An Evaluation of New Mexico Workers' Compensation Permanent Partial Disability and Return to Work

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Preface

New Mexico is in many ways a workers' compensation success story since implementing reforms in the early 1990s. Employer costs are among the lowest in the country, and insurer profits among the highest. In this environment, members of the workers' compensation community and the Advisory Council on Workers' Compensation and Occupational Disease requested information from the New Mexico Workers' Compensation Administration (NMWCA) regarding the adequacy of benefits for workers. During the first New Mexico legislative session of 1999, Senate Bill 560 appropriated funds for conducting a study of workers' compensation permanent partial disability (PPD) benefits and post-injury employment rates (return-to-work rates). The NMWCA selected the RAND Institute for Civil Justice through a request for proposal process. Our study evaluated the adequacy of permanent partial disability benefits provided to injured workers and determined whether injured workers in New Mexico are returned to work promptly and successfully. The study also showed how New Mexico's PPD benefits and return-to-work rates compared with those of four other states.

This report compares outcomes for workers with partially disabling occupational injuries in New Mexico with outcomes for their counterparts in California, Wisconsin, Washington, and Oregon. We drew upon expertise and data developed in the course of a number of studies—the ongoing study of permanent disability that the ICJ is conducting for the California Commission on Health and Safety and Workers' Compensation (CHSWC), a Boston University study of wage loss and return to work funded by the National Institute for Occupational Safety and Health (NIOSH), and a Michigan State University workers' compensation study funded by the State of Washington. We found that all five states in the study replace less than half the losses of PPD claimants. However, of the five states, New Mexico compensates the largest fraction of losses. The report identifies some areas for improvement, particularly in the area of return to work. This report should be of interest to policymakers and stakeholders in the workers' compensation system in New Mexico, and other readers interested in workers' compensation and disability issues nationally.

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Summary

In 1990, the New Mexico legislature passed workers' compensation reform legislation that included significant changes to the compensation of the most seriously injured claimants—those receiving permanent partial disability (PPD) benefits. The legislation also included several provisions to encourage post-injury employment of injured workers. This legislation successfully lowered employer costs in New Mexico when compared with costs in either other states or in prior time periods. To many stakeholders, the post-reform New Mexico workers' compensation system is a success story. Employer costs are among the lowest in the country, the environment is very profitable for insurers, and the system is among the least litigious in the country. However, no previous research has systematically examined whether the system provides adequate benefits for the injured workers it is designed to compensate.

This report evaluates the adequacy and equity of workers' compensation indemnity benefits in New Mexico for workers receiving PPD benefits. In addition, given the emphasis in the 1990 legislation on employment, we examine post-injury employment for all injured workers with lost time after injury, as well as workers receiving PPD benefits. We compare return to work and PPD in New Mexico with those in four other states: California, Wisconsin, Washington, and Oregon.

Background on Workers' Compensation and Return to Work

Workers' compensation provides medical and indemnity benefits on a no-fault basis to workers with injuries or illnesses acquired at work. In New Mexico, the two largest categories of indemnity benefits (involving cash assistance) are *temporary total disability* (TTD), which is paid to workers while they are recovering from an injury, and *permanent partial disability,* which is paid to workers who as a result of a workplace injury, and after no further recovery is possible, continue to have impaired bodily function. The payment for PPD depends upon whether the injury is categorized as a "whole body" ("unscheduled") injury (typically involving back and neck injuries) or a "scheduled" injury (typically an injury to a worker's arms or legs). Each category effectively has a different system of compensation, and approximately half of

PPD injuries are in each category. Typically, unscheduled injuries receive a lower weekly payment for 500 weeks, whereas scheduled injuries receive a higher weekly payment for 200 weeks or less, depending upon the body part injured.

The 1990 New Mexico workers' compensation legislation emphasized encouraging return to work as a means of improving the economic circumstances of a worker after an injury and as a means of lowering employer costs by allowing employers to avoid the payment of TTD benefits. In workers' compensation parlance, the term "return to work" encompasses many aspects of post-injury employment including the amount of time from injury until the next reported day of work, whether the next reported day of work is at the same employer and whether the post-injury employment is sustained.

Sources of Workers' Compensation and Wage Data

The workers' compensation data are from a claims database maintained by the New Mexico Workers' Compensation Administration (NMWCA). Data for every workers' compensation claim (a total of 119,691 claims) from 1994 to 1998 were linked to wage data from the Detail Wage database of the New Mexico Department of Labor (NMDoL). We have quarterly wages for every job held in New Mexico from 1993 through the third quarter of 1999. We therefore have wages at all New Mexico employers for every injured worker (depending upon the year of injury) for up to five years before and five years after injury.

We want to estimate how much an injured worker loses in earnings, which is the difference between what the worker earns and what he or she would have earned if the injury had not occurred. We use the injured worker's wage information to estimate what the worker *actually* earned and also estimate what he or she *would* have earned. To do this, we received data for a set of comparison workers who were not injured and who were matched to the injured workers prior to injury. Up to five comparably paid workers per injured worker were found from the same employer using the NMDoL data. The analyses use information on 5,996 PPD claimants (78 percent of the total from 1994 to 1998) on whom wage information was available and for whom matching workers were obtained. Our return-to-work analyses used a broader sample of 17,188 claimants including all TTD recipients (sometimes referred to as "lost-time claimants") as well as PPD claimants.

We were able to obtain similar information for workers in four other states. In each state, we have workers' compensation claims data that we linked to quarterly wage data from the agency that administers unemployment insurance (UI). We have data for almost 70,000 PPD claimants and more than 200,000

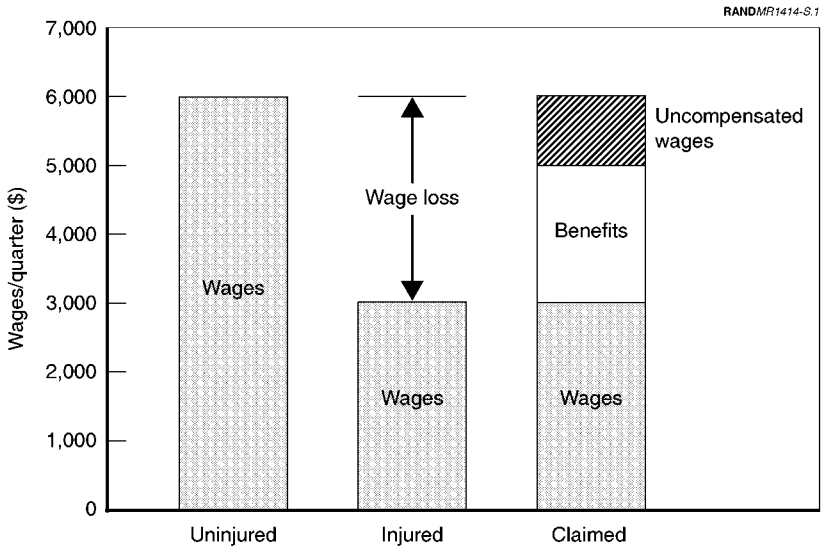
comparison workers in California from 1993 to 1995, in Washington from 1993 to 1994, in Oregon from 1992 to 1993, and in Wisconsin from 1989 to 1990. We also have data on more than 200,000 lost-time claimants in Washington, Wisconsin, and Oregon.

Study Methodology

To evaluate the adequacy and equity of workers' compensation benefits for workers with permanent disability claims, we focus on two statistics: *wage loss* and the *replacement rate*. Figure S-1 provides an illustration of our approach. In the figure, a quarterly wage of $6,000 that would have been received if the worker had never been injured was reduced to $3,000 as a result of the injury. We refer to this as a "wage loss" of $3,000 or (because the wage loss is one-half of the $6,000 the worker would have earned) a "proportional wage loss" of one-half. The injured worker's quarterly wage information is used to measure the actual wages after injury, and the wages of the injured worker's matched comparison workers are used to measure what the worker would have received if the injury had never occurred. Only earnings from employment, and not workers' compensation benefits, are included in the calculation of wage loss.

To assess adequacy, we compare wage loss to benefits paid on the assumption that adequacy implies that some fraction of wage losses should be returned to the worker in the form of workers' compensation benefits. We use the replacement rate to measure this, which is the fraction of losses replaced by workers' compensation benefits. In Figure S-1, of the $3,000 of lost earnings, benefits covered $2,000 and the remaining $1,000 was uncompensated. Therefore, the replacement rate is two-thirds.

In addition to measuring wage losses, we constructed an improved measure of the duration until return to work using the quarterly wage data. We first examined the duration of TTD benefits. If we found that they ended in a quarter during which wages were also reported, we then set the duration until return to work to the duration of TTD benefits. If TTD benefits are reported as having ended in a quarter during which no wages were reported, we found the next quarter following the end of TTD and labeled this the quarter of return to work. The duration of time off work is then the time from the date of injury to the midpoint of the quarter of return to work.



NOTE: Wage loss = $3,000. Proportional wage loss = Wage loss ($3,000)/uninjured wages ($6,000) = 1/2. Replacement rate = Benefits ($2,000)/wage loss ($3,000) = 2/3.

Figure S-1—Using the Replacement Rate to Measure Adequacy

Adequacy and Equity of Permanent Partial Disability

Table S-1 reports the earnings losses of New Mexico PPD claimants over the ten years after injury. On average, PPD claimants lose $21,309, or 23 percent, of their earnings over the five years after injury, and $34,314, or 20.5 percent, over ten years after injury. Focusing on the ten-year estimate, claimants receive $15,832 in benefits (both TTD and PPD). This replaces less than one-half of pre-tax earnings losses.

Because workers' compensation benefits are not taxed, Table S-1 also reports after-tax replacement rates, which are 59.8 percent over the ten years after injury. Over five years, replacement rates are almost two-thirds, and 84.4 percent after-tax. The ten-year replacement rate is less than the five-year replacement rate because many PPD claimants (particularly those with scheduled injuries) receive no benefits during the second five years, although they continue to experience earnings losses.

Table S-1

Earnings Losses and Replacement Rates of New Mexico PPD Claimants over Five Years and Ten Years

	Earnings Losses	Proportional Earnings Losses	Total Indemnity	Replacement Rate Pre-Tax (After-Tax)
Five Years	$21,309	23.0%	$13,892	65.2% (84.4%)
Ten Years	$34,314	20.5%	$15,832	46.1% (59.8%)

There is no statutory standard for adequacy that can be used to interpret replacement rates. Ultimately, this is a question that only policymakers can answer. However, the literature that has evaluated adequacy of PPD in other states has typically used the two-thirds replacement rate before-tax or 80 percent rate after-tax as the standard. This is an extension of the statutory standard for temporary disability in most states.

For PPD, the following question remains: Over what time period does the two-thirds standard apply? If the time period is five years, then New Mexico has adequate PPD benefits. However, there is some statutory justification for using a ten-year time period because most PPD benefits are required to be paid for 500 weeks. In this case, New Mexico PPD benefits are not adequate.

We also examined replacement rates for different subgroups of PPD claimants to assess whether PPD benefits are equitable. By *equitable,* we mean replacement rates that are similar across groups. We report the most-salient comparison, unscheduled and scheduled injuries, in Table S-2. From the table, it is clear that unscheduled injuries are more severe than scheduled injuries, with considerably larger losses. However, unscheduled injuries also receive benefits that on average are twice as high as the benefits paid for scheduled injuries. As a result, unscheduled injuries have replacement rates of nearly 50 percent, and scheduled injuries have a lower replacement rate of 40 percent. Therefore, scheduled injuries are less adequately compensated than unscheduled injuries.

Our other findings with regard to equity of compensation include the following:

- Replacement rates are relatively equal across pre-injury wage groups, with the lowest replacement rate (40.2 percent) for workers with the highest pre-injury wages (top 20 percent of wages).
- Replacement rates are low (30.8 percent) for workers with disputed claims who compromise and settle their claims with a lump-sum payment, although this situation is relatively rare.

Table S-2

Comparison of Compensation for Unscheduled and Scheduled Injuries

	Earnings Losses	Proportional Earnings Losses	Total Indemnity	Replacement Rate Pre-Tax (After-Tax)
Unscheduled	$41,538	25.1%	$20,665	49.8% (64.4%)
Scheduled	$26,627	15.8%	$10,690	40.1% (52.2%)

- Less-severe claims, whether scheduled or unscheduled, have the lowest replacement rates.
- Proportional losses are highest in construction and health services, and replacement rates are lowest in manufacturing (36 percent) and health services (38 percent).

Comparing Permanent Partial Disability Across States

The workers' compensation programs in the states to which we compare New Mexico are different from New Mexico's program in many ways. Washington and Oregon have innovative programs that subsidize employers to encourage return to work. California uses a unique disability rating system that takes into account a doctor's recommendations of work restrictions and uses a detailed guide to occupations to adjust the ratings. Wisconsin pays significantly higher benefits when the time-of-injury employer does not offer re-employment to the injured worker.

The five states also differ in ways that are unrelated to the workers' compensation system. Most prominently, New Mexico has the lowest average wages. In addition, New Mexico has more workers in mining and construction and fewer in manufacturing. For this reason, we compare New Mexico with two different samples in each of the four other states. First, we compare New Mexico PPD claimants to all PPD claimants in the other states. This comparison answers the question, How does each state treat its own injured workers? Second, we construct a sample of claimants in the other states that is matched to the New Mexico PPD claimants by industry, pre-injury wages, and whether the employer is self-insured. Essentially, this comparison controls for some of the non-workers' compensation differences across states and answers the question, If the New Mexico claimants were injured in another state, would they have had better outcomes than they had in New Mexico?

Table S-3 reports the results of our cross-state comparisons. New Mexico has the third-highest proportional wage losses, higher than those in Washington and

Oregon, but lower than those in California and Wisconsin. The results are similar after controlling for differences across states in wages and industries. Of the five states, New Mexico has the highest pre-tax replacement rate for all PPD claimants (46.1 percent). After controlling for differences in wages and industries across states, New Mexico's replacement rate falls roughly in the middle of the five states.

Perhaps the most striking thing about Table S-3 is that no state replaces one-half of the earnings losses of PPD claimants over the ten years after injury. By the two-thirds standard that is common in the literature, these figures suggest that inadequate benefits for permanent disability claimants are endemic to workers' compensation.

Comparing Return to Work Across States

The New Mexico Workers' Compensation Act calls for providing injured workers with "the opportunity to return to gainful employment as soon as possible." To support this policy, the act specifically mandates that employers who are hiring offer jobs to injured workers.[1] It also requires employers to pay higher PPD benefits to workers who have not returned to work at or above their pre-injury wage. The act also provides incentives to workers by discouraging the practice of paying benefits in a lump sum. Finally, a 1990 amendment to the act ended the practice of paying TTD benefits after the date of MMI, thus increasing workers' incentives to return to work.

For the worker, the duration until return to work has important consequences. Delayed return can cause skills and work habits to depreciate over long time periods, leading to lower productivity and earnings. Long absences can induce employers to find replacements to maintain production. In addition, injured workers may become stigmatized and have a harder time finding employment.

Employers also experience negative effects from delayed return to work, including substantial adjustment costs to maintain an adequate workforce and increased workers' compensation payments (if the employer is self-insured) or higher insurance premiums.

[1] Although no data have been collected, failure to rehire has been raised in only fewer than 5 percent of cases, and fines are rarely imposed or suggested.

Table S-3

Cross-State Comparison of Proportional Losses and Replacement Rates

	Proportional Losses (%)		Pre-Tax Replacement Rates (%)	
	All PPD Claimants	New Mexico–Matched	All PPD Claimants	New Mexico–Matched
New Mexico	20.5	20.5	46.1	46.1
California	25.0	26.6	36.6	46.1
Oregon	19.8	19.8	42.4	43.0
Washington	16.5	19.0	40.6	53.5
Wisconsin	22.3	21.7	29.2	41.8

To measure return to work, much of the previous literature has used the time period from the date of the injury until the end of the TTD benefits period, an approximate estimate that more closely captures employer costs than a worker's economic circumstances. This estimate does not capture the worker's circumstances because TTD will end at the medically determined point of "maximum medical improvement" (MMI) in New Mexico whether the worker is employed or not at that point. For this reason, we use information on the timing of wages paid after the injury, rather than benefits paid, to determine a date of return to work.

The analysis of return to work in this study is extended to include not only PPD cases but also all TTD cases with at least eight days of lost time. We find that, in New Mexico, the duration of time off work depends in part on employer and worker characteristics. People working at self-insured employers have significantly shorter time-off-work durations than do workers at insured firms. Self-insured firms tend to be much larger than insured employers are, and as employment size increases from the smallest to the largest category, the median days off work (the time by which half of injured workers have returned to work) declines from 114 to 35. Age has the expected impact of increasing time off work, as older workers tend to take longer to heal. But this effect is offset by the fact that longer tenures reduce return-to-work durations. Continuous employment before the injury also reduces return-to-work durations. Gender, however, has virtually no impact on return to work.

Workers who return to the time-of-injury employer have considerably shorter durations off work. Half the workers returning to the at-injury employer returned within 34 days. However, return to work took 478 days for those who returned to a different employer.

Table S-4

Comparison of Median Time Off Work and Percentage Not Returning to At-Injury Employer

	Injury Years			
	1994–1996	1992–1993	1993–1994	1989–1990
	New Mexico	Oregon	Washington	Wisconsin
Median days off work after injury	77	39	45	41
Percent not returning to at-injury employer	32	16	27	16

When compared with three other states in this study, New Mexico had the highest median time off work, with half the workers not returning to work by 77 days after injury (see Table S-4).[2] For the next-highest state, Washington, the median was only 45 days. However, among those workers who returned to work at the at-injury employer, these dramatic differences virtually disappear (see Figure S-2). For those who did not return to the at-injury employer, New Mexico and Oregon are higher in terms of median days off work than are Washington and Wisconsin. Even for this group of workers—those who did not return to the at-injury employer—New Mexico is no longer an outlier. These results remain unchanged, even after controlling for interstate differences in earnings, industry, and self-insurance status.

The discrepancy in return to work between New Mexico and the other states is largely explained by the fact that injured workers in New Mexico are much less likely to return to the at-injury employer than are workers in the other states (see Table S-4). Return to the at-injury employer has a large impact on the duration off work and is much less frequent in New Mexico.

What causes the substantial disparities between New Mexico and other states in return to the at-injury employer? We do not know for certain, but differences among workers' compensation programs in these states may account for some of the disparities. Wisconsin, like New Mexico, obliges the at-injury employer to rehire injured workers, but Wisconsin enforces its laws and assesses penalties on employers who do not meet their obligation to rehire. Perhaps more important, Oregon's Employer-at-Injury program provides subsidies to employers who offer modified work to injured employees before they have fully recovered, and

[2]We do not include California in this comparison. Our California data, while very good for PPD claims, lack information on many TTD claims.

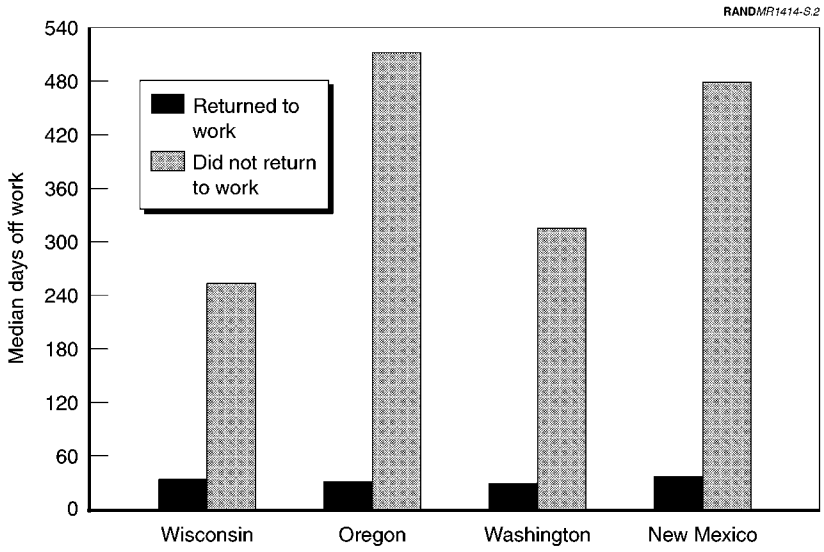


Figure S-2—Return to the At-Injury Employer and Time Lost from Work: New Mexico, Oregon, Washington, and Wisconsin

Preferred Worker Programs in both Oregon and Washington provide incentives to employers to hire workers who have received permanent disability benefits and cannot return to regular employment.

Conclusion

New Mexico's workers' compensation system was changed substantially in 1990. Today, it is one of the least litigious in the country, with some of the lowest employer costs, and also some of the highest profits for insurers. In this report, we examine the adequacy and equity of compensation for the most-severely injured workers—those with permanent partial disability claims. We also examine the duration until re-employment for all workers with lost-time claims.

