence of pain and suffering and a continuing need for medical care and rehabilitation. Of particular interest are the other permanent consequences (shown in Figure 4.8) because they are the focus of most of the debate concerning the optimal design of PPD benefits.4

A permanent impairment is any anatomic or functional abnormality or loss that remains after MMI has been achieved. Amputated limbs or enervated muscles are examples of permanent impairments. The impairment probably causes the worker to experience functional limitations. Physical performance may be limited in such activities as walking, climbing, reaching, and hearing; furthermore, the worker’s emotional and mental performance may be adversely affected or limited.

Functional limitations, in turn, are likely to result in a disability, of which there are two types: work disability and nonwork disability. Work disability can be conceptualized as having two phases: the loss of earning capacity, which results in actual wage loss. In a strict sense, these two aspects of work disability must accompany one another. An actual loss of earnings only occurs if there is loss of earning capacity. Nevertheless, the distinction is important because (as discussed later) some types of workers’ compensation benefits are based solely on a determination of a presumed loss of earning capacity, while other types of benefits require demonstration of actual wage loss.

Nonwork disability includes the loss of the capacities for other aspects of life, such as recreation and the performance of household tasks,
and can be conceptualized as having two phases: the loss of capacity for nonwork activities which results in actual noneconomic loss. Again, in a strict sense, these two aspects of nonwork disability must accompany one another, but at least conceptually they can be measured separately.

**Factors that affect the magnitudes of the permanent consequences**

The relationships shown in Figure 4.8 indicate chains of causation that begin with the worker’s injury, which in turn results in permanent impairment, functional limitations, work disability, and nonwork disability. However, the chains of causation are neither automatic nor are they immutable after the date of injury. Rather, as shown in Table 4.1, in each stage in the chains of causation there are also factors controllable by the worker, or by participants in the delivery system for workers’ compensation benefits, or by public policy.5

Stage 1—the movement from the injury or disease to the permanent impairment—will be affected by such controllable factors as the quality of the medical care received by the worker and by such uncontrollable factors as the worker’s previous health status. Stage 2—the movement from the permanent impairment to the functional limitations—is also affected by controllable factors (such as the quality of medical rehabilitation) and uncontrollable factors (such as the worker’s prior physical condition). Likewise, stage 3A—the progression from functional limitations to loss of earning capacity—will be influenced by controll-
Table 4.1 Factors That Affect the Extent of the Permanent Consequences

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Controllable factors include</th>
<th>Uncontrollable factors include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>Injury to Permanent Impairment</td>
<td>Medical care</td>
<td>Prior health status</td>
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<tr>
<td>Stage 2</td>
<td>Permanent Impairment to Functional Limitations</td>
<td>Medical rehabilitation</td>
<td>Prior physical condition</td>
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<tr>
<td>Stage 3A</td>
<td>Functional Limitations to Loss of Earning Capacity</td>
<td>Vocational rehabilitation</td>
<td>Age, prior education, prior work experience</td>
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</tr>
<tr>
<td>Stage 4A</td>
<td>Loss of Earning Capacity to Actual Wage Loss</td>
<td>Employer return-to-work policies, reasonable accommodations at work site; design of benefits (affecting incentive to return to work)</td>
<td>General state of the labor market</td>
</tr>
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<tr>
<td>Stage 3B</td>
<td>Functional Limitations to Loss of Capacity for Nonwork Activities</td>
<td>Rehabilitation (such as training to operate modified automobile)</td>
<td>Age, prior experience</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Stage 4B</td>
<td>Loss of Capacity for Nonwork Activities to Actual Noneconomic Loss</td>
<td>Redesigned facilities or equipment (such as modified automobile)</td>
<td>None, perhaps</td>
</tr>
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lable factors (the quality of vocational rehabilitation, for example) and uncontrollable factors (such as the worker’s age and prior work experience). Finally, in stage 4A—the actual wage loss resulting from the loss of earning capacity—other factors will influence the outcome, such as the employer’s return-to-work policies (controllable) and the general state of the labor market (uncontrollable for a particular employer or worker). Table 4.1 also catalogues several controllable and uncontrollable factors that affect the extent of loss of capacity for nonwork activity resulting from functional limitations (stage 3B) and the amount of actual noneconomic loss resulting from the loss of capacity for nonwork activity (stage 4B).

The distinction between controllable and uncontrollable factors in Table 4.1 is not meant to provide a rigid classification scheme, nor is the list of factors meant to be exhaustive. One purpose of the table is to suggest that some factors that affect the chains of causation between the initial injury or disease and the ultimate work or nonwork disability can be influenced by workers, employers, physicians, rehabilitation providers, and others in the workers’ compensation delivery system, or by policymakers who design the workers’ compensation PPD benefits system; however, other factors can not be influenced.

Another purpose of Table 4.1 is to emphasize that there are numerous factors that affect all of the stages in the chains of causation. As a result, knowing the extent of a worker’s loss for any of the intermediary consequences shown in Figure 4.8 may not provide a good prediction of the extent of the loss for a subsequent consequence. The accuracy of predictions of actual wage losses from the ratings of loss of earning capacity, and other such purported relationships among the various permanent consequences of work-related injuries or diseases, including the efficacy of intervention at various stages of the disability determination process, are empirical issues that deserve further research.

The Effect of Work Injuries on Earnings

The loss of earnings resulting from a work-related injury or disease that has permanent consequences is illustrated by Figure 4.9. Prior to the injury, the wages increased through time from A to B, reflecting the worker’s increasing productivity as well as general inflation. At point B, the worker experienced a work-related injury that permanently re-
duced his earnings. Had he not been injured, his earnings would have continued to grow along the line BC. Although these potential earnings cannot be observed for the injured worker, they can be estimated from information on what happened after point B to earnings of similar workers who were not injured.