Our primary findings are as follows:

Findings on Adequacy

- Partially disabled workers in New Mexico experience significant and sustained earnings losses. An average of $34,314 (or 21 percent of earnings) was lost over ten years.

- While policymakers ultimately determine the definition of adequacy, benefits are not adequate by the commonly cited standard of two-thirds pre-tax wage replacement—only 46.1 percent of losses are replaced.

Findings on Equity

- Scheduled injuries are less adequately compensated than unscheduled injuries.
- Higher-income claimants (the top 20 percent) have the lowest earnings loss replacement rates. The remaining 80 percent of claimants have relatively equitable replacement rates.
- Workers in the health care industry have notably high proportional losses and low replacement rates.

Findings on Cross-State Comparisons of Losses

- New Mexico's proportional losses fall in the middle of the five states. They are lower than the proportional losses in Washington and Oregon but higher than the proportional losses in California and Wisconsin.
- Without controlling for differences across states, New Mexico replacement rates are the highest.
- After controlling for differences, New Mexico replacement rates are in the middle.

Findings on Return to Work

- Time to return to work in New Mexico is much longer than it is in other states.
- Time to return to work in New Mexico remains longer after controlling for differences.
- New Mexico's longer time-off-work durations are related to less-frequent return to the at-injury employer.
- Active return-to-work programs in the more-successful states may account for their better return-to-work rates.

This study has three notable limitations. First, we did not have information on other benefits that could have been available to disabled workers, such as Social

Security Disability Insurance. Research that incorporates the total package of available social insurance programs may yield different results. Second, we did not examine implications of state differences in the fraction of workers receiving permanent disability benefits. California tends to pay PPD benefits to a larger fraction of injured workers (41 percent of lost-time cases in California compared with 26 percent in New Mexico). Therefore, some of the injured workers in California may be receiving greater compensation than they would if they had lived in New Mexico where they might receive only temporary disability benefits. Third, recent increases in benefits in New Mexico may have lessened some of the problems described in this report.

The reforms of New Mexico's Workers' Compensation Act of 1990 yielded many successful results. However, the findings of this study indicate the need for reforms that could improve outcomes for workers. We suggest that the State of Washington be examined as a successful case study. Washington gives adequate benefits and prompt return to work to workers, but is also a low-cost state for employers. Oregon is also relatively successful in its return-to-work and compensation programs. Finally, further benefit increases may be warranted, particularly those targeted at workers with scheduled injuries.

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Acronyms

AMA	American Medical Association
CHSWC	California Commission on Health and Safety and Workers' Compensation
EAIP	Employer-at-Injury Program
EAN	Employer account number
F.I.R.E.	Financial, insurance, and real estate
MMI	Maximum medical improvement
NCCI	National Council on Compensation Insurance
NIOSH	National Institute for Occupational Safety and Health
NMDoL	New Mexico Department of Labor
NMWCA	New Mexico Workers' Compensation Administration
PPD	Permanent partial disability
PTD	Permanent total disability
PWP	Preferred Worker Program
SAWW	State Average Weekly Wage
TPD	Temporary partial disability
TTD	Temporary total disability
UI	Unemployment insurance

1. Introduction

In every state in the United States, permanent disability benefits are a source of great controversy. In New Mexico, permanent disability was redefined several times during the late 1980s as the New Mexico legislature sought to ensure fair compensation for disabled workers, while at the same time avoiding the creation of an overly expensive workers' compensation system for employers. During this period, workers' compensation costs continued to escalate until 1990, when the state legislature passed significant changes in workers' compensation, and in particular in the way in which permanent disability is compensated.

The system that emerged from the 1990 New Mexico legislation emphasized predictability and consistency of compensation, and sought to encourage return to work and discourage reliance upon workers' compensation benefits. As stated explicitly in the statute, it is the policy of the 1990 act that "every person who suffers a compensable injury with resulting permanent partial disability (PPD) should be provided with the opportunity to return to gainful employment as soon as possible with minimal dependence on compensation awards" (N.M. Stat. Ann. Section 52-1-26 [A]).

For many system participants, New Mexico is a workers' compensation success story since the 1990 reforms. Employer costs are among the lowest of those in all states in the country, as measured by premium-per-$100-of-payroll (Oregon Department of Consumer and Business Services, 2001). In addition, New Mexico workers' compensation is a very profitable environment for insurers, according to the National Council on Compensation Insurance (NCCI).[1] The system is also among the least litigious in the country,[2] with attorney involvement in workers'

[1] In 1999, New Mexico had the lowest ratio of total losses to premiums of all 38 NCCI states. This measure is referred to as the *combined loss ratio*, and is a strong indicator of a profitable insurance environment. This information is taken from a presentation by NCCI to the New Mexico Workers' Compensation State Advisory Forum on June 6, 2001.

[2] In 1994, approximately 7.5 percent of lost-time claims reported payments for claimant's attorney fees to the New Mexico Workers' Compensation Administration (NMWCA). An alternative way to measure attorney involvement is available by combining claims data with information on whether a case was contested. We estimate that in 1994 approximately 12.5 percent of lost-time cases were contested and report attorney information on the court record. We estimate that between 23 and 32 percent of 1994 permanent partial disability and lump-sum claims have attorney involvement (depending upon the method used to estimate attorney involvement).

compensation lost-time claims at approximately one-half the national average, according to NCCI.[3]

This report examines outcomes for injured workers in New Mexico. It describes lost earnings and the adequacy and equity of benefits for workers with PPD claims, and goes on to describe the return to work of all workers in New Mexico. The results for New Mexico are compared with those for four other states: California, Wisconsin, Washington, and Oregon.

In Chapter 2, we provide background on workers' compensation in New Mexico. Chapter 3 describes the methodology for measuring earnings losses of PPD claimants and evaluating adequacy and equity of benefits. Chapters 4 and 5 provide our results on earnings losses and replacement rates for New Mexico, with our overall estimates in Chapter 4 and our results for various injured worker subgroups in Chapter 5. Chapter 6 compares PPD outcomes in New Mexico with the results for the other states. Chapter 7 examines return to work and return to the at-injury employer in New Mexico for all lost-time claimants, along with comparisons with the other states, and Chapter 8 offers our conclusions.

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[3]This information was presented by NCCI to the New Mexico Workers' Compensation State Advisory Forum on June 6, 2001.

2. Background on Workers' Compensation in New Mexico

In this report, we evaluate permanent disability with reference to objective standards of adequacy used in the literature (Johnson, Cullinan, and Curington, 1978; Berkowitz and Burton, 1987; Biddle, 1998a, 1998b; Biddle, Boden, and Reville, 2001; Boden and Galizzi, 1999a, 1999b; Reville, 1999; Reville et al., 2001; and Reville and Schoeni, 2001). In addition, we compare New Mexico with four other states. However, in many ways, the expectations of adequacy and fairness depend upon the experiences of participants in the workers' compensation system in New Mexico, which are shaped by the history of the system. We therefore begin with a discussion of the history of the approach to workers' compensation and permanent disability in New Mexico.

History of Permanent Disability in New Mexico Workers' Compensation

In 1965, the 1959 Workers' Compensation Act was amended to define a worker with "total disability" as a worker who was "wholly unable to perform the usual tasks in the work he was performing at the time of his injury, and is wholly unable to perform any work for which he is fitted by age, education, training, general physical and mental capacity, and previous work experience" (Ewart, Steinman, and Robbs, 1990, pp. 472–473).[1] "Partial disability" was defined similarly, also under the 1965 amendment, except that the word "wholly" was replaced with "to some percentage extent" (Ewart, Steinman, and Robbs, 1990, pp. 472–473).[2] At that time, New Mexico had no separate workers' compensation courts. Disputes over the "percentage extent" of disability were decided in the civil courts, and, in part due to this broad definition of disability, disputes were common (New Mexico Workers' Compensation Administration, 1996).

In 1986, the New Mexico legislature amended the Workers' Compensation Act. The 1986 amendment included new definitions of "permanent total disability," "temporary total disability," and "partial disability," each of which required that

[1] Act approved April 2, 1965, Ch. 295, Sec. 18, 1965 N.M. Laws 945–55 (codified at N.M. Stat. Ann Sec. 59-10-12.18 [1953]).

[2] Act approved April 2, 1965, Ch. 295, Sec. 19, 1965 N.M. Laws 955 (codified at N.M. Stat. Ann Sec. 59-10-12.19 [1953]).

a date of maximum medical improvement (MMI) be established (Ewart, Steinman, and Robbs, 1990, pp. 472–473). In addition, the New Mexico Workers' Compensation Administration (NMWCA) was created, which included, among other things, administrative law courts for workers' compensation outside of the civil courts.

The 1986 amendment redefined partial disability in order to reduce subjectivity in the definition and thereby reduce disputes. In particular, partial disability was redefined to be the following:

> [A] permanent physical impairment to a workman resulting from an accidental injury arising out of and in the course of employment, whereby a workman has any anatomic or functional abnormality existing after the date of maximum medical improvement as determined by a medically and scientifically demonstrable finding as presented in the American Medical Association's guide to the evaluation of permanent impairment, copyrighted 1984, 1977 or 1971, or comparable publications by the American Medical Association (Ewart, Steinman, and Robbs, 1990, p. 473).[3]

In 1987, the definitions established by the 1986 act for the three categories of disability were again modified by the New Mexico legislature. Effectively, the definitions reverted to the pre-1986 definitions of partial and total disability, except for the fact that the loss (or loss of use) of two body parts from a schedule of body parts constituted total disability and the hearing officer could determine the percentage of disability that would exist with vocational rehabilitation (Ewart, Steinman, and Robbs, 1990, p. 472).[4]

The late 1980s were a time of rising workers' compensation costs in New Mexico (as in other states). In response, the New Mexico legislature in 1990 again significantly restructured the workers' compensation system. Among other changes, the Workers' Compensation Act was amended again with respect to defining "disability." Under the 1990 amendment, the definition of permanent total disability (PTD) was changed (Ewart, Steinman, and Robbs, 1990, pp. 853–854).[5] This new definition included the loss of two bodily members, but without consideration for the worker's ability to earn a post-injury living (Brooks, Demoro, and Reilly, 1992, p. 854). This change sharply limited the number of PTD cases in New Mexico. From 1994 through 1998 (the period covered by our data as described Chapter 4), there were only 126 PTD cases. The 1990

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[3]Act approved Feb. 21, 1986, Ch. 22, Sec. 5, 1986 N.M. Laws 525, 529-30 (codified at N.M. Stat. Ann. Sec. 52-1-26 [Cum. Supp. 1989]).

[4]N.M. Stat. Ann. Sec. 52-1-25 (B) (Repl. Pamp. 1987).

[5]N.M. Stat. Ann. Sec. 52-1-25.

amendment also increased the duration of total disability benefits from the prior limit of 700 weeks to the lifetime of the worker.

Finally, the 1990 amendment modified the definition and computation of PPD benefits. This definition continues to be used today.

How Permanent Partial Disability Benefits Are Determined

The amount a worker receives per week depends upon the *compensation rate,* which is currently two-thirds of pre-injury wages up to a maximum of the State Average Weekly Wage (SAWW) (Section 52-1-20 of the Workers' Compensation Act). The maximum was recently raised from 85 percent of the SAWW, and the analysis in this report uses data on workers who received the old maximum. PPDs receive a percentage of the compensation rate for a fixed number of weeks. The determination of the percentage and the number of weeks depends upon the type of injury, the difference between the current wage and the pre-injury wage, and a number of other factors. In this chapter, we describe the determination of these factors.

PPDs are divided into two categories: *whole body injuries* and *scheduled injuries.* Scheduled injuries are injuries to particular body parts that will result in benefits for a specified number of weeks (Section 52-1-43 of the Workers' Compensation Act lists the scheduled injuries). All other injuries are *unscheduled,* or "whole body," injuries. They consist primarily of injuries to the head, neck, and back. Effectively, the distinction between scheduled and whole body injuries creates two completely different systems for compensating permanent disability. In later chapters, we show that the adequacy and equity of the two systems differ.

Determining Benefits for Whole Body Injuries

Workers with whole body injuries receive a percentage of the compensation rate on a weekly basis for a fixed number of weeks. The percentage depends upon whether the worker earns less than his or her pre-injury earnings and depends upon his or her impairment, as measured by the American Medical Association (AMA) *Guides to the Evaluation of Permanent Impairment.* If the worker earns less than his or her pre-injury earnings, the percentage also depends upon a set of "modifiers," which are intended to target benefits to workers who have the most difficulty obtaining post-injury employment.

Four modifiers are applied to the AMA rating: age, education, skills, and physical capacity. Points are assigned for workers with particular characteristics, and the points are combined according to rules laid out in Section 52-1-26 of the Workers' Compensation Act. The age modifier increases benefits after age 45, with additional increases for every five years of age thereafter through age 60 and older (Section 52-1-26.2 of the act). In the 2001 New Mexico State legislative session, benefits were increased for older workers by increasing the points associated with the age modifier. The education modifier, which was also increased during the 2001 legislative session, assigns higher points for workers with less education (Section 52-1-26.3). The modifier for skills is based on the vocational skills that would have been acquired in the jobs held by the worker over the ten years prior to injury. A worker with more vocational preparation is awarded fewer points than a worker with less (Section 52-1-26.3 [C] [1–4]). Finally, the physical capacity modifier is intended to measure the loss in physical capacity following injury. The larger the difference between the physical capacity necessary to perform the worker's usual and customary work and the worker's residual physical capacity (based on a table that categorizes the physical capacity in terms of lifting, walking, and standing [Section 52-1-26.4]), the more points are awarded.

The number of weeks that the benefits are paid depends on the disability rating, according to the following formula: If the disability rating is *less than* 80 percent, the worker receives benefits for a maximum of 500 weeks, including the weeks when the worker received temporary total disability (TTD) benefits (Section 52-1-42 [A] [2]). The vast majority of cases qualify for 500 weeks. If the disability rating is *more than* 80 percent, the worker receives benefits for a maximum of 700 weeks (Section 52-1-42 [A] [1]). Injured workers who receive a disability rating of more than 80 percent usually have a very serious disability and are not likely to be able to obtain a new job that is comparable to their pre-injury job.

Primary mental impairment benefits are paid at a maximum duration of 100 weeks; for secondary mental impairments, benefits would extend for the duration required by any other physical disability, or for 100 weeks, whichever is greater (Sections 52-1-42 [A] [3] and 52-1-42 [A] [4]).

Determining Benefits for Scheduled Injuries

If a specific body part of a worker (such as a hand, finger, arm, or foot) or one of the senses (such as sight or hearing) is subject to permanent loss of use (or long-term loss of use), then the worker has suffered a "scheduled injury" (Section 52-1-43). Unlike with unscheduled injuries, returning to work after MMI has no

effect on the size of the benefit. The schedule determines the number of weeks that workers with complete loss of use of a particular bodily member receive benefits, ranging from seven to 200 weeks at the full compensation rate (Section 52-1-43 [A]). Partial loss of use reduces the weekly payment to some percentage of the compensation rate. The payment for scheduled injuries begins at the end of the period of temporary disability. In cases of amputation, the workers' compensation judge has the discretion to award compensation for a longer period than that specified in the schedule (Section 52-1-43 [C]).

Since 1990, one court case in particular has had bearing upon benefits paid in scheduled injuries and is worthy of mention—*Lucero v. Smith's Food and Drug Centers, Inc.* (118 N.M. 35, 878 P2d 353, 1994). In that case, the New Mexico Court of Appeals ruled that partial loss of use for scheduled injuries does not need to be calculated using the AMA Guides. Representatives of claimants and insurers seem to agree that this case has increased subjectivity in the determination of compensation for scheduled injuries and also increased the amount of benefits paid. Naturally, claimants' attorneys and insurers disagree about whether this is a good thing.

Payment of Benefits in Lump Sums

It is the stated policy of the State of New Mexico, according to the Workers' Compensation Act, that the best interests of the injured worker are met when benefits are paid on a periodic basis (Section 52-5-12). As such, *lump-sum* payment of benefits is allowed in two circumstances: (1) when a worker has returned to work for at least six months and has earned at least 80 percent of his or her average weekly wage at the time of injury, or (2) (on approval by the compensation judge) for the purpose of paying debts accumulated during disability (Section 52-5-12) and in an amount that is sufficient for this purpose only.[6]

In addition, some disputed cases are settled with a lump-sum payment, although not all judges approve of this practice.

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[6]Compensation benefits of less than $25 per week can be consolidated in quarterly installments, and compensation arising from primary or secondary mental impairments will not be paid as a lump sum (Section 52-5-12 [E] [F]).

Features of the Workers' Compensation Act Encouraging Return to Work

The New Mexico Workers' Compensation Act specifically calls for "return to gainful employment" as quickly as possible:

> As a guide to the interpretation and application of this section, the policy and intent of this legislature is declared to be that every person who suffers a compensable injury with resulting permanent partial disability should be provided with the opportunity to return to gainful employment as soon as possible with minimal dependence on compensation awards (Section 52-1-26 [A]).

In addition, it is stated policy in the New Mexico Workers' Compensation Act that a recipient of compensation benefits, including wages and benefits from the recipient's employer, should not receive more in compensation benefits than he or she would have received from working (Section 52-1-47.1).[7] This policy statement by the New Mexico legislature provides a clear example of the intent that the compensation system should not provide incentives to remain off work by paying the worker more than his or her pre-injury wage. This policy to motivate the worker to return to work is reinforced by the statement in the act that it is in the "best interests" of the injured worker that benefits should not be paid in a lump sum (Section 52-5-12 [A]). With a lump-sum payment, at least for some period of time, it may not be necessary to supplement workers' compensation with wages from work. Discouraging lump-sum payments presumably encourages workers to maintain their attachment to the labor force. In the remainder of this chapter, we describe some additional aspects of the workers' compensation system in New Mexico that are intended to encourage post-injury employment.

Section 52-1-50.1 ("Rehiring of injured workers") of the New Mexico Workers' Compensation Act provides that if the worker's pre-injury employer is "hiring," that employer "shall offer to rehire" a worker with a compensable injury who applies for the injured worker's pre-injury job (or a modified job similar to his or her pre-injury job) (Section 52-1-50.1 [A]). This requirement is conditioned on the availability of the pre-injury (or modified) work and a release by the worker's health care provider (Section 52-1-50.1 [A] [1] [2]). In addition, if the employer is hiring, the employer "shall offer to rehire" a worker with a compensable injury who applies for any job that pays less than his or her pre-injury wage, provided the worker is qualified and his or her health care provider certifies that the

[7]There is an equivalent statute for workers who are receiving benefits under the New Mexico Occupational Disease Disablement Law (Section 52-3-45.4).

worker is able to perform the job (Section 52-1-50.1 [B]). A fine may be imposed for a violation of this section of the act (Sections 52-1-50.1 [D] and 52.1.61, New Mexico Statutes Annotated, 1978). An equivalent statute under the act provides for the rehiring of disabled workers for those workers who have received, or are due, benefits under the Occupational Disease Disablement Law (Section 52-3-49.1). However, whereas no systematic data are collected on this, discussions with NMWCA staff indicate that the issue of failure to rehire is raised in less than 5 percent of cases that reach mediation, and fines are rarely imposed or even suggested.

Section 52-1-25.1 of the New Mexico Workers' Compensation Act, titled "Temporary total disability; return to work," provides that the injured worker is no longer entitled to temporary total benefits if, prior to reaching MMI, the injured worker is released to return to work and his or her employer offers work at his or her pre-injury wage (Section 52-1-25.1 [B]). Thus, the act provides an incentive for return to work by immediately discontinuing financial benefits once the worker is able to work. Should the offer of work be for less than the worker's pre-injury wage, the act provides an incentive to return to work by providing two-thirds of the difference between the worker's pre-injury wage and a lower post-injury wage (Section 52-1-25.1 [C]).

The enactment of this provision, which was part of the New Mexico legislature's 1990 amendment to the act, indicates the intent of the legislature to motivate employers to offer employment to the injured worker, albeit with the burden of proving that the worker has been released to work and that the employer made a valid offer of employment (Section 52-1-25.1; Brooks, Demoro, and Reilly, 1992, p. 853). This is a departure from the 1986 act, in which an employee who was capable of returning to light-duty work at a pre-injury wage could still collect temporary total benefits prior to the date of MMI (Brooks, Demoro, and Reilly, 1992, p. 853, citing *Urioste v. Sideris*, 107 N.M. 733, 737, 764 P2d 504, 508 [Ct. App. 1988]).