The injured worker’s actual earnings in this example dropped from B to D and continued at this zero earnings level until point E, when the worker returned to work at wage level F. Thereafter, actual earnings grew along the line FG. This example assumes that the worker’s actual earnings never return to the potential earnings (line BC) that he would have earned if he had never been injured. The worker’s “true” wage loss due to the injury is equal to the worker’s potential earnings after the date of injury (BC) minus the worker’s actual earnings after the date of injury (BDEFG).6

Of course, not all workers with permanent impairments resulting from their work injuries have wage histories that correspond to the example in Figure 4.9. Some may return to their old jobs at the wage they would have earned if they had never been injured; others may experience a total loss of earnings from their injuries. The example shown illustrates an intermediate case, in which the worker has a partial but not total loss of earnings.
There are a myriad of issues that must be resolved in order to measure the actual loss of earnings resulting from work-related injuries and the workers’ compensation benefits actually received by workers as a result of those injuries. These issues and a catalogue of research topics are presented in Boden, Reville, and Biddle (2005).7

**WHICH PERMANENT CONSEQUENCES SHOULD BE COMPENSABLE?**

The taxonomy of the permanent consequences of workplace injuries provided in the previous section serves as a basis for the design of a PPD benefits system. One policy issue that implicitly or explicitly has to be resolved in any jurisdiction in order to design this system pertains to the purpose of the PPD benefits.8

The obligation of the workers’ compensation program to provide medical care and rehabilitation services is generally accepted (although in some jurisdictions, there is disagreement about the extent of vocational rehabilitation services to which the worker is entitled). Conversely, in most jurisdictions there is general agreement that the worker is not entitled to benefits because of pain and suffering.9 The rationale often given is that the original design of workers’ compensation involved a trade-off, in which the employee is eligible for benefits without demonstrating employer fault and the employer’s liability is limited to certain consequences of the injury, which not did encompass pain and suffering.

Most of the recent controversy over which of the permanent consequences of a work-related injury deserve compensation involves arguments concerning the four permanent consequences shown in Figure 4.8. Because the four consequences are sequential and interdependent, a particular consequence may be endorsed as a basis for compensation because it serves as a convenient proxy for other consequences of primary concern.

Thus, one may argue that the amount of the PPD benefits should operationally be based on the extent of the worker’s impairment when the real concern is for the work disability caused by the impairment. This indirect route to compensating work disability may be chosen because impairment may be easier to measure than work disability. Unfortunately, those who favor payment when the worker suffers an impairment do not
always make clear whether this payment is meant to compensate for the existence of the impairment by itself or is meant to compensate for the work disability (or some other consequence) that is expected to result from the impairment.

To the extent that the rationale for benefits is discernable, however, two schools of thought can be identified. One view considers lost wages due to the injury (work disability) as the sole justification for workers’ compensation benefits. Supporters of this position recognize that some jurisdictions pay benefits on the basis of an evaluation of the extent of impairment or of some of the other permanent consequences in Figure 4.8 prior to actual wage loss, but argue that when such evaluations are made, wage loss is conclusively presumed. The jurisdiction, in short, compensates on the basis of one of these intermediate consequences because it serves as a proxy for wage loss.

An alternative view of the rationale for benefits for workers with permanent consequences of their injuries accepts work disability as the primary basis for benefits, but argues that there is a secondary role for benefits paid for nonwork disability. Arguments for these “impairment benefits” indicate that the purpose is not only to compensate impairment per se but to also use permanent impairment as a convenient proxy for the functional limitations and nonwork disability that result from the impairment. A variant on this alternative view is to argue that nonwork disability merits compensation, and that the degree of permanent impairment serves as a proxy for the extent of nonwork disability.10

The dominant view probably is that the only permanent consequences that warrant benefits in a workers’ compensation program are medical care, rehabilitation, and work disability. There are, however, several jurisdictions that explicitly adopted benefits for nonwork disability, including Florida (which paid what were termed “permanent impairment” benefits from 1979 to 1993) and most Canadian provinces, such as Ontario (which pays noneconomic loss benefits). One provocative research question is why Canadian provinces are much more receptive to paying noneconomic loss benefits than U.S. states?
THE THREE BASIC OPERATIONAL APPROACHES TO PPD BENEFITS

Among those states in which work disability is the sole reason why PPD benefits are paid, most jurisdictions use another of the permanent consequences shown in Figure 4.8 as a proxy or predictor of the extent of work disability. This section provides an overview of the basic operational approaches for PPD benefits found in U.S. and Canadian jurisdictions.11

Three Basic Operational Approaches for Work Disability Benefits

Three basic operational approaches for work disability benefits, plus variants of each of the three basic approaches, are shown in Table 4.2.12 The operational approaches represent the building blocks for PPD benefits systems. The difference among the three basic operational approaches depends on which of the permanent consequences shown in Figure 4.8 is used as a proxy for or measurement of work disability.

Operational Approach I: The permanent impairment approach

The first basic operational approach, the permanent impairment approach, evaluates the seriousness of the worker’s permanent impairment and/or functional limitations resulting from the work-related injury.13 An impairment rating is made, which is used to determine the amount of the PPD benefits.

The first variant of the permanent impairment approach is the “pure” permanent impairment approach (Operational Approach I.A). As indicated in Table 4.2, the only worker-specific factor that affects the amount of PPD benefits in this approach is the size of the permanent impairment rating. This presumably provides a very rough proxy for the worker’s actual loss of wages, but a few jurisdictions nonetheless rely on this approach for work disability benefits.

The second variant of the permanent impairment approach is the permanent impairment and preinjury wage approach (Operational Approach I.B). This approach multiplies the permanent impairment rating by a weekly benefit that is largely determined by the worker’s weekly
Table 4.2 Operational Approaches for Permanent Disability Benefits

Operational Approach I: The Permanent Impairment Approach

Operational Approach IA: The “Pure” Permanent Impairment Approach

1. The worker is given a permanent impairment rating based on the extent of the workers’ permanent impairment/functional limitations.
2. The worker’s permanent partial disability (PPD) benefits are determined by multiplying the rating by a dollar amount per point that does not vary among individuals on the basis of their preinjury wages.

Operational Approach IB: The Permanent Impairment and Preinjury Wage Approach

1. The worker is given a permanent impairment rating based on the extent of the workers’ permanent impairment/functional limitations.
2. The duration of the PPD benefit is determined by multiplying the rating times a duration specified in the statute or workers’ compensation agency rule.
3. The weekly PPD benefit is determined by multiplying the worker’s preinjury wage by a percentage (e.g., 66⅔ percent); the weekly benefit is subject to minimum and/or maximum weekly benefits.a

Operational Approach II: The Loss of Earning Capacity (LEC) Approach

Operational Approach IIA: The Ad Hoc Loss of Earning Capacity Approach

1. The worker is given an LEC rating based on the facts of the particular case, which includes the worker’s permanent impairment rating and other factors, such as the worker’s age, occupation, education, and prior work experience.
2. The duration of the PPD benefit is determined by multiplying the LEC rating times a duration specified in the statute or workers’ compensation agency rule.
3. The weekly PPD benefit is determined by multiplying the worker’s preinjury wage by a percentage (e.g., 66⅔ percent); the weekly benefit is subject to minimum and/or maximum weekly benefits.b

Operational Approach IIB: The Loss of Earning Capacity by Formula Approach

1. The worker is given a loss of earning capacity rating based on a formula, which considers the worker’s permanent impairment rating and other factors, such as the worker’s age, occupation, and education.
2. The duration of the PPD benefit is determined by multiplying the rating times a duration specified in the statute or workers’ compensation agency rule.
3. The weekly PPD benefit is determined by multiplying the worker’s preinjury wage by a percentage (e.g., 66⅔ percent); the weekly benefit is subject to minimum and/or maximum weekly benefits.