The calculation of PPD benefits under the act (Sections 52-1-26 and 52-1-26.1) also arguably provides an incentive for injured workers to return to work. The PPD calculation in New Mexico provides a smaller permanent partial award if the injured worker is younger, better educated, and has a higher physical capacity level. By providing fewer PPD benefits to injured workers who are presumably more capable of returning to work (that is, workers who are younger, better educated, and have greater residual capacity), the act makes these workers more motivated to return to work to earn additional money (Sections 52-1-26.2, 52-1-

26.3, and 52-1-26.4).[8] This calculation differs from the calculation of PPD under the 1987 act, which relied on a theory of "impairment of earning capacity" (Brooks, Demoro, and Reilly, 1992, p. 854).

Finally, the modifier system discussed in this chapter provides an incentive to employers to offer post-injury employment at or above the pre-injury wage to avoid having to pay the higher benefits associated with applying the modifiers.

[8]Alternatively, it may be argued that a worker who, by virtue of his or her age, education, and physical capacity, may accumulate so many points that the worker's disability income might exceed his or her pre-injury wage, thereby creating a *disincentive* to return to work (Brooks, Demoro, and Reilly, 1992, p. 856).

3. Measuring Earnings Losses and Replacement Rates

The goal of our analysis is to measure the adequacy and equity of workers' compensation benefits for workers with permanent disability claims. In order to accurately measure adequacy, the benefits received must be compared with some estimate of earnings losses from a permanently disabling workplace injury. These losses can be thought of as twofold: the lost earnings while an injured worker is out of work and receiving temporary disability benefits, and the additional losses associated with the permanent residual impairment that qualifies the worker for permanent disability benefits.

We choose the replacement of earnings losses as our standard for measuring the adequacy of permanent disability compensation because it is the most straightforward way to measure the concept of work disability. This standard is an extension of the standard for measuring adequacy for temporary disability benefits, and earnings loss is most likely the largest component of the economic losses experienced by disabled workers and therefore a reasonable target for compensation. At the same time, this standard has some limitations.

First, the New Mexico Workers' Compensation Act does not define disability as "earnings loss" but rather as "impairment" (Section 52-1-26[B] of the act), with the latter defined according to the latest version of the American Medical Association *Guides to the Evaluation of Permanent Impairment* (Section 52-1-24). Whereas earnings loss may be a closer proxy for the concept of disability than are the ratings in the AMA Guides, earnings loss is not identified by the workers' compensation statute as an intended target for compensation. However, we expect that the AMA Guides were adopted more for their administrative appeal and predictability than for their quality as a rigorous measure of work disability. Later in this chapter, we examine the quality of the prediction of earnings loss provided by the AMA Guides.

Second, earnings losses do not capture the full range of losses associated with a permanent disability that results from a work injury. For instance, earnings losses do not capture the loss of quality of life, the inability to perform household or leisure activities, chronic pain or discomfort, or other potential consequences from serious injuries. However, these noneconomic losses are harder to quantify. In addition, the workers' compensation system is typically described as a system

whereby workers trade compensation for noneconomic losses for the right to have prompt compensation for economic losses and medical care on a no-fault basis.

Despite these limitations, we still believe that earnings losses are the best measure of the impact of a disabling workplace injury for the purpose of evaluating the adequacy of benefits.

To help illustrate our approach to estimating losses,[1] Figure 3-1 presents hypothetical losses from a permanently disabling workplace injury. The dotted line in the figure represents potential uninjured earnings, or the earnings the worker would have received if the injury had not occurred. This line moves upward with time to represent the increased earnings associated with increasing experience in the labor market or increasing tenure at the employer. The solid lines in the figure represent the observed earnings of the injured worker. At the time of injury, the worker receives no earnings for some time while recovering from the injury. This is the period during which temporary disability benefits are received.

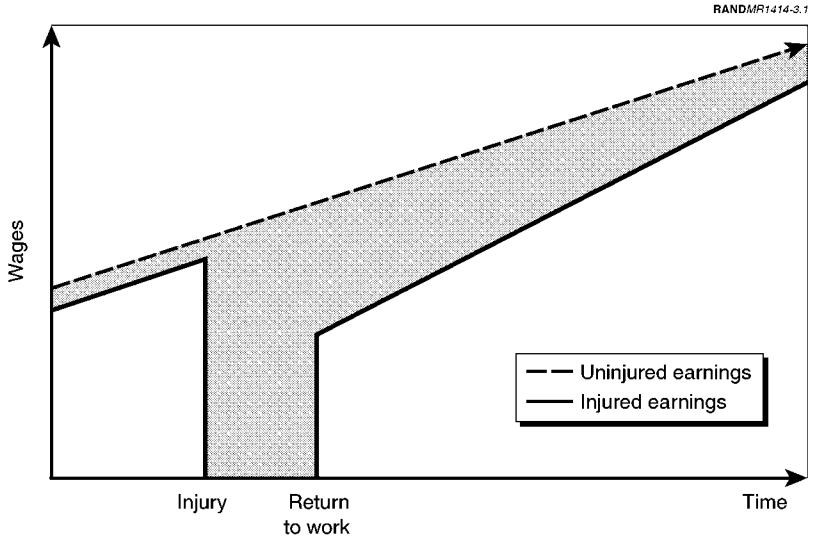

Figure 3-1—Hypothetical Effect on Earnings After a Workplace Injury

[1]The estimation approach was developed in previous research and has been documented in several publications. It was first developed in Peterson et al. (1998), with some refinements in Reville (1999). It was also applied and extended in Reville et al. (2001) and Reville and Schoeni (2001). Further information on the estimation is available from these documents.

At some point, the worker returns to work, perhaps in some modified capacity. In the example in Figure 3-1, the worker returns at a wage that is lower than what he or she received prior to injury. We then observe the worker's wages increasing over time and converging toward the wages that would have been received had he or she not been injured. This convergence represents "recovery." However, in this example, we do not observe full wage recovery, and at the end of the observed period, the worker makes more than he or she made prior to injury, but not as much as what would have been made if he or she had not been injured.

The shaded area in the figure represents the total lost earnings over the period after the injury. Estimating the size of this area and determining what fraction is replaced by workers' compensation benefits are the goals of our analysis.

Whereas wages received while the claimant is injured are readily observable (see the solid line in Figure 3-1), the challenge in estimating earning losses lies in estimating the uninjured earnings, which are represented by the dotted line in the figure. At an administrative level, workers' compensation programs must also estimate uninjured earnings when setting benefits and typically use the pre-injury earnings to do so.

The pre-injury wage is not a satisfactory proxy, however, particularly when estimating the long-term consequences of permanent disabilities. First, without the injury, the worker may have experienced wage growth over time, which the pre-injury earnings will not measure. Figure 3-1 illustrates the fact that while the injured worker soon exceeds pre-injury earnings, his or her earnings nevertheless fall below what he or she would have made had the injury never occurred. Second, if the injury had not occurred, it is possible that the injured worker would have been unemployed or exited the workforce for various reasons. One cannot assume that the injured worker would have earned the equivalent of the pre-injury earnings in every post-injury earnings period.

Instead of using pre-injury earnings, we estimate uninjured earnings in the post-injury period using the earnings of a comparison (control) group. This approach draws its inspiration from the training program evaluation literature (Dehejia and Wahba, 1999; Heckman and Hotz, 1989; Holland, 1986; and Lalonde, 1986). The control group consists of workers who were similar to the injured workers with respect to demographic and economic characteristics, but did not experience a workplace injury during the time period under examination.

For the comparison group measured against workers injured in New Mexico, we selected up to five workers at the same firm who had earnings that were closest to the injured worker's over the year prior to injury. We evaluated match quality

by examining the difference between the earnings of comparison and injured workers during the two to five years prior to injury (this evaluation is further illustrated in Chapter 4). We found that this approach to selecting comparison workers yielded very high-quality matches.

In each quarter after injury, we calculated the difference between the injured worker's earnings and the average earnings of the worker's comparison group. This gave us the estimate of earnings loss in that quarter. For five-year earnings losses for a particular individual, we summed the earnings losses in the quarter of injury and 20 quarters thereafter. The following describes this approach formally.

Let y_t^I represent the injured worker's earnings (where I denotes "injured" and t denotes "time from the injury"). Let y_t^U represent the comparison worker's earnings (where U denotes "uninjured"). We estimated y_t^U using the average earnings of n comparison workers for that individual injured worker, where n is between 1 and 5, depending upon the number of available comparable uninjured workers at the injured worker's employer. For any individual, the undiscounted earnings loss between the time of injury, which we denoted as $t = 0$, and some future date, T, is shown in Equation 3-1.

Equation 3-1

$$\text{earnings loss} = \sum_{t=0}^{T} (y_t^U - y_t^I)$$

To produce a single earnings loss estimate for the sample, we averaged the quantity in Equation 3-1 across all injured workers.

In many cases, we were interested in estimating proportional earnings losses, or that fraction of potential uninjured earnings that an injured worker loses over a period of time. Normalizing earnings losses by what the individual would have made facilitates comparison over time when average earnings may be growing. It also allows comparison across firms that have different average earnings, such as firms within different industries or in different states. Proportional earnings losses are estimated as earnings losses divided by the total earnings received by the comparison group, as shown in Equation 3-2.

Equation 3-2

$$\text{proportional earnings loss} = \frac{\sum_{t=0}^{T}(y_t^U - y_t^I)}{\sum_{t=0}^{T} y_t^U}$$

We also estimated replacement rates of lost earnings, or the fraction of losses replaced by workers' compensation benefits. The benefits included in this calculation are temporary partial disability (TPD), TTD, PPD, and lump-sum payments.[2] Because we observed only benefits paid on a claim and reported to the NMWCA by the end of 2000, but based the estimated losses on a particular time period that may be shorter or longer than the time period over which benefits are paid, we adjusted the benefits to reflect the same time period during which the losses were calculated. This adjustment is discussed further in Chapter 4.

We measure replacement rates by dividing benefits by earnings losses. Formally, let b_t denote the benefits paid to an individual in period t; the replacement rate is then defined as shown in Equation 3-3.

Equation 3-3

$$\text{replacement rate} = \frac{\sum_{t=0}^{T} b_t}{\sum_{t=0}^{T}(y_t^U - y_t^I)}$$

Because workers' compensation benefits are untaxed and earnings are taxed, we also report a simulated after-tax estimate of the replacement rate. This estimate is based on an estimate of family earnings given individual earnings and calculated using the U.S. Census Bureau's Current Population Survey. Taxes are calculated using estimates of average tax rates, including federal income taxes and social insurance (Medicare and Social Security), drawn from a report by the Congressional Budget Office (1998), and New Mexico income taxes drawn from a report by the Citizens for Tax Justice (Ettlinger et al., 1996).[3]

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[2] Salary continuance, which is taxable, is typically reported to the New Mexico Department of Labor as wages and therefore is included in the estimates as reduced wage loss.

[3] For details in the tax calculation, contact Robert Reville at RAND at the email address or phone number listed in the Preface.

Policymakers ultimately decide the definition of adequacy. The New Mexico statute, from which we would infer policymaker intent, does not define adequacy or set goals for wage replacement. Research on the adequacy of permanent disability benefits in other states (for example, Reville et al., 2001; Peterson et al., 1998; and Berkowitz and Burton, 1987) has suggested two-thirds wage replacement as the standard for adequacy of workers' compensation benefits. This choice is based upon an extension of the statutory goal for other indemnity benefits (TTD benefits, TPD benefits, and PTD benefits), where the legislative intent is most apparent.

Even given acceptance of a two-thirds standard, the period over which the two-thirds replacement rate is intended to apply may lead to different results. For instance, workers' compensation benefits may replace two-thirds of the first three or five years of losses, but fail to replace two-thirds of ten years of earnings losses, or losses over a lifetime. We report the replacement rates for five and ten years. In addition, in the same manner that we infer a replacement rate standard by extension of the TTD and PTD standard, it may be possible to infer the intent of policymakers by extension of the duration of benefits for unscheduled injuries, which is 500 weeks. We therefore sometimes refer to two-thirds replacement over the ten years after injury as "adequate."

The replacement rate, defined in Equation 3-3, provides a measure of adequacy, but when we compare injuries of varying severity to evaluate equity, reporting only the replacement rate may obscure considerable differences in *uncompensated wage losses*, or total losses after benefits. Formally, we define uncompensated wage loss as shown in Equation 3-4.

Equation 3-4

$$\text{uncompensated wage loss} = \sum_{t=0}^{T} \left(y_t^u - (y_t^I + b_t) \right)$$

For example, suppose a worker with a minor injury experiences losses of $90 and receives $30 in compensation, while another worker loses $90,000 and receives $60,000 in compensation. The first worker has a one-third replacement rate while the second has a two-thirds replacement rate. However, the first worker has uncompensated losses of $60 while the second has uncompensated losses of $30,000. We do not know of a standard to apply to evaluate uncompensated earnings losses, but we believe that policymakers will benefit from knowing both the replacement rates and uncompensated losses when considering a policy response to our findings.

4. Adequacy of Benefits: Results on Earnings Losses and Replacement Rates in New Mexico

In this chapter, we report our empirical results on overall earnings losses and replacement rates for PPD claimants in New Mexico. Initially, we discuss the impact of an injury on a worker's earnings and the estimates of lost earnings. After examining the losses, we investigate the extent to which those losses are replaced by workers' compensation benefits. Later, in Chapter 5, we examine losses and their replacement by workers' compensation benefits for different types of claims (such as claims for scheduled and unscheduled injuries), and differences in earnings losses and replacement rates owing to the severity of injury, pre-injury earnings, and employer characteristics. For a description of the data used for the analysis, see the Appendix.

In Figure 4-1, we show that permanent disability claimants have large and sustained earnings losses over the five years after injury. The figure shows the average earnings over the three quarters prior to injury and the 20 quarters following injury for 1,401 workers with injuries in 1994 who received PPD benefits. The earnings are the total earnings from employment reported to the New Mexico Department of Labor (NMDoL) in each quarter, including zero earnings for workers with no wages in New Mexico in that quarter. Workers' compensation benefits are not included in earnings.

The injured worker's average earnings in each quarter are noted in Figure 4-1 by the dashed line, with Quarter 0 being the quarter of injury. For example, for a worker injured in the first quarter of 1994, Quarter 8 is the fourth quarter of 1995 and Quarter –3 is the second quarter of 1993. The smaller dashed lines in the figure represent 95 percent confidence intervals for the average earnings estimates.[1]

The solid line in the figure shows the average earnings, over the same time period, of the injured workers' matched uninjured comparison workers. In the pre-injury quarters (–3 through –1), the earnings of the injured workers and their

[1]The narrow range of the confidence interval suggests that the numbers are precisely estimated. For this reason, we do not show confidence intervals in later figures in this report. We do, nevertheless, note when the sample size implies that the estimate may not be precise.

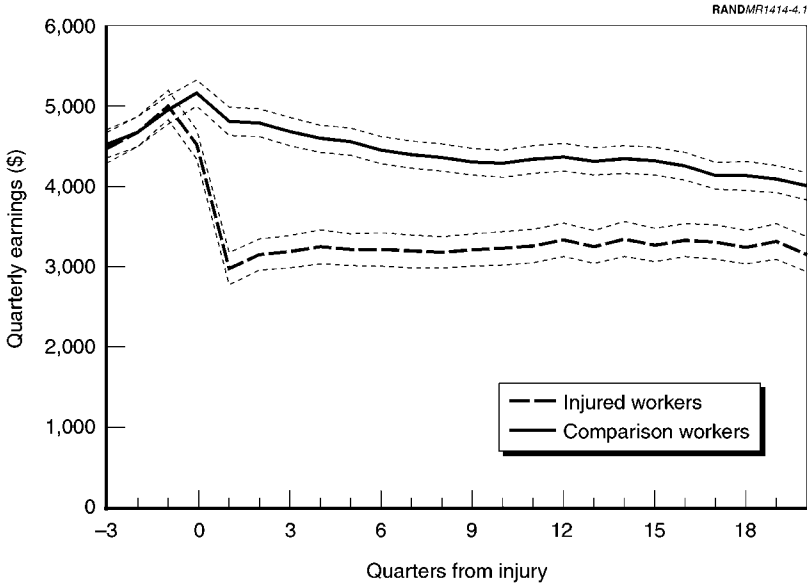

Figure 4-1—Earnings of Injured Workers with PPD or Compromise[2] and Comparison Workers, 1994 Injuries (with 95 percent confidence bounds)

comparison workers are the same—both are earning approximately $5,000 per quarter. This similarity exists because we selected comparison workers who had the same earnings (at the same firm) during the quarters prior to the injured worker's injury. In the quarters before injury, the earnings of the comparison workers increased, peaking in the quarter of injury, and then declined steadily throughout the period in which they are observed.

This pattern occurs because the injured and comparison workers were selected in Quarter 0. The injured workers were injured at work (and hence were working in the quarter), and the comparison workers were selected from among the injured worker's coworkers in that quarter (and therefore they were also working in that quarter). In every other quarter observed, some of the selected workers were not working and zero earnings will be averaged in for that worker, thereby reducing the average quarterly earnings. Therefore, Quarter 0 is the only quarter in which all workers have positive earnings. In every other quarter, some of the selected

[2]We refer to lump-sum settlements reported to the NMWCA as "compromises." Whereas lump sums are sometimes paid as advances on PPD claims, they are not reported to the NMWCA. The lump sums reported in the NMWCA data are for only those cases in which lump sums are paid to resolve disputes. In other words, the lump sum represents a "compromise" of the benefits to be paid to settle the case.

workers were not working and zero earnings will be averaged in for those workers, thereby reducing the average.

There are many reasons why an uninjured worker might not be observed with wages in the quarters before and after the quarter of injury. Before Quarter 0, in particular, the worker might have been attending school or staying at home to raise his or her children. After Quarter 0, the worker might have retired. Missing wages might also reflect those who are working outside the Unemployment Insurance (UI) covered sector, such as self-employed workers or federal employees. Some workers might also be living outside of their home state, or might even be working outside of the state.

As Figure 4-1 shows, in Quarter 0, the earnings of the injured worker drop below the earnings of the comparison workers, and then drop precipitously in the quarter after injury to less than $3,000.[3] Because the comparison worker's earnings reflect all the various reasons why some workers choose not to work that are unrelated to injury, the difference between the earnings of injured workers and those of comparison workers shown in Figure 4-1 reflects the impact of the injury. The reduction in average earnings following injury is sustained, so that by the end of 20 quarters after injury and presumably beyond, we continue to observe differences in the earnings of injured workers and comparison workers. However, the size of the difference declines somewhat with time (reflecting some recovery, as discussed earlier). Three years after injury, the injured worker continues to earn more than $1,000 less on average per quarter than the comparison worker. In the last observed quarter, 20 quarters after the quarter of injury, injured workers earn on average more than $700 less than the comparison workers do.

By comparing the earnings of the comparison workers and those of the injured workers over the years prior to injury, it is possible to evaluate the quality of the comparison-worker approach. If over a few years prior to injury (and specifically prior to the four pre-injury quarters over which the earnings were matched) we find large differences between the two groups, it would suggest that the two groups would not have been similar after Quarter 0 if the injured workers had never been injured, therefore making the comparison workers inappropriate for the purposes of this study. In Figure 4-2, it is evident that the comparison workers are, in fact, appropriate. The figure shows the pre-injury earnings for workers with PPD claims in 1998 and the earnings of their comparison workers

[3]The size of the difference is far greater than the size of the 95-percent confidence interval surrounding the earnings estimates, which implies that the difference is statistically significant in every quarter after injury.

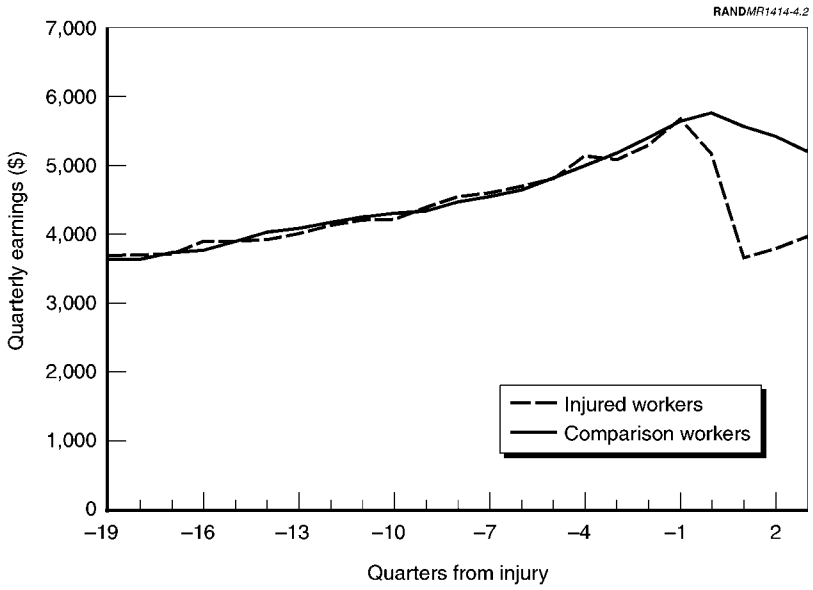

Figure 4-2—Earnings of Injured Workers with PPD or Compromise and Comparison Workers, 1998 Injuries

over the 19 quarters prior to injury. The difference between the two groups in quarterly earnings over the 19 pre-injury quarters is only $47. (The average difference in earnings from Quarter –5 to Quarter –19 is only $7.)