Operational Approach IIC: The “Pure” Loss of Earning Capacity Approach

1. The worker is given a loss of earning capacity rating based on the facts of the case or based on a formula.
2. The rating is used to determine the amount of PPD benefits using a formula that does not vary among workers on the basis of their preinjury wages.

III. Operational Approach III: The Actual Wage Loss Approach

Operational Approach IIIA: The “Pure” Actual Wage Loss Approach

1. The worker’s actual wage loss is (a) the worker’s projected wages in the permanent disability period and (b) the worker’s actual earnings in the permanent disability period.
2. The worker must demonstrate that the actual wage loss was due to the effects of the permanent impairment and was not because of other factors, such as the worker’s voluntarily retiring or withdrawing from the labor force, or refusing a legitimate job offer, or general economic conditions.
3. If the worker’s actual wage loss is zero (or a negative number), there are no PPD benefits.
4. The duration of the PPD benefit depends on the duration of the worker’s actual wage loss (subject to a statutory maximum on duration).
5. The weekly PPD is determined by multiplying the actual wage loss by a percentage (e.g., 66⅔ percent); the weekly benefit is subject to minimum and/or maximum weekly benefits.

Operational Approach IIIB: The Limited Actual Wage Loss Approach

1. The worker’s actual wage loss is (a) the worker’s projected wages in the permanent disability period and (b) the worker’s actual earnings in the permanent disability period.
2. The worker must demonstrate that the actual wage loss was due to the effects of the permanent impairment and was not because of other factors, such as the worker’s voluntarily retiring or withdrawing from the labor force, or refusing a legitimate job offer, or general economic conditions.
3. The worker’s maximum compensable wage loss is the workers’ projected wages in the permanent disability period times either (c) the worker’s loss of earning capacity rating or (d) the worker’s permanent impairment rating; and/or the worker’s maximum compensable wage loss is the actual wage loss in excess of a threshold that is a percent of the worker’s preinjury wage.
4. The worker’s compensable wage loss is the lesser of the worker’s actual wage loss or the worker’s maximum compensable wage loss.

5. If the worker’s compensable wage is zero (or a negative number), there are no PPD benefits.

6. The duration of the PPD benefit depends on the duration of the worker’s compensable wage loss (subject to a statutory maximum on duration).

7. The weekly PPD is determined by multiplying the compensable wage loss by a percentage (e.g., 66 ⅔ percent); the weekly benefit is subject to minimum and/or maximum weekly benefits.

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a In a few jurisdictions, the duration of the PPD benefits is fixed and the rating is used to help determine the weekly PPD benefit.

b In a few jurisdictions, the duration of the PPD benefits is fixed and the rating is used to help determine the weekly PPD benefit.

c In most workers’ compensation programs, the worker’s projected wages in the permanent disability period are the same as the worker’s preinjury wages.

d In most workers’ compensation programs, the worker’s projected wages in the permanent disability period are the same as the worker’s preinjury wages.

e The choice among the worker’s loss of earning capacity rating or the worker’s permanent impairment rating or the threshold linked to preinjury wages varies among jurisdictions.
wage prior to the workplace injury. This variant is more closely aligned with the idea that the purpose of PPD benefits is to compensate for work disability.

**Operational Approach II: The loss of earning capacity approach**

The loss of earning capacity approach considers the seriousness of the worker’s permanent impairment and functional limitations, as well as other factors that may affect the loss of the worker’s earning capacity resulting from the injury. These factors may include the worker’s age, prior education, and prior work experience. In addition, factors such as the job opportunities in a given location may be considered. After all the factors relied on in the particular jurisdiction are considered, a rating of the worker’s loss of earning capacity due to the work-related injury or disease is produced. In turn, that rating is used to determine the duration (or, in some jurisdictions, the weekly amount) of the PPD benefits. Loss of earning capacity is presumably used as a proxy for the actual wage loss that is expected to result.

The first variant of the loss of earning capacity approach is the ad hoc loss of earning capacity approach (Operational Approach II.A in Table 4.2). The extent of the loss of earning capacity is decided on the facts of the case, which may vary from case to case in the same jurisdiction depending on the predilections of the parties (including the administrative law judge) involved in the case. This approach multiplies the loss of earning capacity rating by a maximum duration specified in the statute to determine the duration of the worker’s PPD benefits. The weekly benefit is largely determined by the worker’s weekly wage prior to the workplace injury.

The second variant of the loss of earning capacity approach is the loss of earning capacity by formula approach (Operational Approach II.B in Table 4.2). The worker’s permanent impairment rating is modified by a formula that considers factors such as the worker’s age or occupation in order to determine the loss of earning capacity. The third variant of the loss of earning capacity approach is the “pure” loss of earning capacity approach (Operational Approach II.C in Table 4.2). The worker’s loss of earning capacity is determined based either on the facts of the particular case or on a formula. The loss of earning capacity rating is then used to determine the amount of PPD benefits based
on factors such as the extent of the loss of earning capacity. However, the benefit does not vary among workers on the basis of their preinjury wages.\textsuperscript{14}

**Operational Approach III: The actual wage loss approach**

The actual wage loss approach determines the actual wage loss due to the work-related injury by comparing the worker’s earnings in the period after the date of maximum medical improvement (MMI) with the worker’s earnings before the date of injury. The duration and amount of PPD benefits are then related to the duration and amount of actual wage loss.

The first variant of the actual wage loss approach is the “pure” actual wage loss approach (Operational Approach III.A). As explicated in Table 4.2, this approach defines actual wage loss as the difference between the worker’s projected earnings in the permanent disability period and the worker’s actual earnings in that period. If the worker can demonstrate that the actual wage loss was due to the workplace injury or disease, the weekly PPD benefit is calculated as a percent of the actual wage and is paid for the duration of the wage loss (subject to statutory limits on the duration).