Figure 4-3 separates compromises from PPD claims and includes other types of injured workers. Specifically, Figure 4-3 examines the earnings losses for four types of injured workers in 1994: PPD, lump sum (or compromise) apart from PPD, temporary-disability-only, and medical-only. In the figure, the earnings of the injured workers are expressed as a proportion of the earnings of the uninjured comparison workers, a measure of earnings loss that we refer to as "relative earnings." In other words, in each quarter, relative earnings are calculated by dividing the earnings of the injured workers (as shown in Figure 4-1) by the earnings of the comparison workers. When the earnings are the same, this proportion is equal to one, which is true for all injury types prior to injury. We interpret this proportional number as the fraction of what the injured worker would have earned if he or she had never been injured. We are able to calculate this number for all injured workers in the NMWCA database.

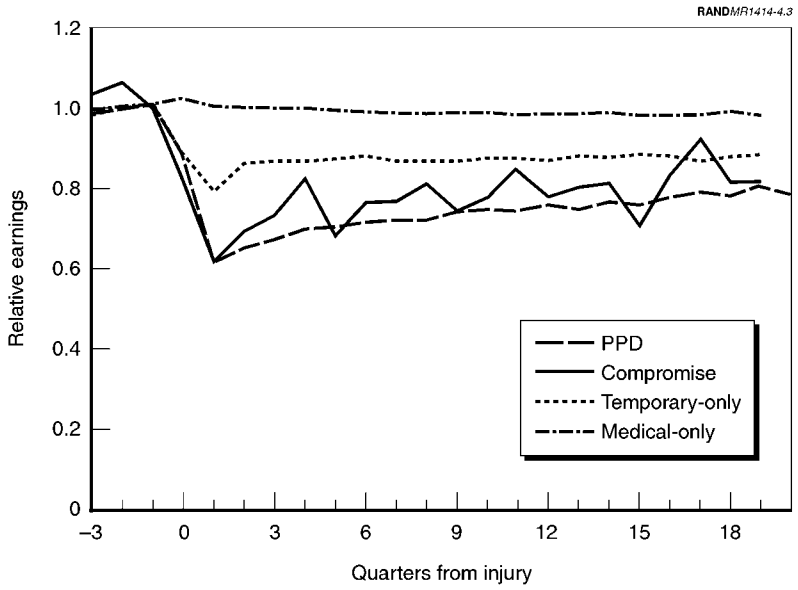

Figure 4-3—Injured Worker Earnings as a Proportion of Comparison Worker Earnings

After injury, the medical-only claimants in 1994 continued to have relative earnings equal to one, so that no continuing losses are observed for medical-only claimants. The result was not necessarily certain to be observed if, for instance, the medical-only claimants included a large number of disputed, although serious, claims for which medical care was paid but indemnity denied. However, this does not appear to be the case.

As shown in Figure 4-3, temporary-only claimants on average experience large and sustained earnings losses in New Mexico. In the quarter after injury, they experience earnings that are 80 percent of their comparison workers' earnings. In subsequent quarters, temporary-only claimants' relative earnings increase but never reach more than 90 percent of the comparison earnings. The return to work and subsequent employment patterns of temporary-only claimants are not examined in detail in this report. We do, however, note that Figure 4-3 suggests that sustained losses are experienced by at least some temporary-only claimants, as was observed in the State of Washington by Biddle (1998a) and in Wisconsin by Boden and Galizzi (1999a).

The largest proportional losses are experienced by PPD claimants/compromise recipients. The relative earnings of both groups are approximately 60 percent in the second quarter after injury. The relative earnings increase to 80 percent for

both groups by the end of the observed period (20 quarters). The higher volatility of the estimates for compromise recipients (shown in Figure 4-3) is explained by the considerably smaller number of claimants, which makes precise estimation more difficult.

As part of our investigation of the patterns of post-injury employment of PPD claimants, Figure 4-4 reports the fraction of claimants, with PPD claims or compromises resulting from 1994 injuries, working before and after injury compared with the fraction of comparison workers who were working during the same period.

The fraction working in Quarter 0 is 1.0 for both injured workers and comparison workers. In the quarters before and after injury, the fraction working declines for both groups of workers. Before Quarter 0 for both groups, and after Quarter 0 for the comparison workers, the decline in the fraction working reflects the various reasons why, other than injury, individuals may leave the workforce. The decline in the fraction of injured workers working after Quarter 0 is larger than the decline in the fraction of comparison workers working. This reflects the impact of the injury. In every quarter after injury, a smaller fraction of injured workers

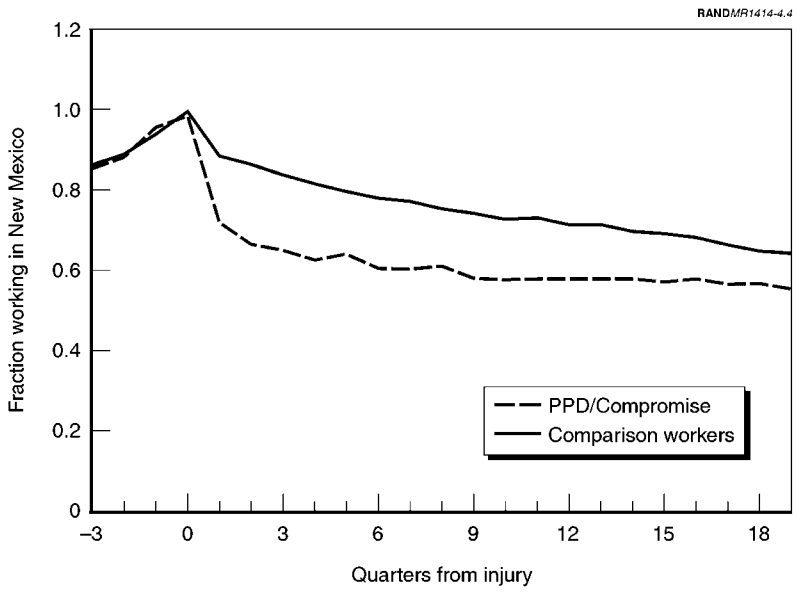

Figure 4-4—Fraction of PPD Claimants/Compromise Recipients and Comparison Workers Who Are Working, 1994 Injuries

than comparison workers are at work. In the second quarter after the quarter of injury, the difference is at its largest, with 87 percent of comparison workers and only 67 percent of injured workers at work. The difference lessens with time from injury, but still remains at the end of the observed period. After 19 quarters, 56 percent of injured workers are working, whereas 65 percent of their comparison workers are working.[4]

The final graphical results we report in this chapter are patterns of retention at the at-injury employer for PPD claimants or compromise recipients, who experienced injuries in 1994, and comparison workers. Figure 4-5 shows the fraction of those who are still observed working who are retained by the at-injury employer. As the figure shows, if workers continue to work, which they are less likely to do than their comparison workers (see Figure 4-4), by five quarters after injury they are less likely to work at the at-injury employer. By 19 quarters after injury, 35 percent of injured workers who are at work are still working for the at-injury employer. In contrast, 45 percent of their comparison workers continue to work for the at-injury employer.

Table 4-1 shows cumulative earnings losses for five injury years, 1994 through 1998. Because data are available only through the third quarter of 1999, three-quarters of post-injury earnings are available for 1998, 11 quarters for 1996, and 19 quarters for 1994. The table reports that workers lose more than 25 percent of their earnings after injury, which amounts to more than $5,000 over the first three quarters, almost $15,000 over the first 11 quarters, and more than $20,000 over 19 quarters after injury.

Cumulative earnings losses are calculated by summing, for every injured worker, the quarterly earnings losses (the difference between the injured workers' earnings and the earnings of their comparison workers). Earnings are converted to 1997 dollars, and the cumulative sum is discounted to the quarter of injury.[5] At three quarters, all five injury years are reported. At 11 quarters, only 1994, 1995, and 1996 are reported. In the bottom row of the table, the only injury year for which 19 quarters are available, 1994, is shown.[6]

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[4]The decline in the number of people observed working is larger than the actual decline because some people moved out of state or into employment not covered by unemployment insurance. Nevertheless, we expect that the amount of the decline in observed employment caused by these factors would be the same among injured and comparison workers. Reinforcement for this assumption is provided by the pre-injury wage match, observed in Figure 5-2. If the injured and comparison workers differed in a fixed manner (such as by age or gender) that is likely to affect future labor force participation, it would have been apparent in the pre-injury match.

[5]A real discount rate of 2.3 percent drawn from Social Security Administration studies is used.

[6]Table 4-1 also reports the standard error of the estimate of average earnings losses. The standard error numbers are very small relative to the estimate of losses and indicate that the losses are statistically significant. Standard errors are omitted from later tables in this report. Most of the

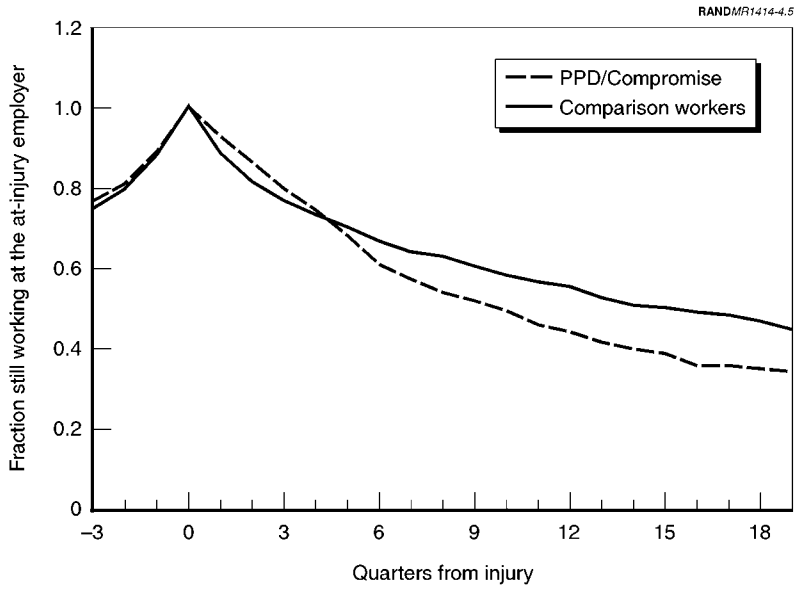

Figure 4-5—Fraction of Working Individuals at Quarter 0 Employer, 1994 Injuries, PPD Claimants/Compromise Recipients and Comparison Workers

Table 4-1

Workers' Compensation Claimants with PPD Benefits or Compromises, by Quarters from Injury, in Observed Quarters

Year of Injury	Quarters After Injury	Earnings Losses (1997$) (Standard Error)	Potential Uninjured Earnings (1997$)	Proportional Earnings Losses
1994	3	5,601 (81.68)	19,358	28.9
1995	3	5,823 (90.74)	19,640	29.7
1996	3	4,998 (89.18)	19,628	25.4
1997	3	5,178 (97.20)	21,131	24.5
1998	3	5,318 (103.75)	21,833	24.4
1994	11	14,853 (100.47)	53,317	27.8
1995	11	14,376 (110.70)	53,825	26.7
1996	11	12,336 (114.99)	55,187	22.4
1994	19	21,842 (122.32)	84,533	25.8

As shown in Table 4-1, losses in the first three post-injury quarters for workers injured in 1994 (which were shown graphically in Figure 4-1) are $5,601, and total

later estimates pool across years and have larger sample sizes; therefore, they are likely to have smaller standard errors.

losses over the three quarters observed after injury for PPD claimants injured in 1998 are $5,318. (Those losses are shown graphically in Figure 4-2.) The full 19 quarters of losses for 1994 injuries, reported in the bottom row of Table 4-1 and shown graphically in Figure 4-1, are $21,842.

Table 4-1 also reports the potential uninjured earnings of injured workers, or what an injured worker would have made if he or she had never been injured. These potential uninjured earnings are calculated by summing the earnings of the comparison workers over the quarters after injury. The table also reports proportional earnings losses, which are calculated by dividing the numbers in the "Earnings Losses" column by the numbers in the "Potential Uninjured Earnings" column.

Over the three quarters after injury, as shown in Table 4-1, permanently disabled workers injured in 1994 lost 28.9 percent of their earnings. These same workers lost 25.8 percent of their earnings over the 19 quarters after injury. The slight decline in proportional losses from Quarter 3 to Quarter 19 is a reflection of the partial recovery discussed earlier in this chapter. Examination of the differences over time in the top panel of the table shows that proportional earnings losses were decreasing over the 1990s. This likely reflects the condition of the economy in New Mexico over this time period.

Table 4-2 demonstrates some of the final adjustments, extrapolations, and calculations that are necessary before arriving at our preferred estimates of earnings losses and our estimates of the replacement of earnings losses by workers' compensation benefits. The first three rows of Table 4-2 report the same information as is shown in the last row of Table 4-1. The remainder of the table shows how we extrapolated the observed quarters shown in Table 4-1 to five and ten years after injury. It also shows how we calculated the benefits paid over five and ten years using the information on paid benefits in the NMWCA database and how we calculated replacement rates.

Line 4 in Table 4-2 shows the estimation of earnings losses at 20 quarters, extrapolated from the losses at 19 quarters observed (shown in Line 1). The amount was calculated by assuming for all workers that the losses observed from Quarter 18 to Quarter 19 continued in the next quarter, but shrank by 1.9 percent (calculated by estimating the rate at which wage losses shrink each quarter from three years on). The resulting amount, which averages to $709, was added to the 19-quarter loss and discounted. The resulting losses are $22,551. In Line 5 of Table 4-2, we continue to shrink quarterly losses by 1.9 percent and accumulate total losses, and estimate that ten-year (40-quarter) losses are $35,187. Line 5

Table 4-2

Calculation of Preferred Estimates of Earnings Losses, 1994 Injuries

1. Earnings losses (observed), 19 quarters	$21,842
2. Comparison worker earnings (observed), 19 quarters	$84,533
3. Proportional losses (observed), 19 quarters	25.8%
4. Earnings losses (estimated), 20 quarters	$22,551
5. Earnings losses (estimated), 10 years	$35,187
6. Comparison worker earnings (estimated), 10 years	$121,911
7. Proportional losses, 10 years	22.6%
8. Benefits reported to NMWCA by end of 2000	$13,255
9. Benefits paid by five years (estimated)	$14,288
10. Before-tax replacement rate, 20 quarters	63.4%
11. After-tax replacement rate, 20 quarters	81.5%
12. Benefits paid by ten years (estimated)	$15,731
13. Before-tax replacement rate, 10 years	44.7%
14. After-tax replacement rate, 10 years	57.6%

reports comparison worker earnings, which we assume are steady on a quarterly basis at their value after five years. The result is shown in Line 6: estimated ten-year proportional losses of 22.6 percent.

Line 8 of Table 4-2 reports the average indemnity benefits paid on a PPD claim or compromise lump sum for workers injured in 1994, which amounted to $13,255. The indemnity amount includes TTD, TPD, PPD, and compromise lump sums. This amount was reported to NMWCA by the third quarter of 2000, which is after our last quarter of earnings data, but the amount may have been reported earlier at the time of the last report to NMWCA. If the claim is closed (or, more specifically, if a closing benefit payment is reported to NMWCA), then this amount is used to calculate both five- and ten-year replacement rates.[7] If the claim remains open, we calculate the average PPD weekly payment amount, the number of weeks PPD has been paid, and the number of weeks that the worker is eligible to receive payment, and then simulate the benefit stream to five years. This procedure leads to an estimate of benefits paid after five years of $14,288.

Lines 11 and 12 of Table 4-2 report replacement rates, or the fraction of losses replaced by workers' compensation indemnity benefits. Line 11 was calculated by dividing Line 9 by Line 4. We find that, for 1994 PPD claims, less than two-thirds of losses are replaced before-tax over the five years after injury. However, because earnings are taxed and benefits are not, we also calculate after-tax replacement rates. The after-tax replacement rates are based upon New Mexico's

[7] Approximately half of unscheduled injuries and about 85 percent of scheduled injuries are reported closed.

state taxes, as well as federal income and social insurance (Social Security and Medicare) taxes.[8] The after-tax replacement rate of five-year earnings losses for PPD claims in 1994 is 81.5 percent.

Finally, our preferred estimates will be for ten-year losses and replacement rates. The New Mexico workers' compensation statute pays benefits on unscheduled injuries for 500 weeks (or, on rare occasions, for 700 weeks) after the injury. While permanent disability presumably lasts a lifetime, we interpret this provision to imply that permanent disability is intended to compensate ten years of post-injury earnings. We therefore calculate the full amount of benefits paid to ten years using the same methods described in the previous paragraph. This calculation results in $15,731 in benefits. The increase over the second five years is only $1,500 on average because only unscheduled injuries are likely to continue to receive benefits in the second five years. Even among the unscheduled injuries, only the open claims that have not already received their benefits in a lump sum are likely to continue to receive benefits in the second five years. After ten years, the replacement rate of before-tax earnings for PPD claimants in New Mexico is 44.7 percent (Line 13 of Table 4-2). The after-tax ten-year replacement rate for 1994 injuries is 57.6 percent (Line 14 of Table 4-2).

The methods described here were used to estimate five- and ten-year earnings losses for all injured workers with PPD claims from 1994 to 1998.[9] The results, our preferred estimates, are reported in Table 4-3. We estimate, using all available data on PPD claims from 1994 through 1998, that workers lose $21,309 of their earnings over the five years after injury, and $34,314 over the ten years after injury. As a fraction of what they would have made if they had not been injured, PPD claimants lose 23 percent over the first five years after injury and 20.5 percent over the ten years after injury.

We also estimate that over the ten years after injury, workers' compensation benefits replace less than half (46.1 percent) of earnings losses before tax, and just under 60 percent of earnings losses after tax. Over the first five years after injury, almost two-thirds of earnings losses are replaced before tax and 84.4 percent are replaced after tax.

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[8]For further details, contact Robert Reville at RAND at the email address or phone number listed in the Preface.

[9]We estimated that quarterly losses shrink (as workers recover) more rapidly over the first few quarters after injury. Following the observed rate of decline of earnings losses after injury in 1994 through 1997, we assumed that losses shrank by 3.8 percent for 1998 injuries over Quarters 4 through 7. We also estimated that the recovery of workers' earnings implied that losses shrank by 2.8 percent from Quarter 8 to Quarter 11 after injury, an estimate that was used to project losses for 1997 and 1998 injuries. Finally, in each quarter after Quarter 11, we assumed a quarterly earnings recovery rate of 1.9 percent.

Table 4-3 reports our earnings losses and replacement rate estimates for each year 1994 through 1998. Earnings losses and benefits (in real dollars) remained relatively stable.[10] Therefore, a trend is barely discernible in replacement rates over the time period. However, whereas the dollar amount of losses remained stable, proportional losses declined. In particular, between 1994 and 1998, proportional earnings losses fell from approximately 23 percent to 17.3 percent. This decline in losses may have been driven by the improving economy in New Mexico.

As noted in Chapter 3, there is no statutory standard for adequacy that can be applied in evaluating whether these replacement rates are adequate. However, the literature evaluating permanent disability benefits assumes that, over some time period, two-thirds of losses replaced before tax or 80 percent of losses replaced after tax is adequate (see, for example, Berkowitz and Burton, 1987; Peterson et al., 1998). This replacement rate is based upon an extension of temporary disability benefits, which typically seek to replace two-thirds of earnings lost while a worker is out of work recovering from an injury.

By this two-thirds standard, whether or not New Mexico has adequate benefits depends upon the amount of time after injury that earnings losses should be replaced. If five years of losses are intended to be replaced, then our estimates suggest that New Mexico's benefits are adequate. If, however, the New Mexico legislature intends for ten years (or 500 weeks) of losses to be replaced, which seems more likely to us, then New Mexico benefits do not appear to be adequate.

Table 4-3

Earnings Losses and Replacement Rates, Workers' Compensation Claimants with PPD Benefits or Compromises, at Five and Ten Years, Pooled and by Year

	Years from Injury	Number of Observations	Earnings Losses ($)	Potential Uninjured Earnings ($)	Total Indemnity ($)	Proportional Earnings Losses	Replacement Rate	
							Before-Tax	After-Tax
All	5	5,996	21,309	92,789	13,892	23.0%	65.2%	84.4%
All	10	5,996	34,314	167,244	15,832	20.5%	46.1%	59.8%
94	10	1,401	35,187	156,011	16,055	22.6%	45.6%	58.8%
95	10	1,292	37,388	158,530	15,589	23.6%	41.7%	54.1%
96	10	1,194	30,958	162,995	16,205	19.0%	52.3%	67.6%
97	10	1,156	34,379	175,578	15,813	19.6%	46.0%	59.9%
98	10	953	32,988	190,788	15,390	17.3%	46.7%	60.7%

[10] Although reports were available on 1998 injuries for two to three years after injury, and the majority of claims were already closed, the lower benefits reported for that year may reflect the immaturity of those claims.

5. Equity of Benefits: Differences in Replacement Rates Across Groups of Workers

In this chapter, we examine differences in replacement rates across different groups of workers with permanent disability benefits in order to evaluate the equity of New Mexico's PPD benefits. As with evaluating adequacy of benefits, deciding upon a standard to apply is difficult. First, as with evaluating adequacy, there is no statutory or constitutional standard that can be used. One straightforward standard that can be applied is that replacement rates should be approximately equal across groups. We interpret the results using that standard first. Nevertheless, when another standard may be more appropriate, we call attention to it.

In Table 5-1, we report earnings losses and replacement rates for three key elements of the benefit structure and rules of New Mexico's PPD system. The table distinguishes between scheduled and unscheduled injuries and the differences in the payment structure of these two types of injuries. The table also notes the differences in outcomes for workers who receive compromise lump sums versus outcomes for workers with PPD claims. Finally, the table lists differences by pre-injury wage, which are affected by the manner in which benefits are allowed to vary by pre-injury earnings.

The first two lines of Table 5-1 report earnings losses and replacement rates after five years for scheduled and unscheduled injuries.[1] Workers with scheduled injuries have lower earnings losses ($16,383 or 17.5 percent) than workers with unscheduled injuries ($25,938 or 28.1 percent) and also receive lower total benefits ($10,685 for scheduled injuries versus $16,444 for unscheduled injuries). As a result, the replacement of lost earnings over five years for the two groups is similar, with 65.2 percent of pre-tax losses replaced for scheduled injuries and 63.4 percent replaced for unscheduled injuries.

[1] We allocated workers to scheduled or unscheduled injuries depending upon the body part injured that is reported in the NMWCA data. We do not know whether this was the manner in which they were actually paid. We do, however, note that a very large fraction of the scheduled injuries had already received a closing payment, while a much smaller fraction of the unscheduled injuries had received a closing payment, as we would expect.

Table 5-1

Earnings Losses and Replacement Rates by Claim Characteristics at Five and Ten Years, 1994 Through 1998 Injuries Pooled

	Years from Injury	Number of Observations	Earnings Losses ($)	Potential Uninjured Earnings ($)	Total Indemnity ($)	Proportional Earnings Losses	Replacement Rate Before-Tax	Replacement Rate After-Tax
Scheduled and Unscheduled (Whole Body) Injuries								
Unscheduled	5	3,091	25,938	92,247	16,444	28.1%	63.4%	81.9%
Scheduled	5	2,905	16,383	93,365	10,685	17.5%	65.2%	84.7%
Unscheduled	10	3,091	41,538	165,632	20,665	25.1%	49.8%	64.4%
Scheduled	10	2,905	26,627	168,959	10,690	15.8%	40.1%	52.2%
Unscheduled (back)	5	1,271	27,893	86,627	16,866	32.2%	60.5%	77.8%
Scheduled (wrist)	5	296	15,357	86,143	11,873	17.8%	77.3%	100.3%
Unscheduled (back)	10	1,271	44,534	154,902	21,417	28.7%	48.1%	62.0%
Scheduled (wrist)	10	296	21,561	156,168	11,873	13.8%	55.1%	71.4%
Compromises and PPD Claimants								
Compromise	10	209	41,473	182,471	12,774	22.3%	30.8%	40.7%
PPD	10	5,787	34,055	166,694	15,943	20.4%	46.8%	60.6%
Differences by Quintile of Pre-Injury Wages								
Lowest 20%	10	1,199	23,081	87,894	12,291	26.3%	53.3%	67.3%
21%–40%	10	1,199	28,329	107,028	13,065	26.5%	46.1%	58.0%
Middle 20%	10	1,200	32,361	144,695	15,085	22.4%	46.6%	59.7%
61%–80%	10	1,199	38,518	198,098	18,905	19.4%	49.1%	64.0%
Highest 20%	10	1,199	49,283	298,523	19,816	16.5%	40.2%	53.9%

The maximum number of weeks of PPD for workers with scheduled injuries is 200.[2] For unscheduled injuries, this maximum is 500 weeks. As a result, very few workers with scheduled injuries continue to receive benefits after five years. The comparability in replacement rates after five years is no longer true after ten years. Workers with scheduled injuries have only 40.1 percent of their pre-tax losses replaced (52.2 percent after tax) over the ten years after injury, whereas workers with unscheduled injuries have 49.8 percent of their pre-tax losses replaced (64.4 percent replaced after tax). Over the ten years after injury, therefore, workers with scheduled injuries are, relative to workers with unscheduled injuries, poorly compensated.[3]

Table 5-1 breaks out two types of injuries within scheduled and unscheduled injuries that are relatively high profile—unscheduled back injuries and scheduled wrist injuries. Back injuries constitute two-fifths of unscheduled injuries. One controversy over the American Medical Association *Guides to the Evaluation of Permanent Impairment,* 4th edition, which was the edition in use over the time period covered by these data,[4] is whether back injuries are undercompensated. We would expect, then, that the replacement rate for back injuries would be considerably lower if the AMA Guides lead to a consistently lower rating. However, we find that back injuries appear to lead to wage losses that are, on average, comparable to the losses for other unscheduled injuries, and lead to benefits that are also similar to the average benefits for other unscheduled injuries. The result is that replacement rates for lost earnings for back injuries are in line with the replacement rates for other unscheduled injuries. Workers with permanently disabling back injuries have a replacement rate of 48.1 percent over the ten years after injury.[5]

Wrist injuries, often resulting from repetitive stress in the workplace, are increasingly high-profile injuries. We do not observe a large number of wrist injuries in the sample, and strong statements about their compensation are likely to be unwarranted. However, wrist injuries appear to lead to slightly lower losses over five years on average ($15,357) than other scheduled injuries. At the

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[2]As noted earlier, claimants who have had amputations can receive benefits for a longer duration at the discretion of a judge. We have been told that because amputations are relatively rare this exception is unusual.

[3]This may nonetheless reflect legislative intent. Scheduled injuries are less-severe injuries, on average, and policymakers may choose to compensate less-serious injuries at a lower replacement rate.

[4]The New Mexico Workers' Compensation statute requires use of the latest version of the AMA Guides.

[5]It is possible that some back injuries receive ratings of zero using the AMA Guides, and therefore no compensation is received for them. Therefore, they would not be included in the sample of PPD claimants. This issue is deferred for future research.

same time, they receive relatively higher compensation over five years ($11,873). As a result, over the five years from injury, 77.3 percent of lost earnings for workers with permanently disabling wrist injuries is replaced by workers' compensation benefits (100.3 percent after tax), which is considerably better than the average scheduled injury. [6]

The NMWCA data report only lump sums that are paid as part of a compromise whereby the claim is closed and a settlement is paid to resolve a dispute. Other kinds of lump-sum payments made in New Mexico, including advances on future PPD payments for satisfying debts or after sustained return to work, are still reported as PPD in our data. In the middle panel of Table 5-1, earnings losses and replacement rates of compromised lump-sum cases are compared with those for cases involving workers receiving PPD benefits. Compromise cases are uncommon, with only 209 appearing in our data over the period being analyzed.[7] The table shows that workers with compromise payments have relatively larger losses ($41,473 compared with $34,055 for PPD claims). At the same time, they have relatively *lower* benefits ($12,774 versus $15,943 for PPD claims). The result is that the ten-year replacement rate of lost earnings for workers with compromises stands out as one of the lowest we observe for any group—30.8%.

There are at least two potential explanations for the poor outcomes of injured workers receiving lump sums. First, it is possible that lump sums discourage employment. If this is the case, it may be that lump-sum payments should be further discouraged. A second possibility is that because these are disputed claims, they are being paid out in a lump sum at less than the actual value of the claim in order to resolve the dispute. Whatever issue is in dispute with these cases, it seems unlikely to be one of whether an injury occurred, because it appears that some significant dislocation has led to losses for the workers. The dispute may be over the extent to which a disability is work related, rather than whether a disability exists at all. Because we do not have the data to test the various explanations, we recommend that future research should examine the outcomes for lump-sum recipients more carefully.

The bottom panel of Table 5-1 reports differences by pre-injury wage. Typically, losses increase with pre-injury wage in a very mechanical fashion: Workers with more to lose will lose more. This effect can be observed in Table 5-1. However,

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[6] We also investigated knee injuries, the largest category of scheduled injuries. We found them to be typical of other scheduled injuries.

[7] Although 287 such cases were reported to NMWCA, some did not have wages in the NMDoL file, some did not have matching comparison workers, and some had other missing values that reduced the total sample for our analysis to 209.

higher-wage workers typically are more likely to return to work sooner, and therefore we would expect that proportional losses will decline with income, which can also be observed in the table.

New Mexico's approach to compensating permanent disability leads to a permanent disability benefit that is more responsive to pre-injury income than the benefit resulting from the approach adopted in other states. Some states, such as Washington, compensate workers the same amount for an injury to a particular body part without regard to pre-injury income. Other states, such as California, compensate permanent disability as a fraction of the pre-injury wage, but with a considerably lower weekly cap for permanent disability than for temporary disability. New Mexico sets a compensation rate for permanent disability that depends upon the pre-injury wage, with the same cap as is used for temporary disability, but scales the weekly payment depending upon the severity of the injury.

The increase in benefits with income is apparent in Table 5-1. However, benefits in New Mexico do not increase at the same rate as income does. The potential earnings of the top 20 percent of earners is more than three times those of the bottom 20 percent of earners, but the benefits of the top quintile are less than half of those of the bottom quintile. This reflects the combination of the cap on the compensation rate and the increase in benefits according to a point system that provides lesser-educated workers with a higher PPD payment.

Table 5-1 shows, therefore, that benefits increase with income, but at a decreasing rate. Similarly, losses increase with income, but at a decreasing rate. The result is a relatively equitable distribution of benefits across pre-injury earnings groups. The bottom four quintiles have approximately the same replacement rates. The one quintile with a lower replacement rate is the top quintile, which after ten years has only a 40 percent replacement rate. Whereas no quintile approaches a two-thirds pre-tax replacement rate over ten years, the observed pattern in New Mexico seems to be consistent with the anecdotal situation in which higher-skilled workers who are injured and suffer a resulting disability are the least adequately compensated by workers' compensation. Overall, the results suggest that New Mexico is successful relative to other states in its distribution of benefits by pre-injury earnings.

Table 5-2 reports differences in earnings losses and replacement rates by severity of injury using the size of the PPD award as a proxy for severity. Much of the structure of any state's permanent partial disability benefit is intended to differentiate among injuries of differing severity. The goal is to compensate workers with more-serious injuries with a larger benefit, and schedules or rating

systems are intended to predict the severity of the injury. For instance, under the New Mexico schedule, complete loss of a thumb results in 55 weeks of benefits. Complete loss of a leg at or near the hip leads to 200 weeks of benefits. Implicitly, this assumes, for compensation purposes, that the loss of a leg is a little less than four times more serious than the loss of a thumb.

For unscheduled injuries, the legislature has delegated the decision with regard to severity to the latest edition of the AMA *Guides to the Evaluation of Permanent Impairment*. The AMA Guides provide a detailed conversion of medical diagnoses into a "percent of whole body impaired."[8] The percentage of impairment provides a prediction of relative severity of loss associated with different disabilities, at least as the severity of these losses is valued by the legislature for purposes of compensation.

For example, a disability that results in a 40 percent impairment according to the AMA Guides is implicitly less than twice as serious as a 22 percent whole-body impairment. Interestingly, if New Mexico were to adopt the AMA Guides for rating injuries to extremities, amputation of the leg would receive a 40 percent impairment rating and amputation of the thumb would receive a 22 percent impairment rating. Using the AMA ratings, a loss of a leg would be compensated less than twice as much as a loss of a thumb, compared with being compensated almost four times as much under the schedule.[9] New Mexico also adjusts the AMA rating for age, education, vocational preparation, training, and loss of physical capacity. This is implicitly a severity of disability adjustment as well. For instance, the increased rating associated with higher ages is intended to capture the greater difficulty that older workers with a given impairment have in returning to work.

The top panel of Table 5-2 combines scheduled and unscheduled injuries, and examines the earnings losses and replacement rates after ten years by quintile of PPD award.[10] Initially, we ignore the distinction between scheduled and unscheduled injuries on the assumption that the size of the award measures severity whether it is calculated using the schedule or the AMA Guides. We are

[8]The percentage of impairment, which is often referred to as a "rating," ranges from 1 percent to 99 percent for PPD.

[9]One final comparison is of interest: According to the California Permanent Disability Rating Guide, loss of the major thumb receives a rating of 16 percent, which translates into a payment of $8,680, while loss of a leg with a prosthesis not possible receives a rating of 80 percent, which translates into $118,795.

[10]The quintile of PPD measure also captures differences in wages and therefore is not a pure measure of severity.

Table 5-2

Earnings Losses and Replacement Rates for PPD Claimants and Compromise Recipients by Injury Severity, Injury Years 1994 Through 1998 Pooled

Percentile	Years from Injury	Number of Observations	Earnings Losses ($)	Potential Uninjured Earnings ($)	Total Indemnity ($)	Proportional Earnings Losses	Replacement Rate Before-Tax	Replacement Rate After-Tax
All Injuries, by Severity (Using Quintile of Size of PPD Award)								
Lowest 20%	10	1,199	23,827	144,416	4,096	16.5%	17.2%	22.2%
21%–40%	10	1,199	25,674	157,085	5,612	16.3%	21.9%	28.5%
Middle 20%	10	1,200	24,765	162,357	8,619	15.3%	34.8%	44.8%
61%–80%	10	1,199	29,746	180,826	14,785	16.4%	49.7%	64.3%
Highest 20%	10	1,199	67,565	191,542	46,055	35.3%	68.2%	88.4%
Unscheduled Injuries, by Severity (Using Quintile of Whole Body Percent Disabled, with Modifiers)								
Lowest 20% (0–4 rating)	10	147	20,674	170,445	9,134	12.1%	44.2%	58.4%
21%–40% (5 rating)	10	444	25,877	149,884	15,617	17.3%	60.4%	77.5%
Middle 20% (6–9 rating)	10	206	26,609	172,217	18,587	15.5%	69.9%	89.5%
61%–80% (0–14 rating)	10	380	39,613	159,619	27,483	24.8%	69.4%	89.6%
Highest 20% (15–95 rating)	10	302	64,092	176,928	43,706	36.2%	68.2%	88.3%
Scheduled Injuries, by Severity (Using Quintile of Size of PPD Award)								
Lowest 20%	10	581	11,470	137,458	3,370	8.3%	29.4%	37.9%
21%–40%	10	581	17,522	156,340	4,670	11.2%	26.7%	35.0%
Middle 20%	10	581	27,525	171,265	7,028	16.1%	25.5%	33.4%
61%–80%	10	581	22,517	180,274	10,866	12.5%	48.3%	61.8%
Highest 20%	10	581	54,100	199,458	27,513	27.1%	50.9%	66.2%

assuming that severity should be associated with proportional earnings losses—that is, the more serious the disability, the greater the loss of the ability to work, and the greater the loss of earnings.

Examination of the top panel of Table 5-2 reveals that as the size of the award increases, proportional losses do not change significantly until the top quintile of permanent disability benefits. This suggests that the New Mexico system poorly differentiates among injuries by severity. Because the lower four quintiles of permanent disability have comparable proportional losses, it follows directly that the quintiles will be ranked by replacement rate: With essentially equal losses, and increasing benefits, the replacement rate will automatically increase. The lowest 20 percent of disability awards have a replacement rate of only 17.2 percent before tax and 22.2 percent after tax. In contrast, on average, the most severely disabled workers have two-thirds of their losses replaced over the ten years after injury.

In the bottom two panels of Table 5-2, we distinguish between scheduled and unscheduled injuries to examine whether the schedule or the AMA Guides (plus the modifiers) is more consistent with observed earnings losses. In the middle panel, we present data on unscheduled injuries. We use quintiles of rating percentages (AMA Guides plus modifiers) to distinguish among claims by severity. For reasons that are unclear to us, this rating variable is not reported on about half of the claims in the NMWCA data and therefore we drop missing values (1,612 observations) from the middle portion of Table 5-2. In interpreting this table, it is necessary to note that missing values do not appear to be randomly missing from the data. The earnings losses for workers with unscheduled injuries and missing ratings are $45,891 (which is above average), while the benefits are $12,607 (which is below average). Therefore, strong conclusions based on the middle panel of Table 5-2 are unwise.

Despite the missing data, we can interpret the patterns shown in the table. Proportional wage losses apparently increase with the AMA Guides rating for unscheduled injuries in New Mexico (except for the reversal between the second and third quintiles), which suggests that the AMA Guides are relatively successful at predicting severity. As a result, the top four quintiles have very similar replacement rates. In other words, the increase in benefits with severity is in accordance with the increase in losses. Only the bottom quintile has a replacement rate that is out of line, but it is not as far out of line as the top panel of Table 5-2 suggests. For the three highest quintiles of AMA ratings for unscheduled injuries (ratings of 6 percent and up, or ratings above the 40th percentile), the table suggests that the New Mexico system provides benefits over ten years that meet the two-thirds wage replacement standard of adequacy. On

average, for this group, the New Mexico workers' compensation system is successful. We do not know whether this result is affected by the missing values in the NMWCA data.

Inspection of the bottom panel of Table 5-2 shows that the New Mexico schedule is also relatively successful at distinguishing among injuries by severity. Because a common rating percentage is not available for scheduled injuries, we return to using the PPD award quintile to measure the severity of a claim. Except for the fourth quintile having lower proportional losses than the third, higher PPD award quintiles are associated with higher proportional losses. Replacement rates are at around one-fourth for the three lower quintiles and at around one-half for the top quintile. The replacement rates of 25.5 percent to 29.4 percent for the three lowest quintiles are significantly lower than the two-thirds standard for adequacy.[11]

If both the scheduled and unscheduled injuries are relatively successful at differentiating by severity within each group, then the explanation for the inequity in replacement rates revealed in the top panel must be due to the poor integration of the scheduled and the unscheduled injuries. In other words, while both the New Mexico schedule and the AMA Guides appear to predict the severity of their respective injuries, the scale of severity used across injuries is inconsistent, which leads to inequity when equity is examined for all injuries pooled. We noted earlier in this chapter that scheduled injuries are relatively undercompensated. This analysis reinforces that finding.

In Table 5-3, we examine differences in earnings losses and replacement rates by type of employer. Specifically, we examine differences between self-insured and insured employers and differences across industries.

Self-insured employers are typically larger, are higher paying, and have more incentives to return injured workers to work quickly and therefore have more return-to-work programs. As expected, proportional wage losses are lower for self-insured firms than for insured firms. However, because workers at self-insured firms have higher wages, the dollar amount of their earnings losses is similar to that of workers at insured firms. As a result, proportional wage losses are not very different between the two types of firms. Similar results were found in California (see Reville et al., 2001) and Washington (see Biddle, 1998a).

[11]We attempted to define adequacy by extension of the legislative intent implied by replacement rates for other benefits. In New Mexico, the first seven days of temporary disability are not compensable until the worker is out of work for 28 days. This leads to a lower replacement rate for short-term temporary disability cases. We may infer legislative intent from this requirement and argue that policymakers intend for less-severe injuries to have a lower replacement rate.