The second variant of the actual wage loss approach is the limited actual wage loss approach. The details of the approach are shown in Table 4.2. The distinguishing feature of this approach is that the worker’s compensable wage loss is limited by the extent of the worker’s loss of earning capacity, or by the extent of the worker’s permanent impairment, or by the amount of actual wage loss above a threshold that is a percent of the worker’s preinjury wage, or by a combination of the limiting factors. For example, if the worker’s actual earnings in the permanent disability period are 75 percent below the projected earnings, but the worker is considered to have only lost 25 percent of preinjury earning capacity, then the PPD benefits will be based on the 25 percent figure. Another example is that if the worker had preinjury wages of $500 per week and has actual wage loss of $100 per week in the permanent disability period, but the state limits compensable wage loss to the amount in excess of 15 percent of the worker’s preinjury wages, then the compensable wage loss is only $25 per week.
The essential attributes of the actual wage loss approach

There is a critical distinction between the first two operational approaches—the permanent impairment operational approach and the loss of earning capacity approach—and the actual wage loss approach. The states that rely on the actual wage loss approach require the worker 1) to demonstrate that a work-related injury has produced a permanent impairment and/or loss of earning capacity and 2) to demonstrate that he or she has experienced an actual loss of earnings because of the work-related injury or disease. In contrast, the impairment and loss of earning capacity approaches will pay PPD benefits even if there is no actual loss of earnings so long as the worker can demonstrate that the work injury caused a diminution in one of the proxies for actual wage loss.

The elusive nature of the actual wage loss approach

As discussed in more detail later, the actual wage loss approach—which requires that cases be kept open for extended periods—can easily be transformed in practice into the loss of earning capacity approach through the use of compromise and release agreements.

The Operational Approach for Nonwork Disability Benefits

As previously indicated, a few jurisdictions, in addition to compensating for work disability, also provide injured workers with an additional benefit that is designed to compensate for noneconomic loss (or nonwork disability). For example, permanent impairment benefits were available in Florida from 1979 to 1993, while noneconomic loss benefits have been paid in Ontario since 1990. The operational basis for the noneconomic loss benefits in both Florida and Ontario corresponds to the “pure” permanent impairment approach (Operational Approach I.A) shown in Table 4.2.
HOW STATES DESIGN SYSTEMS OF PPD BENEFITS

Common Distinctions within States for PPD Benefits

All jurisdictions have different PPD benefits (measured by weekly amount or potential duration) for different categories of injuries and diseases, and some jurisdictions use different operational approaches for different categories of injuries. The most common distinctions involve three factors.

1) Distinctions between diseases and injuries. Several states provide more restrictive PPD benefits for diseases than for injuries. Montana, for example, does not provide compensation for partial disability resulting from a disease.

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 and unambiguous fashion. The workers’ compensation statutes in most states contain a schedule that lists the number of weeks or the dollar amounts of compensation benefits to be paid for the physical loss or (in most jurisdictions) the loss of use of specified parts of the body. A scheduled injury is any injury that is specifically enumerated in the workers’ compensation statute and typically involves injuries to the upper and lower extremities (arms, legs, hands, feet, fingers, and toes). Injuries to the trunk, back, internal organs (such as heart or lungs), nervous system, and other body systems usually are not included in the list of injuries found in the statutes; these are nonscheduled injuries (or unscheduled injuries). I describe these states as the “scheduled/nonscheduled distinction states.”

A significant minority of states do not distinguish between scheduled injuries and nonscheduled injuries in the sense I use those terms: the former are specifically listed in the workers’ compensation statute and the latter are not. 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. Within the category of PPD benefits, 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 a body mem-
ber and injuries that involve permanent loss of use of the body member.
The former may be entitled to PPD benefits, while the latter may not.

A Taxonomy of State Systems of PPD Benefits

I am aware of three attempts to systematically classify states in
terms of their approaches to PPD benefits relying on the three basic
operational approaches discussed in the previous section and the dis-
tinctions among injuries just discussed. Berkowitz and Burton (1987)
examined 10 states based on fieldwork and a literature review. The Na-
tional Council on Compensation Insurance (NCCI 1995) classified all
50 states plus the District of Columbia based on a questionnaire. The
latest taxonomy of the 51 U.S. jurisdictions, on which the balance of
this section is largely based, was prepared by Barth and Niss (1999).

The states and provinces in North America utilize the three opera-
tional approaches to work disability benefits and the one operational
approach to nonwork disability benefits in a variety of systems of PPD
benefits. Each jurisdiction has a system of PPD benefits because with-
out exception each jurisdiction makes some distinction among the types
of injuries or diseases that affects either the operational approach for the
benefits or the amount or duration of those benefits. This section briefly
describes six systems of PPD benefits, each used in at least one North
American jurisdiction. A more extended discussion, with examples of
specific states, is included in Reville et al. (2005, Appendix A1). Some
states do not neatly fit into the six systems, but I believe the taxonomy
provides a good representation of the most important or interesting sys-
tems of PPD benefits. I begin with three systems of PPD benefits used
in scheduled/nonscheduled distinction states.

System I PPD benefits: Scheduled/nonscheduled distinction
states that rely on the permanent impairment 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 nonsched-
uled injuries receive PPD benefits based on the extent of permanent impairment.

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

The System II design for PPD benefits draws a distinction between scheduled and nonscheduled injuries similar to that found in System I. Also, similar to System I, the scheduled injuries in System II are compensated on the basis of the permanent impairment. The distinctive feature of System II is that the nonscheduled benefits are based on the loss of earning capacity approach (Operational Approach II).

An interesting variant of System II is Wisconsin, which relies on Operational Approach I.B (the permanent impairment and preinjury wage approach) for scheduled injuries. For nonscheduled injuries, there are two possibilities. If the worker has returned to work and is earning at least 85 percent of the worker’s preinjury wage, the worker’s permanent impairment is rated. The duration of PPD benefits for such a worker is determined by multiplying the PI rating times 1,000 weeks. Thus, the Wisconsin PPD benefits for the worker who has returned to work and is earning at least 85 percent of preinjury wages are based on Operational Approach I.B (the permanent impairment and preinjury wage approach).

If the worker with the nonscheduled injury has not returned to work and is earning at least 85 percent of the preinjury wage, the worker’s loss of earning capacity is determined. The evaluation of the LEC takes into account the seriousness of the worker’s permanent impairment, plus such factors as the worker’s age, education, and prior work experience. The evaluation produces a rating indicating the percentage loss in earning capacity due to the injury, and the rating is multiplied by 1,000 weeks to determine the duration of the PPD benefits. Thus, the nonscheduled PPD benefits for Wisconsin workers who are not back to work earning at least 85 percent of preinjury wages is based on Operational Approach II.A (the ad hoc loss of earning capacity approach).
System III PPD benefits: Scheduled/nonscheduled distinction states that rely on the actual wage loss approach for nonscheduled injuries

The System III design for PPD benefits draws a distinction between scheduled and nonscheduled injuries similar to that found in Systems I and II. Also, similar to Systems I and II, the scheduled injuries in System III are compensated on the basis of the permanent impairment. The distinctive feature of System III is that the nonscheduled benefits are based on the actual wage loss approach (Operational Approach III).