Table 5-3

Ten-Year Earnings Losses and Replacement Rates, PPD Claimants and Compromise Recipients, by Employer Characteristics, Injury Years 1994 Through 1998 Pooled

	Number of Observations	Earnings Losses ($)	Potential Uninjured Earnings ($)	Total Indemnity ($)	Proportional Earnings Losses	Replacement Rate Before-Tax	Replacement Rate After-Tax
Employer Type							
Insured Employers	4,190	34,647	162,533	15,731	21.3%	45.4%	58.8%
Self-Insured Employers	1,712	34,002	180,357	16,029	18.9%	47.1%	61.3%
Industry							
Agriculture	155	33,137	145,824	13,131	22.7%	39.6%	51.7%
Mining	502	41,523	207,202	20,593	20.0%	49.6%	65.5%
Construction	748	38,172	151,327	19,221	25.2%	50.4%	65.0%
Manufacturing	548	37,031	164,071	13,306	22.6%	35.9%	46.4%
Transportation	296	46,515	196,854	22,398	23.6%	48.2%	63.4%
Utilities	177	39,737	345,714	17,403	11.5%	43.8%	58.2%
Wholesale Trade	271	31,034	173,558	15,191	17.9%	49.0%	63.4%
Retail Trade	949	31,771	131,747	14,401	24.1%	45.3%	58.1%
F.I.R.E.	129	29,227	164,718	13,297	17.7%	45.5%	59.1%
Services	1,265	25,332	140,833	13,645	18.0%	53.9%	68.8%
Health Services	473	38,486	149,006	14,619	25.8%	38.0%	49.0%
Government	478	36,997	232,835	15,645	15.9%	42.3%	55.6%

Differences in losses or replacement rates across industries may be driven by differences in wages, firm sizes, severity of injuries, or other characteristics, and are therefore difficult to interpret. At the same time, the data provide information that may be used to target interventions to improve outcomes for workers. Proportional losses range from 11.5 percent over the ten years after injury for workers at utilities, to almost 26 percent for workers employed in health services, such as in a hospital or clinic. Other industries with relatively low losses include F.I.R.E. (financial, insurance, and real estate), wholesale trade, and government. In addition to health services, high losses for disabled workers were observed in construction, agriculture,[12] transportation, and retail trade. Workers in health services and manufacturing have the lowest replacement rates.

In this chapter, we explored differences in the earnings losses and replacement rates of injured workers across different types of claims. We focused on differences in replacement rates, which when found may indicate that PPD is not equitable and compensates some workers better than it compensates others. In some cases, the differences are driven by the structure of compensation in the workers' compensation system. Policymakers can, however, readily address these differences. In other cases, such as across industries or between self-insured and insured firms, the differences are more complex and not readily amenable to policy changes.

With regard to changes in the compensation structure, we found that the ten-year replacement rates of scheduled injuries are lower than the replacement rates of unscheduled injuries. We also found that less-severe injuries tend to be compensated at a lower replacement rate than more-severe injuries. Indeed, these two findings are consistent because scheduled injuries tend to be less severe than unscheduled injuries. Finally, we found that the New Mexico system is relatively equitable with respect to differences in pre-injury earnings.

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[12]New Mexico does not require farm workers to be covered by workers' compensation. The Agriculture category includes workers that are not farm or ranch workers, and workers that are covered optionally by employers.

6. Comparing New Mexico PPD Outcomes with PPD Outcomes in Other States

In this chapter, we compare the outcomes for PPD claimants in New Mexico with the outcomes for PPD claimants in four other states: California, Oregon, Washington, and Wisconsin. We begin with a discussion of the different approaches to PPD in each of these states, and then report comparative results on earnings losses and replacement rates for injured workers in all five states. We describe our methodology and report our estimates, controlling for some cross-state differences other than the workers' compensation system itself, such as differences in pre-injury wages.

We also graphically show differences in earnings losses and labor force participation after injury for each of the five states. We then report cumulative ten-year earnings losses and replacement rates by state. Finally, we discuss differences across states in the characteristics of workers with PPD claims, and report estimates of wage losses and replacement rates for a sample of PPD claimants in each state that has been matched to comparable PPD claimants in New Mexico.

A significant difference across states is the fraction of indemnity claims that receive permanent disability benefits. According to our data for New Mexico, approximately 26 percent of workers with indemnity awards received PPD or compromise lump sums. In Washington, 23.4 percent of claims with indemnity paid in the period that was examined involved PPD awards. Only 18.1 percent of workers with lost-time workers' compensation cases (that is, indemnity cases) received PPD benefits in Wisconsin from 1989 to 1990. In California, more than 40 percent of indemnity claims received permanent disability. In Oregon, 35.2 percent of indemnity claims received PPD benefits.

These numbers may imply that some workers who are able to get PPD benefits in some states would not be able to get PPD benefits in others. For example, the difference between California and New Mexico in the fraction of lost-time claims receiving PPD benefits is about 15 percent. If the 15 percent of workers who did not receive PPD benefits in New Mexico are different from the fraction that did receive PPD benefits, then comparing PPD claimants in California (where the workers in question are included) and New Mexico (where they are excluded) may be misleading. Although we control for some of the differences across states

(such as in industry, firm size, and wages), the difference in the fraction receiving PPD across states creates a methodological challenge that we do not solve in this report. In other words, we assume that the types of medical conditions and the degree of severity that qualify a worker for PPD in each of the five states are the same.

Table 6-1 summarizes income benefits for each of the five states, which are discussed in detail in the following sections.

Table 6-1

Summary of Income Benefits in New Mexico, California, Oregon, Washington, and Wisconsin

New Mexico 1994 to 1998 Income Benefits	
TTD weekly amount	2/3 pretax wage to maximum of 85% of SAWW Maximum: 1994 $333.02 1995 $343.49 1996 $353.33 1997 $363.60 1998 $375.98
TTD waiting period	7 days
PPD weekly amount	Percent impairment multiplied by TTD weekly amount
Weeks of PPD benefits	Unscheduled: 500 weeks, 700 for ratings above 80% Scheduled: Varies by body part Lump-sum payments restricted
California 1993 Income Benefits	
TTD weekly amount	2/3 pre-injury pretax wage to maximum of $336
TTD waiting period	3 days
PPD weekly amount	2/3 pre-injury pretax wage to maximum
PPD weekly benefit maximum	Maximum: $140 (ratings under 25) $148 (ratings 25 and above)
Weeks of PPD benefits	Vary by rating: 25th percentile: 24 weeks 50th percentile: 50 weeks 75th percentile: 96 weeks 99th percentile: 426 weeks plus life pension
Other income benefit:	
Vocational Rehabilitation Maintenance	2/3 pre-injury pretax wage to maximum of $246

Table 6-1—Continued

Oregon 1992 to 1993 Income Benefits	
TTD payment amounts	2/3 pre-injury pretax wage to maximum of $429.71 (1992) or $444.55 (1993)
TTD waiting period	3 days (2-week retroactive period)
PPD payment amounts per degree (3.2 degrees = 1 percentage point)	Total awards based on schedule of injuries and/or percentage disability rating system. If total award exceeds $6,000 dollars, monthly payments are made according to TTD payment schedule until full award is paid.
PPD maximum	Scheduled: $305 (1992) or $316.53 (1993) Unscheduled: Varies by percent disability First 30%: $103.13 (1992) $106.69 (1993) Next 30%: $124.47 (1992) $130.73 (1993) Above 60%: $315.63 (1992) $331.41 (1993)
Other income benefit:	
Vocational Rehabilitation Maintenance	Ordinary TTD benefits can be received during participation in approved VR program.
Washington 1993 to 1994 Income Benefits	
TTD payment amounts	From 60% to 75% of pre-injury pretax wage, depending on marital status and number of dependents. Maximum of $2,216 per month paid in bimonthly installments.
TTD waiting period	3 days
PPD payment methods	Total awards based on schedule of injuries and/or percentage disability rating system. If the total award exceeds $6,600 dollars, monthly payments are made according to TTD payment schedule until full award is paid.
Other income benefit:	
Vocational Rehabilitation Maintenance	Ordinary TTD benefits can be received during participation in approved VR program.
Wisconsin 1989 to 1990 Income Benefits	
TTD payment amounts	2/3 pre-injury pretax wage to maximum of $363 (1989) or $388 (1990)
TTD waiting period	3 days (7-day retroactive period)
PTD weekly amount	2/3 pre-injury pretax wage to maximum of $125 (1989) or $131 (1990)
Weeks of PPD benefits	10 weeks per percentage point
Lump-sum payments of unaccrued benefits generally not allowed	25th percentile: 13 weeks 50th percentile: 28 weeks 75th percentile: 60 weeks 99th percentile: 526 weeks
Other income benefit:	
Vocational Rehabilitation Maintenance	2/3 pre-injury pretax wage to maximum of $363 (1989) or $388 (1990)

PPD in California

California's method for setting permanent disability benefits is distinctive and perhaps the most complex among the five states. All disabilities are described and ranked in a rating system that is unique to California. This rating system includes medical descriptions of impairments as well as work restrictions (such as different ratings for "no heavy lifting" and "no very heavy lifting"). It also includes compensation for "subjectives," such as chronic pain, even in the absence of medical evidence to support them.

California is similar to New Mexico in the extent to which benefits are adjusted to account for the individual circumstances of the injured worker. On the assumption that the same injury will lead to different losses depending upon the occupation of the injured worker, California's disability rating system assigns different values for the same injury in different occupations. For instance, an injury that affects speech will lead to higher benefits for a radio announcer than for a bricklayer. Conversely, an injury that affects the shoulder will lead to higher benefits for the bricklayer than for the radio announcer. In addition, like New Mexico, on the assumption that recovery is increasingly difficult with age, higher benefits are paid for older workers.

Table 6-1 shows that the maximum benefits levels for temporary and permanent disabilities in California are similar to those in Wisconsin (and difficult to compare with other states). The formula for number of benefit weeks is very complex, with the number of weeks for each additional disability rating point increasing with the disability rating. Using the actual distribution of PPD awards, Table 6-1 shows the number of weeks of PPD benefits by quartile of award for Wisconsin and California. In general, California has longer periods of PPD than Wisconsin (but has considerably shorter periods of PPD than New Mexico).

PPD in Oregon

Oregon PPD ratings are based on disability standards developed by the State of Oregon. The disability standards in turn are based in part on the AMA *Guides to the Evaluation of Permanent Impairment*, with differences in some areas to meet Oregon's statutes. After a worker reaches MMI, the treating provider must use methods described in the AMA Guides to measure and report impairment findings. But the treating provider is not responsible for determining the worker's level of disability. The final disability rating is determined by the insurer or self-insurer, or by the staff of the Workers' Compensation Division's Benefits Section.

All disabilities are rated in degrees, a method that allows combining ratings for different parts of the body. In 1994, the average scheduled PPD rating was 19.0 degrees, and the average unscheduled PPD rating was 55.6 degrees.

Benefits for scheduled disabilities are based solely on functional impairment to scheduled body parts. PPD ratings for unscheduled disabilities are based on both impairment and permanent loss of earning capacity. Unscheduled injuries are related to the body as a whole (which has a total rating of 320 degrees). Unscheduled PPD ratings are based on physical and/or mental impairment and are increased by factoring in loss of earning capacity based on a worker's age, education, and ability to adapt to a given job function. The total loss of earning capacity is then added to the impairment rating to determine the rating for total unscheduled disability. This aspect of Oregon's disability rating schedule has features in common with New Mexico's PPD rating system. Unscheduled benefits are paid according to a graduated benefit scale, which is broken down into three separate tiers (see Table 6-1).

PPD in Washington

Like New Mexico, Washington divides injuries into scheduled and unscheduled injuries. Scheduled injuries are primarily to the extremities. However, unlike that of New Mexico, the Washington workers' compensation schedule determines a particular award amount rather than the number of weeks of benefits. And, like workers in New Mexico, workers in Washington can be given benefits for unspecified injuries to scheduled body parts by multiplying the percentage of impairment of that body part by the scheduled amputation value of the body part. For unscheduled injuries, physicians make use of a set of rules and guidelines issued by the Washington Department of Labor and Industry to assign a "percentage of total bodily impairment" caused by the injury. This percentage is then multiplied by a scheduled total bodily impairment value, which was $118,800 as of July 1994. As Table 6-1 shows, during the 1993 to 1994 period, awards below $6,600 (a little over half of all awards) were paid out in a lump sum, whereas awards greater than that amount were paid out in monthly installments. Unlike in New Mexico, in Washington pre-injury wage does not enter into the calculation of the PPD award amount.

PPD in Wisconsin

Wisconsin has two kinds of PPD benefits, "functional impairment" benefits and "earnings capacity" benefits. Functional impairment benefits are based upon a physician-determined impairment rating. Earnings capacity benefits are paid

only to workers with unscheduled injuries (typically head, back, or neck injuries) who do not return to work or who are rehired at no more than 85 percent of their former wage. Typically, workers qualifying for earnings capacity benefits have not returned to their former employer. Earnings capacity benefits use the same formula as functional impairment benefits to convert percentages of disability into benefits, but the disability percentages tend to be much larger for earnings capacity benefits. The earnings capacity disability percentages are determined by reports by vocational experts on the effect of the impairment on the worker's wage-earning capacity.

Table 6-1 displays PPD benefit levels in Wisconsin for injuries from 1989 to 1990. PPD benefits are subject to a maximum weekly benefit of $125 for injuries occurring in 1989 and a maximum of $131 for those occurring in 1990. This maximum weekly benefit represents just over one-third of the maximum weekly TTD benefit. Each percent of permanent disability of the body as a whole is allocated ten weeks of benefits. For 1989 injuries, this implies a maximum benefit payment of $1,250 per percentage point of disability. Generally, benefits are paid monthly, so that the monthly maximum PPD benefits for injuries occurring from 1989 to 1990 were about $500.

Comparing Results on Earnings Losses and Replacement Rates

Table 6-2 provides data on New Mexico and the four comparison states.[1] In each state, workers' compensation claims data from the state[2] were linked to quarterly earnings data from the state agency responsible for administering UI. In addition, in every state, information on matched uninjured workers was also obtained from the state. As was done in New Mexico, injured workers were matched to up to five uninjured workers at the same employer using pre-injury wages. In each case, the quality of the match was checked in the same manner as described in

[1]For more information on the Washington data, see Biddle (1998b). For more information on the Wisconsin data, see Boden and Galizzi (1998a). For more information on the California data, see Reville et al. (2001) and Peterson et al. (1998).

[2]In California, the claims data are not provided by the State. Data for insured firms in California are provided by the Workers' Compensation Insurance Ratings Bureau. Data for self-insured firms were collected by RAND on behalf of the California Commission on Health and Safety and Workers' Compensation (CHSWC). The self-insured data collection is described in more detail in Reville et al. (2001). Estimates from California use sample weights so that the total amount of claims in each year is one-third self-insured employers and two-thirds insured employers. Public agencies, which are almost exclusively self-insured, are not included in the California data. The private self-insured firms are weighted on the assumption that they are representative of the public agencies as well. No substantive results in the report change when the sample is assumed to include only private firms (in which case 21 percent would be self-insured instead of one-third).

Table 6-2

Sample Characteristics from New Mexico and the Comparison States

State	Injury Years	Wage Years	Number of PPD Claimants	Number of Comparison Workers
New Mexico	1994–1998	1993–1999	5,996	25,128
California	1993–1995	1991–1999	32,358	128,722
Washington	1993–1994	1990–1998	13,317	47,371
Oregon	1992–1993	1988–1998	14,082	56,773
Wisconsin	1989–1990	1988–1997	16,186	69,480

Chapter 4, and if a poor-quality match was obtained, an additional matching criterion was used. In particular, in Washington, Oregon, and Wisconsin, and in self-insured firms in California, injured workers were also matched to uninjured workers with the same tenure.[3] This additional step was unnecessary in New Mexico and at insured firms in California. Because this step tended to reduce the fraction of workers matched to comparison workers, it was avoided whenever possible.

From Table 6-2, it can be seen that our estimates are based on data from almost 82,000 PPD claimants in the five states. The number of claimants, the injury years, and the number of years of pre-injury and post-injury earnings vary from state to state. In each state, estimates are constructed for ten years of earnings losses. The total indemnity, including temporary and permanent disability and any other indemnity (such as lump sums or vocational rehabilitation maintenance allowance), is used to calculate replacement rates for each state.

Results for All PPD Claimants in Each State

Figure 6-1 shows the relative earnings of PPD claimants in all five states over five years after injury (with only four years of post-injury earnings available for Washington). The construction of the figure is the same as that in Figure 4-3 in Chapter 4. In each of the five states, the general pattern is the same. There is a drop in earnings in Quarters 1 and 2, and then some recovery. However, this pattern differs *across* states. The initial drop in earnings is steepest in Wisconsin, California, and New Mexico. Wisconsin and New Mexico experience a larger recovery than California. Earnings drop by a lesser amount in both Oregon and Washington.

[3]Tenure is defined as employment of less than one year, one to two years, or more than two years.

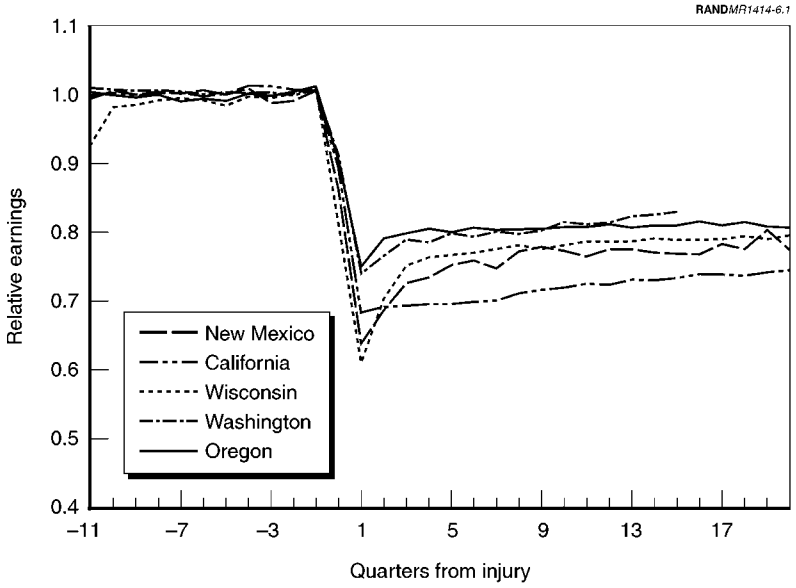

Figure 6-1—Relative Earnings of PPD Claimants as a Fraction of Comparison Workers

Figure 6-2 provides a comparable illustration for relative employment, with employment of injured workers reported relative to that of their comparison workers. As with relative earnings, Washington and Oregon have better outcomes than do New Mexico and California. When comparing Figures 6-1 and 6-2, we observe that Wisconsin also appears to have somewhat better outcomes for employment than for earnings.

Table 6-3 reports ten-year earnings losses and replacement rates[4] for the five states.[5] Losses are highest in dollar terms in California and Wisconsin, but differences across states in earnings prior to injury are not accounted for.

[4]After-tax replacement rates for California and New Mexico are calculated using individual-level wage data and information on federal and state tax rates. Details are available from Robert Reville at RAND upon request (see the Preface for contact information). After-tax replacement rates for Washington, Wisconsin, and Oregon are calculated assuming that after-tax wage losses are 77 percent of before-tax wage losses.

[5]In Washington, on the basis of the average over the last quarters observed (Quarters 11 through 15), we assume a 1.9 percent quarterly decline in wage losses after the last observed quarter. In California, we assume a 1 percent decline after the last observed quarter, which is also based upon the last quarters observed. In Wisconsin, almost ten years of post-injury earnings are directly observable. In Oregon, the data suggest that no decline in wage losses is occurring at the end of the observed period. For purposes of comparison with New Mexico, it is important to note that for no state do we assume a greater rate of decline of wage losses over the unobserved period (and therefore lower ten-year losses) than the rate of decline of wage losses in New Mexico.

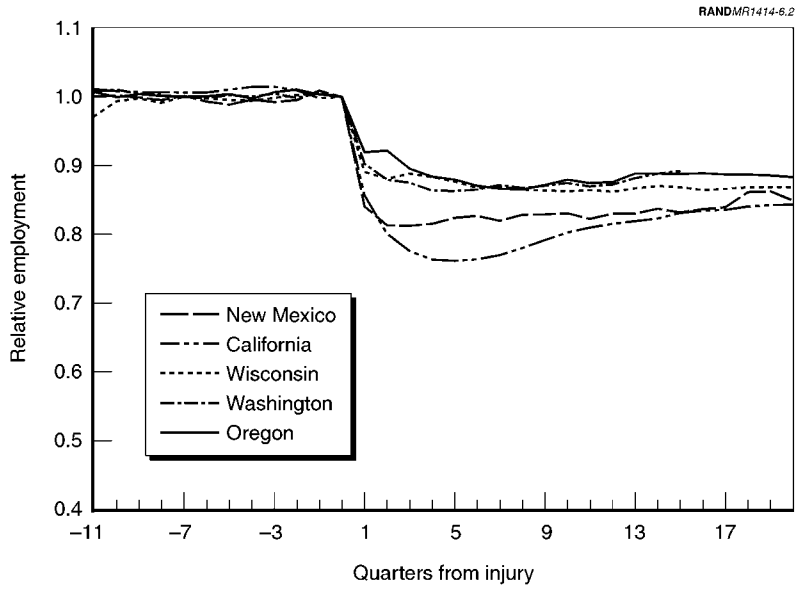

Figure 6-2—Relative Employment of PPD Claimants as a Fraction of Comparison Workers

Proportional earnings losses provide a better measure of differences across states by controlling for differences in pre-injury earnings. The results are consistent with Figure 6-1. Proportional earnings losses in California are the highest, followed by Wisconsin and then New Mexico. They are lowest in Washington and Oregon.

In all five states, replacement rates after ten years are less than 50 percent. As we have noted in this report, the literature on the adequacy of benefits typically cites a two-thirds replacement standard. In addition, whereas no statutory requirement exists for earnings loss replacement for PPD claimants in any of the five states, all of the other indemnity benefits (TTD, PTD, and TPD) in each of the states[6] have a statutory two-thirds replacement built into the compensation structure. This suggests that inadequate benefits for permanent partial disability may be endemic to workers' compensation.

[6]In Washington, temporary total disability ranges from 60 percent to 75 percent of the pre-injury wage, depending upon marital status and the number of dependents.

Table 6-3

Ten-Year Earnings Losses and Replacement Rates

	New Mexico	Washington	California	Wisconsin	Oregon
Ten-year losses ($)	34,314	41,220	61,767	49,477	39,202
Potential earnings ($)	167,244	250,251	238,262	222,055	197,737
Total benefits (%)	15,832	16,734	22,612	14,452	16,636
Proportional wage loss (%)	20.5	16.5	25.0	22.3	19.8
Before-tax replacement rate (%)	46.1	40.6	36.6	29.2	42.4
After-tax replacement rate (%)	59.8	52.6	48.2	37.9	55.0

New Mexico has the highest replacement rate. It also has the lowest wages of the five states, but the total benefits paid are comparable to all the other states except California. The lower pre-injury wages in New Mexico lead to lower losses in dollar terms, but with comparable benefits paid, the result is a higher replacement rate of lost earnings.

The highest benefits paid over ten years are in California, which on average has total indemnity paid amounting to $22,612. This allows partially disabled Californians to have replacement rates over the ten years after injury that are higher than the rates in Wisconsin, although not as high as the rates in the other three states. In other words, California has higher benefits, but the higher benefits do not go as far to compensate losses as they do in the other states due to the higher earnings losses experienced by California workers.

Results for New Mexico-Matched PPD Claimants

Differences across states in outcomes for injured workers may be driven by differences in the workers' compensation systems, but they may also be driven by differences in the workers who were injured. Here, we make a comparison across the five states after controlling for three significant differences in the workers—pre-injury wage, industry, and insurance status of the employer. We sought to answer the following question: If PPD claimants in the other states have the same pre-injury wages and are from the same industries as PPD claimants in New Mexico, and all states have the same proportion of injured

workers at self-insured firms, what will the wage loss and replacement rates be in each of the four comparison states?

Differences in pre-injury wages across states can affect the results because lower-wage workers may have a longer duration until return to work and therefore will have higher proportional earnings losses. Lower-wage workers may also receive higher benefits as a fraction of pre-injury income in some states, depending upon the TTD benefit maximum and the structure of PPD with regard to income. Differences among industries can also affect results because some states may have more people in industries with certain injuries or greater job demands. Differences in the fraction of workers at self-insured firms versus workers at insured firms can change results as well because there is considerable evidence that self-insured employers handle workers' compensation claims in such a way that they reduce wage losses (Reville et al., 2001).

Table 6-4 demonstrates that significant differences exist across states in the pre-injury wages of PPD claimants. New Mexico and Oregon have the lowest median pre-injury wages, while Washington and Wisconsin have the highest.[7] Table 6-4 also reports pre-injury wages in the 25th and 75th percentiles.

To illustrate the differences in industrial composition across states, Figure 6-3 shows the distribution of industries for PPD claimants in New Mexico and two other states, Washington and Oregon. There are considerable differences across states in the industry distributions. It is clear that manufacturing is under-represented in New Mexico relative to the other states, while mining and construction are much more common in New Mexico than they are in the other states. In particular, there is virtually no mining in Oregon.

Table 6-4

Pre-injury Quarterly Wages for PPD Claimants in Five States, 25th, 50th, and 75th Percentiles, 1997 Dollars

	Percentile		
	25th	50th	75th
New Mexico	2,507	4,587	7,630
California	3,318	6,113	10,269
Oregon	2,893	5,378	8,525
Washington	3,908	7,310	10,983
Wisconsin	3,971	6,464	9,275

[7] One-half of wages are higher than the median, and one-half are lower. The median is the same as the 50th percentile.

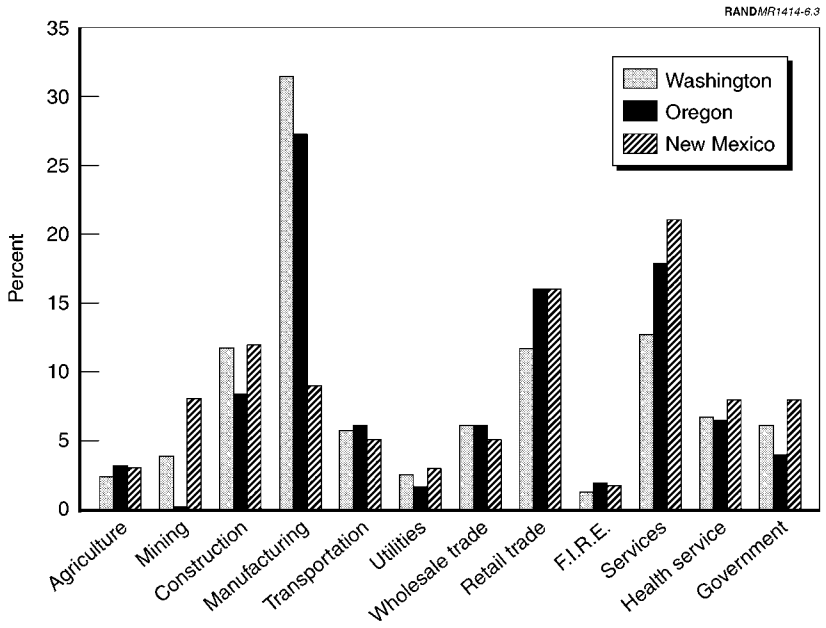

Figure 6-3—Distribution of Industries Among PPD Claimants

Given these differences in industry and pre-injury wages, we wanted to determine whether a sample of PPD claimants in other states who are similar to the claimants observed in New Mexico would have wage losses and replacement rates that are similar to those observed in New Mexico. To do this, we matched the 5,996 PPD claimants in New Mexico individually to PPD claimants in other states from the same industry category and with the same insurance status and wage. The wage matching is required to be within 10 percent of the average wage over the four quarters before injury (counting only quarters when the worker has positive wages). If this condition is met, up to five PPD claimants in the other states in the same industry category, with the same insurance status, and with the closest wages are selected. We then calculate wage losses and replacement rates in the other states for the matched claimants.

Table 6-5 shows the sample size of the matched comparison workers in each of the other states, in addition to the number of New Mexico claimants to which they are matched. Due to missing insurance status for some claims in the New Mexico database, only 5,847 claims were linked to the other states. In some categories, no matching workers were found in the other states and, therefore, fewer than 5,847 workers are available in other states. In California, we matched

Table 6-5

Number of Matched Comparison Workers in Other States

	Injury Years	Wage Years	Number of New Mexico PPD Claimants	Number of Compared PPD Claimants
California	1993–1995	1991–1999	5,481	13,562
Wisconsin	1989–1990	1988–1998	5,302	8,234
Washington	1993–1994	1990–1998	5,522	8,355
Oregon	1992–1993	1988–1998	5,200	8,873

the claimants to 5,481 New Mexico PPD claimants. The primary difference between the New Mexico sample and the California sample is that we do not have information on government employees in California. Because we matched each New Mexico worker to up to five workers in the other states, we obtained a California sample size of 13,562 claimants. We matched 5,522 New Mexico PPD claimants to workers in Washington; 5,302 New Mexico PPD claimants to workers in Wisconsin; and 5,200 New Mexico PPD claimants to workers in Oregon.[8]

Figure 6-4 reports the relative earnings of the injured workers and their uninjured comparison workers in New Mexico and each of the matched samples from the four other states. For New Mexico, we used the 5,481 New Mexico claimants matched to Californians and their uninjured comparison workers. The results do not markedly change from those shown in Figure 6-1. Despite eliminating differences in pre-injury earnings and industry, we continue to observe the highest losses in California, followed by New Mexico, Wisconsin, Washington, and Oregon.

Figure 6-5 provides a different presentation of the results shown in Figure 6-4, which serves to clearly highlight the differences across states. Figure 6-5 reports the difference in relative earnings between PPD claimants in each of the other four states and their matching PPD claimants in New Mexico. Prior to injury, this difference typically is zero, but after injury, large differences are revealed. Relative earnings in Oregon are 11 percentage points higher by two quarters after injury than they are for the New Mexico claimants that matched to Oregonians. Relative earnings are 10 percentage points higher in Washington than they are in New Mexico two quarters after injury, and 7 percentage points higher three quarters after injury.

[8]As a check, we are able to estimate earnings losses for only the New Mexico claimants that matched to each state. Substantively, the results are unchanged.

The noticeable spike over the first few quarters indicates that the duration out of work is likely to be considerably higher immediately after injury for PPD claimants in New Mexico than it is for claimants in Washington and Oregon, even after controlling for differences in pre-injury wages and industry. In addition, relative earnings are always lower in New Mexico than they are in Washington or Oregon, even 15 quarters after injury. Because "relative earnings" compares workers to their uninjured comparison workers, in addition to accounting for differences in wages, industry, and insurance status, the matching approach should also control for differences across states in the characteristics of uninjured workers, such as their migration or retirement rates.

California, unlike Washington or Oregon, has worse outcomes for PPD claimants than New Mexico has. Relative earnings are 8 percentage points lower in California than they are in New Mexico by three quarters after injury, increasing to 10 percentage points by six quarters after injury. A difference is maintained through 15 quarters after injury, although the difference narrows considerably by the end of the period. Wisconsin has post-injury relative earnings that are most similar to New Mexico's. It has initially lower, but subsequently higher, employment than New Mexico has.

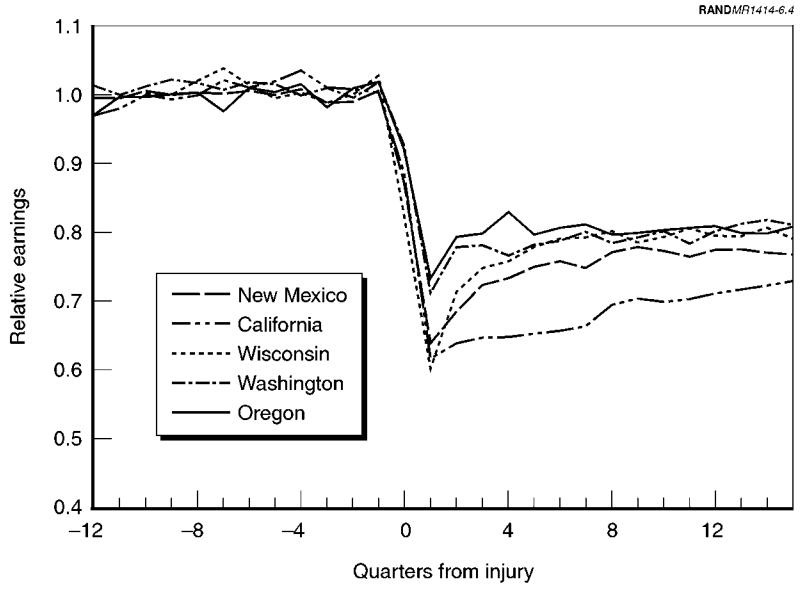

Figure 6-4—Relative Earnings Before and After Injury, PPD Claimants/Compromise Recipients and Comparison Workers

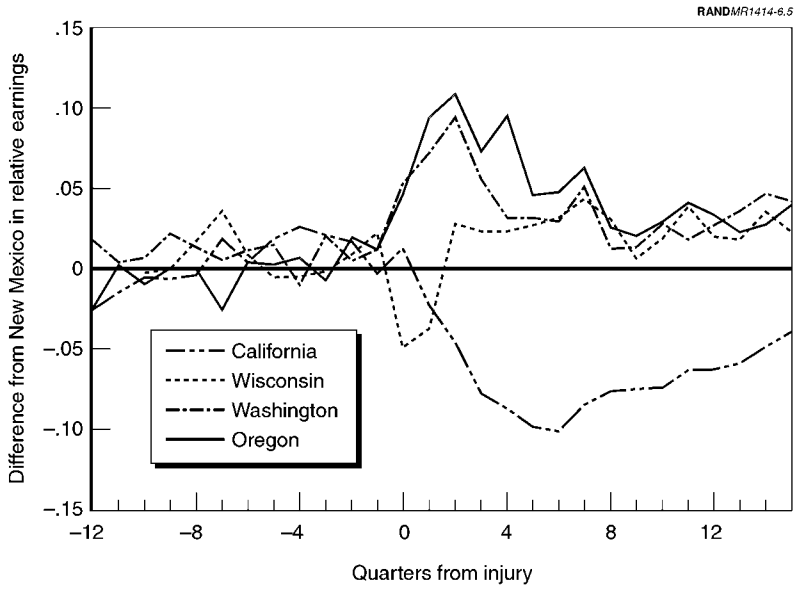

Figure 6-5—Difference in Relative Earnings of PPD Claimants/Compromise Recipients, Four Other States Compared with Matched New Mexico Sample

Table 6-6 reports the earnings losses and replacement rates for the samples of PPD claimants who were selected because of their resemblance to their New Mexico counterparts. For comparison's sake, the New Mexico results from Table 6-3 are repeated in Table 6-6. The first thing to note is that in all four of the other states, cumulative ten-year losses are lower than those reported in Table 6-3. This occurred because the sample matched to New Mexico PPD claimants is obviously a lower-wage sample, which then lowers the wage losses. Similarly, the potential earnings are also lower in all three states.

Benefits for the matched sample are lower in California and Oregon than they are for the unmatched sample. In Washington, the benefits for the matched sample are higher than the benefits for the unmatched sample because Washington's PPD benefits are invariant with respect to pre-injury earnings. The benefits are also higher for the matched sample from Wisconsin than for the unmatched sample, suggesting that perhaps more workers in the matched sample are receiving Wisconsin's earnings capacity benefits, which are paid out to workers who do not receive an offer of employment from their pre-injury employer. The lower losses for the Washington claimants and the unchanged benefits lead to a

Table 6-6

Ten-Year Earnings Losses and Replacement Rates, New Mexico Matched Samples

	New Mexico	Washington	California	Wisconsin	Oregon
Ten-year losses ($)	34,314	31,381	47,743	36,986	33,105
Potential earnings ($)	167,244	180,789	179,280	170,366	167,109
Total benefits ($)	15,832	16,784	22,024	15,459	14,250
Proportional wage loss (%)	20.5	19.0	26.6	21.7	19.8
Before-tax replacement rate (%)	46.1	53.5	46.1	41.8	43.0
After-tax replacement rate (%)	59.8	69.3	59.9	54.2	55.8

higher before-tax replacement rate (53.5 percent) for the matched Washington PPD claimants than for the unmatched Washington claimants.

Replacement rates increase for the matched sample relative to the unmatched sample in Oregon and California as lower-wage workers experience fewer losses in dollar terms, and although benefits are also lower for the matched sample, they do not fall by as much as the losses. The result is that the replacement rate for New Mexico—46.1 percent—equals the replacement rate for the matched sample from California. The matched sample from Wisconsin has a higher replacement rate than the unmatched sample due to both lower wage losses and higher benefits. Oregon and Wisconsin continue to have lower replacement rates than New Mexico. The ten-year earnings losses, both absolute and proportional, are higher in the matched samples in California and Wisconsin than they are in New Mexico. The matched samples in Oregon and Washington continue to have lower earnings losses than their counterparts in New Mexico, both absolute and proportional.

The results presented here suggest that if a comparably low-wage sample of workers experience PPD claims in the other four states, the results are more ambiguous than those suggested by Table 6-3. For the matched sample at least, among the five states, outcomes are clearly the best in Washington. This result is driven largely by improved return to work in Washington (which is apparent from Figure 6-5) and the lower proportional wage losses, shown in Table 6-6. The differences in return to work across states are explored further in the remainder of this report.

The results are considerably worse for California claimants than they are for claimants in the other states, including New Mexico claimants. If the PPD

claimants in New Mexico had been injured in California, they would have sustained much higher wage losses ($47,743 instead of $34,314). They would have had the same replacement rate only because of California's higher benefits. They would also have uncompensated wage losses (wage losses after benefits are paid) in California that were higher by $7,237. All things considered, the New Mexico system appears to be more successful than the California system.

When policymakers interpret the two approaches (estimates matching to New Mexico claimants and unmatched estimates) to compare replacement rates and wage losses across states, it is important that they consider the different questions being answered by the two approaches. The unmatched samples approach, as shown in Table 6-3, answers the question, how does our state treat its residents? The matched samples approach answers the question, how would our residents fare if they were injured elsewhere? While answers to both questions would be informative, the first question seems to offer a more compelling way to compare replacement rates across states. For example, Washington may have a higher replacement rate using the matched-sample approach simply because a sample of Washington workers with New Mexico wage levels is more likely to have wages below the Washington temporary disability caps. This is only because the SAWW (used to set benefit caps) is higher in Washington than it is in New Mexico.[9] Therefore, the results presented here suggest that New Mexico treats its permanently disabled claimant residents better than do California, Washington, Oregon, and Wisconsin.

On the other hand, when comparing proportional wage losses or employment rates across states, the matched results seem more compelling than the unmatched results. To the extent that the matching successfully corrects for differences in the populations across states, the differences in employment and wage outcomes reflect differences in the incentives and opportunities offered by the workers' compensation system. When the matched results reveal differences across states (as shown in Table 6-6 and Figures 6-4 and 6-5), they suggest that there may be policies or procedures in the workers' compensation programs of the more-successful states that can improve employment outcomes for workers in states with less-beneficial outcomes.

In the following chapters, we further explore the patterns of return to work in New Mexico, while no longer restricting the analysis to PPD claimants, and compare the patterns with those in the other four states.

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[9]Another complication is that the ranking of states by replacement rates changes depending upon the state that serves as the baseline.

7. Return to Work for Lost-Time Claims in New Mexico and Comparison States

The New Mexico Workers' Compensation Act states that workers with permanent partial disabilities "should be provided with the opportunity to return to gainful employment as soon as possible." The results reported so far in this report suggest that, at least compared with Washington and Oregon, New Mexico may not be entirely successful at returning workers to gainful employment. In this chapter, we explore the determinants of return to work in New Mexico, and compare them to the other four states. We do not limit the analysis to PPD claimants, but instead explore the patterns of return to work for all lost-time and PPD claimants.

For injured workers and their employers, the duration of time until return to work has important consequences. If return to work is delayed, workers can lose more than just their current earnings. Skills and work habits depreciate when people are off work for a long time, leading to a decline in their future productivity and earnings. Long spells off work also can induce employers to find worker replacements to maintain production continuity. In addition, long periods of non-work can stigmatize injured workers, making them less successful in applying for future jobs. For employers, early return to work is of value because employers typically pay for workers' long spells off the job either directly (if an employer is self-insured) or with higher insurance premiums. Employers may also have to pay substantial adjustment costs to maintain activities in which the injured workers were employed.

However, faster return to work is not always in the best interest of injured workers. If return to work happens too early, physical healing may be retarded and the risk of re-injury may increase. And, workers returning too quickly may experience personal concerns about re-injury or experience excessive discomfort or pain. These problems, in turn, can reduce a worker's productivity and thereby increase the risk of the worker being passed over for a promotion or even laid off. These factors may also lead the worker to quit work altogether.