New York is an example of a state relying on System III. The first step in New York in determining the applicable benefits for an injury with permanent consequences is to determine whether the injury is scheduled or unscheduled. The distinction is similar to that used in New Jersey and Wisconsin, where injuries to arms, legs, and other bodily extremities are classified as scheduled, and injuries to internal organs and the back are defined as unscheduled.22 In New York, the operational basis for scheduled PPD benefits is the permanent impairment and pre-injury wage approach (Operational Approach I.B).

New York’s system relies on the actual wage loss approach for nonscheduled benefits, which has several traits. One trait is that, unless the worker has actual earnings after the date of MMI that are less than the worker’s preinjury earnings, no benefits are paid even if the work injury has resulted in a permanent impairment or loss of earning capacity.23 Another characteristic of the wage loss approach is that the total duration of the PPD benefits is not determined shortly after the date of MMI, as in the permanent impairment or loss of earning capacity approaches. Instead, the duration of benefits depends on the length of time the worker experiences actual losses of earnings due to the work injury. In New York, this duration can range from zero weeks (for those cases closed with no present wage loss) to the balance of the worker’s life.

There are three outcomes possible for nonscheduled injuries in New York. First, if, at the time the case is initially classified as a nonscheduled PPD, the worker has returned to work and is experiencing no wage loss, the worker receives no PPD benefits and the case is closed.24

Second, if, at the time the case is initially classified as a nonscheduled PPD, the worker experiences a wage loss, benefits commence. The duration these benefits will continue is unknown because the duration of subsequent wage loss is unknown.25
In New York, there is a third outcome for a nonscheduled PPD case, namely a lump-sum settlement. The lump-sum settlement in New York is essentially a compromise and release agreement, in which the parties reach a compromise concerning the amount of benefits to be paid, the worker receives a lump-sum payment, and the employer is released from any further liability for the particular injury.26

System IV PPD benefits: Unitary rating system states with a single operational approach for PPD benefits

California is an example of a jurisdiction providing System IV PPD benefits in which all injuries are rated using the same approach. California relies on a formula to combine the impairment ratings with the age and occupational factors in order to produce a disability rating, which is Operational Approach II.B, the loss of earning capacity approach by formula approach. The California PPD system uses the disability rating to determine the duration of PPD benefits, using a formula that provides more weeks per percent rating for more serious injuries than for less serious injuries.27

System V PPD Benefits: Unitary rating system states with multiple operational approaches for PPD benefits (the hybrid approach)

The fifth system of PPD benefits is the hybrid approach, which potentially pays two types of PPD benefits on a sequential basis. The approach is used in Connecticut and Texas, and was used in Florida between 1994 and 2003.28

In Texas, the initial phase of PPD benefits is based on Operational Approach I.B (the permanent impairment and preinjury wage approach). Once the worker reached the date of MMI, the extent of permanent impairment for all injuries with permanent consequences is rated using the American Medical Association’s *Guides to the Evaluation of Permanent Impairment*. Three weeks of impairment benefits are then paid for each 1 percent impairment rating. The weekly benefit is 70 percent of the worker’s preinjury wage, subject to a maximum benefit that is 70 percent of the state’s average weekly wage.

Those workers who have a permanent impairment rating of at least 15 percent have an opportunity to qualify for wage loss benefits (known
as “supplemental income benefits” in Texas) after the impairment benefits expire (i.e., at least 45 weeks after the initial eligibility date for impairment benefits). The wage loss benefits are paid to workers who experienced at least a 20 percent drop in wages between the preinjury period and the period of permanent disability; 80 percent of the wage loss in excess of the 20 percent threshold is compensated (again subject to a maximum week benefit that is 70 percent of the state’s average weekly wage). The wage loss benefits in Texas are an example of the Operational Approach III.B (the limited actual wage loss approach).

System VI PPD benefits: The dual benefits approach (nonwork disability benefits and/or work disability benefits), depending on the type of injury

A few jurisdictions have explicitly paid nonwork disability (or noneconomic loss) benefits in addition to work disability benefits. The System VI variant of dual PPD benefits was used in Florida from 1979 until 1993, although some significant modifications were made in 1990 prior to the total abandonment of the approach in 1993.

The Florida program had two types of benefits—impairment benefits and wage loss benefits—and an injured worker with permanent consequences of his or her injury could qualify for either, both, or neither of the benefits, depending on the facts in the case.

Impairment benefits were paid to workers with certain types of permanent impairments, including amputations, loss of 80 percent or more of vision, or 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 benefits. The purpose of these “impairment benefits” was to compensate the worker for nonwork disability. The impairment benefits were paid using Operational Approach I.A (the “pure” permanent impairment approach).

The wage loss benefits contained in the 1979 Florida legislation required the worker to have at least a 1 percent permanent impairment rating. In addition, the worker had to experience at least a 15 percent decline between the wages in the preinjury period and the wages in the permanent disability period. The wage loss benefits then replaced 85 percent of the actual wage loss in excess of the 15 percent threshold.

This description of the dual benefits approach in Florida is simplistic and does not capture the initial acclaim and eventual disillusionment
with the approach, especially the wage loss component, which ultimately led to the abandonment of the dual benefits approach in Florida after 1993. This overview of North American systems of PPD benefits would be remiss, however, if we did not mention that the dual benefits approach is still alive and apparently operating well in several Canadian provinces, including Ontario and Saskatchewan.

**Observations**

This section has identified six different systems of PPD benefits, and others are possible. Several observations seem warranted, drawing in part on the survey of state PPD programs by Barth and Niss (1999).

First, the most common type appears to be System I, in which both scheduled and nonscheduled benefits are based on the permanent impairment approach. Barth and Niss (1999) reported that about 13 jurisdictions use this approach.30

Second, Systems III and VI, which contain elements of the actual wage loss approach that begin for some types of injuries at the date of MMI, appear to be under threat, at least in the United States. Florida has abandoned the dual benefits system (System VI), and Pennsylvania, which has used a variant of System III (in which scheduled benefits are based on the impairment approach and the nonscheduled benefits based on the actual wage loss approach)31 has recently added a qualification that benefits can be reduced even if the worker does not have actual earnings in the permanent disability period so long as the employer can establish that light-duty work is available within commuting distance.32

Third, use of System V, the hybrid approach, has received some recent interest. Florida used this approach between 1994 and 2003, and the current Connecticut and Texas statutes provide impairment benefits followed by wage loss benefits.

Fourth, I again want to emphasize the critical distinction between 1) the permanent impairment operational approach and the loss of earning capacity approach, and 2) the actual wage loss approach. The permanent impairment and loss of earning capacity approaches will pay PPD benefits even if there is no actual loss of earnings so long as the worker can demonstrate that the work injury caused a diminution in one of the proxies for actual wage loss. In contrast, there must be actual losses of
earnings in the permanent disability period in order for benefits to be paid in the actual wage loss approach.

Fifth, compromise and release agreements, in which workers release their claim to future benefits in exchange for a lump-sum settlement, can turn the actual wage loss approach into the loss of earning capacity approach. That is, the compromise and release agreement transforms a case from one relying on the wage loss approach (where the amount of PPD benefits is unknown until the end of the period of permanent disability or the worker reaches the statutory maximum for such benefits) into a loss of earning capacity approach (where the amount of PPD benefits is determined near the beginning of the period of permanent disability based on an assessment of the extent of loss of earning capacity).

**CRITERIA FOR EVALUATION OF PPD BENEFITS**

Each North American 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.

**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 multiyear study by the National Academy of
Social Insurance (NASI). The primary test for adequacy adopted by NASI can be explained by reference to Figure 4.9. 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 66⅔ percent.

**Application of the adequacy criterion**

The application of the adequacy criterion will also only be briefly examined here because the topic is examined by Boden, Reville, and Biddle in Chapter 3 of this volume. 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 10 years after workers were injured, which meant the “replacement rates do not approach the two-thirds benchmark for adequacy.”

Boden, Reville, and Biddle (2005) include a useful list of research topics concerning the adequacy of PPD benefits. What also needs to be examined is whether choices among the different operational approaches or PPD benefit systems identified in this chapter make any difference in the quest for adequacy? There is no obvious reason why the choices should make a difference, and there is no obvious pattern between the extent of adequacy and the design of the PPD benefit systems in the five jurisdictions studied by Boden, Reville, and Biddle. However, to the best of my knowledge, no one has studied this important question.

Another matter concerning adequacy discussed in Hunt (2004) is worth repeating. The best way to determine whether a state has adequate benefits is to conduct a wage loss study, which examines the actual earnings losses of and benefits received by a large sample of injured workers. But such studies are expensive and time consuming, and not all states have the requisite data. The issue is whether there is a measure of a state’s PPD benefits that is relatively easy to calculate (such as the actuarial assessments of the state’s workers’ compensation statutory provisions reported by Thomason and Burton [2001]) that provides a satisfactory proxy for the results of a wage loss study.
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.

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 PPD rating have the same replacement rates? 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 case was litigated or not.

Application of the equity criterion

Berkowitz and Burton (1987, pp. 341–353) compared earnings losses, benefits, and replacement rates for California workers injured in 1968 for workers of different ages, injury types, severity of injuries, and three types of cases: 1) formal, in which a formal PPD rating was received from the Disability Evaluation Unit; 2) informal, in which an informal PPD rating was received; and 3) other. They found significant equity problems with the California PPD benefits as of that time, such as the lower replacement rates for contested cases with trunk injuries compared to injuries to other parts of the body. Similar equity problems were found for the PPD benefits in Wisconsin and Florida.

Reville et al. (forthcoming) examined the equity of the PPD rating system in the California workers’ compensation program and found large differences among types of injuries in the relationship between
average disability ratings and average earnings losses. For example, PPD cases involving injuries to the elbow had a 1.86 ratio between the disability ratings and average earnings losses, while cases involving the shoulder had a 0.90 ratio between ratings and losses.

The 2004 amendments to the California workers’ compensation program will allow the program to adjust the ratings and benefits for different types of injuries based on empirical evidence of the sort developed by Reville et al. (forthcoming), which should make a major contribution to improving the equity of the California PPD benefit system. But are there other operational approaches or benefit systems that could do even a better job of providing PPD benefits that are equitable? One of the rationales for the adoption of the wage loss approach in Florida in 1979 was a better ability to provide benefits to workers in proportion to their earnings losses. But we lack evidence about whether the Florida wage loss approach (while it lasted) or the variants of wage loss approach used in other states achieved greater equity.40

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, pp. 26–28) evaluated the efficiency of this delivery system by examining the relationship between two variables. One 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, pp. 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. 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. A considerably different model relies on the private parties, particularly attorneys, to make most of the decisions about benefits payments. 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.

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 \textit{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 \textit{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 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 well as the cost of attorneys’ fees for claimants, employers, and carriers—were lower than those in the other two states.\textsuperscript{45}

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 earnings 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**

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.46

**Applying the PCR system efficiency criterion to the prevention objective**

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.47 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.48

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.

Applying the PCR system efficiency test to the rehabilitation objective

There are circumstances in which workers’ compensation benefits can be so high as to induce the reporting effect or the duration effect, and in which greater utilization is an undesirable outcome. The most egregious example of PPD benefits that were inadvertently designed to have a serious disincentive for reemployment is the wage loss benefits enacted by the Florida legislature in 1979.49 The law provided that, once a worker experienced at least a 15 percent drop in income after the date of MMI due to the work injury, the PPD benefits would replace 95 percent of the wage loss above that 15 percent threshold. This benefit formula meant that, for a worker who had begun the rehabilitation process and had already returned to work one-third time, a decision to increase work to two-thirds time would lead to a reduction in PPD benefits that would be 103 percent of the increase in net earnings (gross wages minus taxes) resulting from the additional hours worked. Surely this disincentive was an unintended and adverse consequence of the 1979 Florida PPD benefits scheme. Disincentives to this extent are not
inevitable in a wage loss system, but the poor design of these benefits was one reason why the wage loss approach in Florida has subsequently been virtually vitiating. In short, the 1979 PPD benefits in Florida failed to meet the PCR system efficiency test because the benefits undermined the rehabilitation and return-to-work objective.

The wage loss approach appears to be more likely to undermine PCR efficiency than the impairment approach and the loss of earning capacity approach, since workers’ compensation benefits are reduced if the worker has increased earnings, while the PPD benefits are not affected by greater employment after the date of MMI in the other approaches. However, there has been little if any evidence on the magnitudes of the differences between the approaches in their ability to promote or hinder PCR efficiency.

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.

A 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 (National Commission on State Workmen’s Compensation Laws 1972, p. 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 on State Workmen’s Compensation Laws 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 30 years ago—it likely was the major reason why the commission recommended federal standards—it has become even more important in recent decades. One ironical reason is the legacy of the 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 (Spieler and Burton 1998). Moreover, the differences in costs of workers’ compensation insurance have probably widened since 1972,50 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.” Compounding the runaway employer concern in recent years is the substantial loss of manufacturing jobs in many states and the widely publicized bout with high workers’ compensation costs in California.

**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
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), 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 criteria presented in this chapter. 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 trade-offs 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 crite-
rion, 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 with the greatest political influence?

CONCLUSIONS

I have tried to provide an organized approach to examining PPD benefits, to summarize some of the research literature, and to pose some areas where additional research is needed. I conclude by posing a few more questions I hope a new generation of scholars will examine.

One question that warrants contemplation is whether the conceptual framework presented in the second section is the most useful organizational structure for research and operational purposes? For example, perhaps the number of consequences can be reduced: the Guides to the Evaluation of Permanent Impairment published by the American Medical Association (2000) do not distinguish between permanent impairments and functional limitations.

The fifth section provides an overview of how the states design their systems of PPD benefits. Are the six systems the best way to categorize the many varieties of state laws? And what explains why different states have adopted similar or different PPD benefit systems? Moreover, how do we explain why some states (such as New Jersey) have PPD benefit systems that have basically been unchanged since the early years of workers’ compensation in the United States, while other states have
made major changes in their systems? The most notable example of a state that has tried a variety of approaches in the last 40 years is Florida. Is this due to a commendable willingness to learn from weaknesses of prior approaches, or to impatience, or to unrealistic expectations?

The final section offers several criteria for the evaluation of PPD benefit systems. In addition to the questions I raise about whether the list of criteria is too long or too short (or just right!), more attention needs to be devoted to the trade-offs among the criteria. Thomason, Schmidle, and Burton (2001) present evidence that one of the major determinants of the employers’ costs of workers’ compensation insurance is the percentage of cases paying PPD benefits. They also devote a chapter to benefit adequacy versus affordability, and conclude that if states were to adopt adequate benefits (as prescribed by the Model Act issued by the Council of State Governments [1974]), the result would be substantially higher workers’ costs nationally, as well as greater dispersion of costs among states. Whether this trade-off between adequacy and affordability is accurate deserves scrutiny. The more fundamental point is that research and policy making would benefit from explicit consideration of trade-offs among criteria, rather than reforms based on a single goal, such as reducing employers’ costs.

Notes

1. Workers’ compensation programs provide cash, medical, and rehabilitation benefits to workers disabled by work-related injuries and diseases. This chapter focuses solely on cash benefits.
2. For this chapter, unless otherwise indicated, the term injuries includes both injuries and diseases.
3. Steve Guo, a Rutgers University graduate student, is examining the determinants of interstate differences in incurred benefits for his Master’s thesis.
4. A more extended discussion of the consequences of injuries is included in Berkowitz and Burton (1987, pp. 5–13).
5. The distinction between controllable and uncontrollable is not as clear as the text suggests. For example, the quality of vocational rehabilitation is identified as a controllable factor in the progression from functional limitations to loss of earning capacity. However, for a particular worker in a state that does not require employers to provide vocational rehabilitation, vocational rehabilitation is effectively uncontrollable.
6. Although this definition of “true” wage loss is appropriate for many purposes, it is not the measure of wage loss typically encompassed in a workers’ compensa-
tion statute, which usually measures restricted wage loss. That is, the worker’s earnings as of the date of injury are projected into the future at that level. Then the “restricted” wage loss is measured as the difference between the worker’s preinjury wages and the worker’s actual earnings after the date of injury. In general, “restricted” wage loss is smaller than “true” wage loss.

7. The issues of measuring wage losses and benefits are also examined in Berkowitz and Burton (1987, pp. 365–389).

8. An extended discussion of which consequences should be compensable is provided in Berkowitz and Burton (1987, pp. 20–22).

9. Some jurisdictions do not compensate for pain and suffering per se, but do consider pain and suffering in determining the extent of the loss of earning capacity resulting from the injury. Thus in the California workers’ compensation program, Swezey (2003, § 5.40) indicates, “It is important to note that pain and suffering as such are not ratable. Pain is ratable only to the extent it causes disability.”

10. The National Commission on State Workmen’s Compensation Laws (1972, p. 38) justified the payment of impairment benefits in terms of a broad set of consequences: “The argument for impairment benefits is that many workers with work-related injuries or diseases experience losses which are not reflected in lost remuneration. Permanent impairment involves lifetime effects on the personality and on normal activity.”

11. This chapter uses the terms states, provinces, and jurisdictions interchangeably.

12. This three-category scheme is adapted from the taxonomy in Berkowitz and Burton (1987).

13. The rating systems for this approach typically contain a mixture of impairment ratings (amputations are given a specified rating without any requirement to measure the resulting loss of function) and functional limitations ratings (loss of use of a limb typically is rated by examining the loss of function caused by the injury).

14. Idaho uses the “pure” loss of earning capacity approach for nonscheduled PPD benefits. The degree of loss of earning capacity is multiplied by 500 weeks to determine the duration of the benefits. The weekly benefit is 55 percent of the state average weekly wage for all workers.

15. States differ on which of the permanent consequences (permanent impairment, functional limitations, or loss of earning capacity) must be demonstrated, and differ as well on the extent of these consequences that are required for wage loss benefits to be paid.

16. In both Florida and Ontario, the primary basis for assessment has been the AMA Guides. Research by Sinclair and Burton (1995) on noneconomic loss benefits in Ontario raises serious doubts about the appropriateness of using the AMA Guides permanent impairment ratings as a proxy for the extent of noneconomic loss.

17. Additional examples of programs that distinguish between injuries and diseases are included in Reville et al. (2005, Appendix A1). The examples are from U.S. Chamber of Commerce (2003, Chart IV).

18. In addition, states commonly schedule benefits for the enucleation of an eye and for hearing and vision loss.
19. Examples of the “unitary rating system” are the System IV and System V PPD Benefits discussed in the next subsection.

20. The six systems of PPD benefits are based in part on Burton (1996). In the current study, the states were assigned to the categories largely based on the descriptions of the PPD benefits included in Barth and Niss (1999), who may not agree with the systems used in this chapter. Some states, e.g., Arizona and New York, are classified differently by Barth and Niss than in my taxonomy.

21. The distinction between scheduled and nonscheduled injuries in Wisconsin is similar to that in New Jersey, with injuries to arms, legs, hands, etc., listed in the statutory schedule, while injuries to backs and internal organs are nonscheduled injuries. The scheduled durations in the two jurisdictions differ, however. An arm, for example, is worth 500 weeks in Wisconsin compared to 330 weeks in New Jersey.

22. The scheduled durations are, to be sure, different among the states, with the New York arm worth only 312 weeks.

23. This is a crucial difference between the true wage loss approach and the loss of earning capacity approach; a worker who experiences a loss of earning capacity but has no actual loss of earnings is precluded from benefits in the wage loss approach but is not precluded in the loss of earning capacity approach.

24. The worker’s eligibility for nonscheduled benefits, as well as the weekly amount of those benefits, can change through time in jurisdictions using the wage loss approach. For example, in New York a worker whose case is initially closed with no benefits because of no present wage loss can reopen the case for up to 18 years after the date of injury or 8 years after the last benefit payments. PPD benefits can commence after the reopening if the work injury is then causing lost earnings.

25. As discussed by Berkowitz and Burton (1987, pp. 244–248) the exact variant of the actual wage loss approach used for New York workers with at least some actual wage loss depends on whether the worker has any earnings during the permanent disability period. If the worker has some earnings, then the “pure” actual wage loss approach (Operational Approach III.A) is used. Thus, if a worker had preinjury wages of $500 per week and returns to employment at $200 per week, the nonscheduled benefits is two-thirds of the wage loss, which means the weekly benefit is $200. (The weekly PPD benefit is subject to a maximum amount, which as of 2004 is $400 per week.) If the worker does not have any earnings in the permanent disability period, then the limited actual wage loss approach (Operational Approach III.B) is used. The worker’s loss of earning capacity is evaluated and serves as a limit on the worker’s wage loss. Thus, if a worker had preinjury wages of $500, does not return to work and is rated as having a 50 percent loss of earning capacity, the weekly PPD benefit is $166.67.


27. The life pension is a weekly benefit that is 1.5 percent of the worker’s preinjury wage for each 1 percent of disability over 60 percent (subject to a maximum weekly benefit) Swezey (2003, Sec. 5.9). The California PPD benefits system draws another distinction among workers depending on the magnitude of the disability.
rating. A disability rating of 100 percent qualifies the worker for permanent total disability benefits for life. A disability rating between 1 and 69.75 percent qualifies a worker for PPD benefits. For workers with a disability rating between 70 and 99.75, the worker qualifies for PPD benefits using the formula summarized above, and when those PPD benefits expire, the worker qualifies for a life pension.

28. Texas and Florida use Operational Approach I.B (the permanent impairment and preinjury approach) for the initial phase of their PPD benefits and Operational Approach III.B (the limited actual wage loss approach) for the second phase of their PPD benefits. Connecticut uses Operational Approach I.B (the permanent impairment and preinjury approach) for the initial phase of the PPD benefits and Operational Approach III.A (the “pure” actual wage loss approach) for the second phase of the PPD benefits.

29. The possibility that a worker with a single injury could receive both impairment and wage loss benefits is different than the System I, II, and III PPD benefits, where a worker with a single injury qualifies for either scheduled or nonscheduled benefits. (There are occasional exceptions to this pronouncement regarding System I and System II benefits, such as a scheduled injury that has psychological overlays that are nonscheduled.)

30. The National Council on Compensation Insurance (NCCI) (1995) indicated that of the 42 states in which some permanent partial injuries are compensated on a nonscheduled basis, eight states use the actual wage loss approach, 26 states use the impairment approach, and 14 states use some other approach (in most cases, probably the loss of earning capacity approach). As indicated in my review of the NCCI Inventory (Burton 1995), I think that Arizona is actually a loss of earning capacity state (not a wage loss state) and that New York is actually a wage loss state (not an “other” state). However, these misclassifications should not affect the textual conclusion that the System I version of PPD benefits, in which the impairment approach is used for nonscheduled benefits, is the most common system.

31. Pennsylvania’s PPD benefits are described in Berkowitz and Burton (1987, Chapter 8).

32. A brief report on the recent “reforms” of the Pennsylvania workers’ compensation law is provided at 7 BNA’s Workers’ Compensation Report 319 (June 14, 1996).

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

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

35. The equity tests can be applied to workers within a state (e.g., do workers in Idaho with equal losses of earnings receive equal benefits, thus satisfying the horizontal equity test for that jurisdiction?) as well as to workers in different states (e.g., do workers in Indiana and Massachusetts with similar losses of wages receive similar benefits, thus satisfying an interstate horizontal equity test?).
36. If workers A and B both have $1,000 of earnings losses, and worker A receives $700 of benefits (and thus has a 70 percent replacement rate) and worker B receives $300 of benefits (a 30 percent replacement rate), then the horizontal equity test has been violated.

37. If worker C has $5,000 of earnings losses and received $3,000 of benefits, while worker D has $10,000 of earnings losses, then the narrow test of vertical equity requires that worker D receive $6,000 of benefits (so that the replacement rate for both workers is 60 percent).

38. Although the general formulation of vertical equity is more difficult to translate into empirical tests than the narrow test, reasonable requirements appear to be 1) that the ratio of benefits to earnings consistently increase (or decrease) as earnings losses increase, and not fluctuate as losses increase, and 2) that there should be no abrupt changes in the ratio of benefits to earnings losses as those losses increase. The more general test of vertical equity would be violated if worker E had $1,000 of earning losses and received $700 of benefits (for a 70 percent replacement rate), worker F had $2,000 of earnings losses and received $1,000 of benefits (for a 50 percent replacement rate), and worker G had $3,000 of earnings losses and received $2,700 of benefits (for a 90 percent replacement rate).

39. If worker H has a 10 percent PPD rating and a 40 percent replacement rate, while worker I has a 10 percent PPD rating and a 70 percent replacement rate, there is a lack of horizontal equity among PPD ratings.

40. It appears likely that the widespread use of compromise and release agreements in Florida undercut the potential for greater equity from benefits based on the wage loss approach, but that is mere speculation.

41. 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.

42. Berkowitz and Burton (1987) used Wisconsin as an example of this approach.
43. Berkowitz and Burton (1987) used the federally operated Longshore and Harbor Workers’ Compensation Act as an example of this approach.
44. Berkowitz and Burton (1987) used Florida and California as examples of this approach when they conducted their study of workers injured in 1968.

45. 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. In addition, Berkowitz and Pascale (1995) graded the annual reports of state workers’ compensation agencies, and Wisconsin was one of the six jurisdictions that received an F because it had not issued an annual report. However, in a more recent evaluation of workers’ compensation agency websites, Berkowitz (2001) assigned Wisconsin (and 12 other jurisdictions) an A grade.
The prevention, compensation, and rehabilitation 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 component of the Social Security system), and by employers (such as long-term disability 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.

These behavioral effects are discussed in Butler (1994) and Burton and Chelius (1997).

The threefold distinction among the true injury effect, the reporting effect, and the duration effect is an extension of the twofold distinction used by Butler (1994).

This provision of the Florida law is examined in more detail in Burton (1983, pp. 40–49).

Burton and Schmidle (1992, Table 8, pp. 1–15) indicate that the means and standard deviations (in parentheses) for average insurance rates for 44 insurance classes for weighted observations from 42 states were 0.772 (0.273) in 1972 and 0.996 (0.339) in 1975. 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.

This discussion of the incidence of the costs of the workers’ compensation program is based on Chelius and Burton (1992, 1994), which are reprinted in Burton and Schmidle (1995). Their approach is summarized in Leigh et al. (2000, p. 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, pp. 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, p. 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.)

52. 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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