In this chapter, we report on return-to-work outcomes for people injured at work in New Mexico during the period 1994 to 1996.[1] We compare the return-to-work outcomes of injured workers given certain personal and employer characteristics, including return to the at-injury employer. We also compare the experience of all workers with lost-time claims who were injured in New Mexico from 1994 to 1996 with those injured in Washington from 1993 to 1994, in Oregon from 1992 to 1993, and in Wisconsin from 1989 to 1990.[2]

Data Used in the Analysis and the Research Approach

The analysis of return to work uses the same large administrative data sets[3] that were used for the analysis of earnings losses and replacement rates discussed in previous chapters—workers' compensation claims data linked to quarterly wage data collected for the administration of UI. In New Mexico, the NMWCA provided RAND with information on all compensated injuries occurring from January 1994 through December 1998. These data include:

- the total number of lost days paid for each claim
- the pre-injury weekly wage
- the weekly temporary disability or permanent disability benefit rate
- county of injury
- age
- gender
- part of body injured
- length of service with the pre-injury employer (job tenure)
- the type of ownership of the firm (public or private)
- the date of injury and the last day of temporary disability covered by workers' compensation.

For the same group of injured workers, the unemployment compensation data provide information about employment and earnings, spanning the period from the beginning of 1993 through the end of 1999. From a related database, we

[1]We have data on injuries occurring through 1998, but focus on the period ending in 1996 so that we can observe a substantial period of post-injury labor-market employment and earnings for the injured workers in our sample. There do not appear to be significant differences in the experiences of people injured from 1997 to 1998 versus those injured from 1994 to 1996.

[2]We do not compare return to work in New Mexico with return to work in California. Our California data, while very good for PPD claims, lack information on many TTD claims.

[3]See the appendix for more information on the data.

received information on the industry, size, and location of the injured workers' employers during the same period.

To allow for consistency among states, we define the duration off work in the same manner and analyze similarly defined claims in all five states. In all the states we examined, the analyzed claims included only lost-time claims involving workers with more than eight days off work. This limitation provided us with a set of claims that is similar for all the states because medical-only claims are not available in all five states and because the waiting period is three days in the other states but seven days in New Mexico. The data we analyzed are summarized for New Mexico in Table 7-1.

Defining "Return to Work"

Our definition of a worker's duration off work differs from the definition commonly used in workers' compensation return-to-work studies. The common measure of *return to work*—the period of time from injury to the end of the period of temporary total disability benefits—is easy to obtain and captures an important aspect of workers' compensation costs. However, this measure assumes that workers return to employment when TTD benefits end, and we believe that this assumption is unwarranted in many cases. For example, in most states, temporary disability benefits are terminated at the point of MMI. There is no reason to assume that all workers go back to work at this time.

We use the wage information available to us, instead of basing our estimate of return to work on the duration of temporary disability, to answer the following question: At the end of temporary disability benefits, did the worker receive wages? With that in mind, if UI records indicate that wages were paid in the quarter when temporary disability benefit payments ended, we consider the last payment date for disability benefits to be the date of return to work. However, if the worker lacked earnings in that quarter, we look for the next quarter in which wages were paid and consider the midpoint of that quarter to be the date of return to work.[4] In addition, if the first quarter with earnings is either the quarter of the injury or the first quarter after the injury, and if the first quarter with earnings does not include the provisional date of return to work, we use that quarter to estimate the date of return to work only if the worker also had

[4]In other words, we use only the end of TTD as the date of return to work if the worker had earnings in that quarter.

Table 7-1

Summary Statistics for New Mexico Return to Work, 1994 to 1996 Injuries, PPD or TTD Cases with at Least Eight Days Off Work

Individual Worker Characteristics	
Age in years	36.9 (11.4)
Median	36
Tenure in years	3.15 (5.53)
Median	1
Industry Type (proportion)[a]	
Agriculture	0.03 (0.16)
Mining	0.05 (0.22)
Construction	0.14 (0.35)
Manufacturing	0.08 (0.28)
Transportation	0.05 (0.21)
Utilities	0.02 (0.14)
Wholesale trade	0.04 (0.21)
Retail trade	0.20 (0.40)
Finance, insurance, real estate	0.02 (0.14)
Health care	0.08 (0.28)
Other services	0.19 (0.40)
Government	0.08 (0.27)
Employer Characteristics	
Number of employees	837 (1,772)
Median	132
Proportion of employees in firms with 50 or fewer employees	0.32 (0.47)
Proportion in public sector	0.15 (0.36)
Claim Characteristics	
Proportion with permanent partial disability	0.28 (0.43)
Proportion with only temporary total disability	0.74 (0.44)
Proportion of claims compromised	0.01 (0.09)
Duration Off Work	
Days of TTD benefit payments	
Median	24
75th percentile	77
Days off work after injury	
Median	77
75th percentile	275
Percent not returning to at-injury employer	0.32 (0.7)
Percent never returning to work	0.09 (0.27)
Total number of observations	17,188

NOTE: Standard deviations are shown in parentheses.

[a]Proportions do not add to 1.0 because of rounding.

earnings in the following quarter. This avoids including wages, bonuses, or severance pay earned before the injury but paid and reported shortly after the injury date.

The method just described may overstate time off work for people who move into work that is not covered by New Mexico unemployment insurance (by moving out of state or into self-employment, for example). However, we think that the benefit of looking past the end of temporary disability benefits is worth the risk of overstating time off work. In addition, we use the same method in all states in order to make the comparisons as valid as possible.[5]

If a worker is observed with wages prior to the end of temporary disability, we count the first quarter with wages as the quarter of return to work and set the date of return to work to the middle of the quarter. As described in the previous paragraph, we are careful to avoid setting the quarter of return to work to the quarter after injury if temporary disability is received beyond that quarter and if there are quarters with no wages after the first quarter after injury. In that case, the wages are more likely to be salary continuance, but in some cases workers may return to work for part of a quarter and then return to receiving temporary disability benefits. The duration of temporary disability benefits would miss this first return to work but our estimate, using the wage data, will capture it.[6]

Table 7-1 compares TTD duration ("Days of temporary total disability") with our measure of return to work ("Days off work after injury"). The TTD measure is considerably shorter at both the median (where half the people have longer TTD and half have shorter) and the 75th percentile (where 75 percent have shorter TTD and 25 percent have longer). Throughout this report, we use the median and 75th percentiles to describe return-to-work durations.

We next present basic information about return to work in New Mexico, comparing the duration off work in New Mexico with that in three other states: Oregon, Wisconsin, and Washington. We focus on the differences in time off work in the four states and some factors associated with these differences. In addition, we use statistical methods that analyze the factors that affect when people go back to work. These methods allow us to isolate the impact of different factors—including worker and employer characteristics, return to the pre-injury employer, the incentive effects of workers' compensation benefits, pre-injury

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[5]Nevertheless, differences among states in movement of workers to out-of-state employment may reduce interstate comparability.

[6]When we use the middle of the first quarter with wages after temporary total disability ends, we use an imprecise measure of return to work—the midpoint of the next quarter with positive earnings. Sometimes this measure will be too long, and sometimes it will be too short. However, because workers are injured throughout the quarter, we expect the error in the return-to-work measure to have a uniform distribution, with positive and negative errors occurring equally often. The mid-quarter measure is used 15 percent of the time in Oregon, 26 percent of the time in Wisconsin, and 37 percent of the time in New Mexico. We plan to examine the statistical properties of this measure in more depth in the future.

employment factors, and general economic conditions—on the duration off work.

Characteristics of Return to Work in New Mexico

Tables 7-1 and 7-2 provide information about the distribution of time until return to work for injured workers in New Mexico with lost-time claims, excluding death and permanent total disability claims. These workers either received PPD benefits or had eight days away from work. Fifty percent had returned to work by 77 days (about 2 months) after injury, but it took until 275 days post-injury for 75 percent to return. About 32 percent of those injured workers did not return to the at-injury employer. This group includes 9 percent of injured workers who did not return to gainful employment by the end of the observed period.[7]

Table 7-2 shows some substantial differences in return to work given certain employer and worker characteristics. People working at self-insured employers had considerably shorter durations off work than did employees of insured firms. We know that self-insured employers are typically much larger than insured employers, and we can see that larger employers have much faster return to work. As employment size increases from the smallest to the largest category, the median days off work decline from 114 to 35.

Gender appears to have virtually no impact on return to work. Age has the expected impact on the median time off work: Older workers appear to take longer to heal. However, at the 75th percentile, this relationship between age and time off work disappears. Because age and tenure are related, the relationship between age and duration off work may reflect not only the effect of age, but also the effect of the fact that older workers tend to have longer tenure. Time off work declines as worker tenure increases, although the relationship is not as dramatic as the employer–size relationship. Workers who were employed in all observed pre-injury quarters—those with continuous pre-injury employment—had shorter durations off work than did workers with intermittent pre-injury employment. If this relationship is causal, it may be a result of differential attachment to the labor force or of employment in occupations or sectors typically involving periods of non-employment (such as construction and agriculture). A worker might recover from an injury during a period when he or she would not have been working even if there had been no injury. In this case, a long duration off work would not reflect particular problems with the labor market or with a worker's recovery.

[7] To be more precise, 9 percent lacked earnings reported to the New Mexico unemployment insurance program after injury.

Table 7-2

Days Off Work by Employer and Worker Characteristics, 1994 to 1996, New Mexico Lost-Time Claims

	50% Returned by . . . Days	75% Returned by . . . Days
Overall	77	275
By Employer Insurance Type		
Insured	92	303
Self-insured	50	197
By Employer Size		
1–50 employees	114	349
51–250 employees	81	286
251–1,000 employees	67	249
1,001+ employees	35	161
By Age		
<25	63	284
25–54	77	269
55+	82	277
By Tenure[a]		
<= 6 months	53	220
>6 months and <=1 year	46	194
>5 years and <=10 years	40	161
>10 years	37	146
By Pre-injury Employment		
Continuous[b]	47	188
Intermittent	146	406
By Return to At-Injury Employer		
Yes	34	112
No	480	1,325
By Gender		
Female	77	281
Male	74	258

[a]Tenure is frequently missing from the workers' compensation records, and durations tend to be long when tenure is missing. As a result, median durations for all tenure groups are lower than overall median tenure.

[b]Workers with continuous pre-injury employment were employed in every observed pre-injury quarter. Those with intermittent pre-injury employment had at least one quarter without earnings.

One of the most striking differences in Table 7-2 is the difference between workers who returned to the at-injury employer and those who did not. The median time to return to work is almost ten times as long for people who did not return to the at-injury employer as it is for those who did. Because one in four workers in this study did not return to the at-injury employer, this is potentially a very important finding. It suggests that increasing the proportion of workers who return to the at-injury employer might have substantial benefits.

However, before jumping to conclusions, it is important to recognize that several factors might account for the observed association. Undoubtedly, some of the association between return to the at-injury employer and time off work is caused by differences in injury severity. More-severe injuries lead to longer times off work, which, in turn, can lead employers to hire replacement workers. When the injured worker is ready to return to employment, the old job may no longer be available. In this case, the long duration off work leads to the loss of the at-injury job, and not the other way around.

The duration of time off work also can be affected by whether the at-injury employer offers a job that the injured employee considers suitable. If the employer encourages early return to work and offers light-duty jobs, return can be accelerated. If the employer does not offer suitable employment or the worker does not accept the employment that is offered, then a period of job search typically ensues. Job search takes time, and this time adds to the duration of the period off work.

An important question, then, is whether differences in return to the at-injury employer among firms and among the states cause longer return to work. It is difficult to determine, though, the direction of causality between return to the at-injury employer and longer return to work. It is also possible that there is a third unidentified factor that causes both. We look at two ways of understanding this relationship. The first is by comparing return to work among employers in different size categories in New Mexico. The second is by comparing return to work in New Mexico with return to work in other states.

We first examine different employer size groups within New Mexico. If the distribution of injury severity were similar among the different size groups, then we would expect return-to-work durations to be similar. From Table 7-2, we can see that this is not the case. Indeed, return to work becomes shorter as firm size increases. Table 7-3 and Figure 7-1 help to explain why this is so. Table 7-3 shows that, as employer size increases, a greater proportion of injured workers returns to the at-injury employer.

This finding should not be surprising, given that smaller employers generally have less flexibility in accommodating workers with job restrictions. Smaller firms may also find it more difficult to reassign existing employees to fill in for the recovering injured worker, making it more likely that they will hire someone else to fill the jobs held by injured workers who are off work for more than a

Table 7-3

Employer Size and Return to the At-Injury Employer: New Mexico

	Number of Employees			
	1–50	51–250	251–1,000	1,001+
Percent returning to at-injury employer	64	71	77	88

short period of time.[8] As a consequence, we would expect that, for workers with similar injury severity, return to the at-injury employer would be more common at large employers.

From Figure 7-1, we can see the importance of the disparity between larger and smaller employers in return to the at-injury employer. The figure shows that workers who returned to the at-injury employer had similar durations off work, no matter the size of the employer. Those who did not return to the at-injury employer took much longer to return to work. Still, across employer-size categories, this group also had similar durations off work. If anything, this group took longer to return to work at larger employers. To put it another way, virtually all the observed differences in return to work among smaller and larger employers are accounted for, whether or not the worker returned to the at-injury employer.

There are two explanations for this finding. Larger employers may provide more opportunities for injured workers to return to work. Alternatively, different worker and injury characteristics may cause part of these large differences in the return to the at-injury employer. These worker and injury characteristics may have a direct impact on the return to the at-injury employer and, therefore, on the duration off work. On the other hand, worker and injury characteristics may affect how long people are off work after they are injured and only indirectly affect return to the at-injury employer.

Table 7-4 shows that important differences exist between workers in larger workplaces and those in smaller workplaces, differences that may influence both the amount of time off work and return to the at-injury employer. Workers at larger firms tend to be older and have longer tenure, and are more likely to have had continuous employment in the period before they were injured.

[8] Although New Mexico law requires an employer "who is hiring" to rehire an injured worker to the at-injury job or a similar job under certain conditions, if that employer has already filled the job, this section of the statute (Section 52-1-50.1) does not apply. Also, we were informed that the statutory fines are rarely imposed.

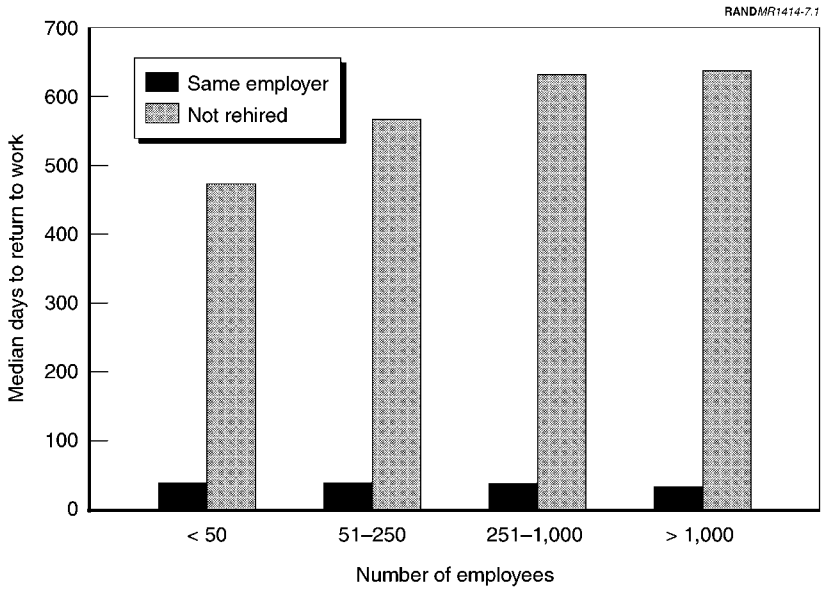


Figure 7-1—Return to the At-Injury Employer and Time Lost from Work by Employer Size, New Mexico

Laws Affecting Return to Work in Oregon, Wisconsin, and Washington

Later in this chapter, we compare return to work in New Mexico with that in Oregon, Washington, and Wisconsin. To place these comparisons in context, in the following sections we discuss the various features of those three systems that may speed return to work relative to return to work in New Mexico.[9]

The Oregon System

The Oregon workers' compensation system has two special programs designed to encourage employers to hire injured workers: the Employer-at-Injury Program

[9]California is not included in the following discussion on the laws affecting return to work in Oregon, Washington, and Wisconsin, nor is it included in the comparisons that appear later in this chapter, because we could not develop a comparable sample of California claims. The California data include all PPD claims, but they exclude low-cost TTD claims that would be reported by the other states.

Table 7-4

Personal Characteristics of Workers Injured in New Mexico, 1994 to 1996, by Employer Size

Average Employee Characteristic	Employment Category			
	1–50 Employees	51–250 Employees	251–1,000 Employees	1,001+ Employees
Age	36.0	36.3	38.0	39.0
Tenure (years)	2.1	2.4	3.6	5.2
Continuous pre-injury employment	43%	47%	53%	64%

(which was implemented during the period of our data collection) and the Preferred Worker Program (which existed prior to our data collection).

Employer-at-Injury Program. All Oregon workers with accepted claims are eligible for the Employer-at-Injury Program (EAIP). The program subsidizes employers who offer modified or light-duty jobs to get workers back to work before they have fully recovered. Employers can request a wage subsidy of 50 percent of pre-injury wages or 50 percent of wages in the modified job, whichever is less. The subsidy is available for up to three months. The EAIP also reimburses employers for classes to improve a worker's job skills or for tools, equipment, and clothing not usually supplied by the employer.

This program conforms to two of the central findings of our study. First, it gives employers incentives to provide modified work to enable earlier return for injured workers. We have shown that this produces higher rates of employment after return, as have other researchers who have explored this issue (Burkhauser, Butler, and Kim, 1995, and Galizzi and Boden, 1996). Second, because wages are subsidized, employers can offer higher wages than they could without the subsidy. The employer could, for example, offer light-duty work at the same wages that the worker was paid before the injury. Statistical analysis in other studies (Fenn, 1981; Butler and Worrall, 1985; Fenn and Vlachonikolis, 1986; Krueger, 1990; Johnson and Ondrich, 1990; Curington, 1994; Meyer, Viscusi, and Durbin, 1995; and Galizzi and Boden, 1996) shows that these higher wages hasten return to work.

Finally, and perhaps most important, this program increases the likelihood that workers will be rehired by the pre-injury employer, which would eliminate job-search time for those who otherwise would not have been rehired. In 1994, the first full year of operation, employers of 2,400 workers received EAIP assistance of $3 million, or about $1,270 per worker. By 1998, 10,072 injured workers were enrolled in the program, at a cost of almost $12 million (Oregon Department of Consumer and Business Services, 2000).

Preferred Worker Program. The Preferred Worker Program (PWP) provides incentives to hire workers who have received permanent disability benefits and cannot return to regular employment. Employers hiring workers enrolled in the PWP can receive substantial benefits, which are funded by a tax on employers and workers based on hours worked. These benefits include a 50 percent wage reimbursement for up to six months and up to $25,000 for tools, equipment, and redesign of the work site to allow preferred workers to become employed. Also, employers pay no workers' compensation premiums for preferred workers. In addition, if preferred workers have new workers' compensation claims during the three years after they enroll in the PWP, the program reimburses all related costs (Oregon Department of Consumer and Business Services, 1999). For preferred worker contracts in fiscal year 1998, employers in Oregon received $11.5 million in subsidies.

This program provides incentives to employers to overcome concerns about the risks of hiring workers with permanent impairments. In this sense, the program acts like a second injury fund. In addition, it subsidizes the wages of these workers. This subsidy provides increased incentives for employers to offer jobs to preferred workers. Workers with permanent disabilities will have more offers, and offers that arrive more quickly, which should speed the job-search process. Because a $400 weekly wage only costs employers $200, they may offer higher wages than they would without the subsidy.

Both the PWP and EAIP can have a significant impact on return to work. However, we do not know to what extent employers' wage offers rose because of these programs. A reasonable assumption is that the 50 percent wage subsidy resulted in a 20 to 40 percent increase in the wages offered to returning workers. Data from studies of return to work suggest that each 10 percent increase in post-injury wages results in a reduction of time off work by about 5 percent. If these programs lead to a 20 to 40 percent increase in wage offers, the programs will result in a 10 to 20 percent reduction in time off work for affected workers. For workers who would have lost three months from work, this translates into returns that are speedier by an average of 10 to 20 days.

For preferred worker contracts in fiscal year 1998, the PWP spent three-fourths as much on work site modification costs as it did on wage subsidies. Worksite modification also reduces the cost of employing preferred workers, which should increase employers' willingness to hire these workers.[10]

[10]The workers' compensation premium savings and the reimbursement for claim costs also would increase wage offers, but these would have a much smaller impact than the other provisions on the costs of hiring preferred workers in all but the most hazardous industries.

Permanent Partial Disability Benefits in Oregon. PPD benefits in Oregon are tied, through an "adaptability" factor, to whether workers return to work and, if so, whether they return at their pre-injury wages. For workers who return at lower wages, permanent disability benefits are higher than they would be otherwise. For those workers who do not return to work, permanent disability benefits are substantially higher. These higher benefits, in principle, should provide the pre-injury employer with incentives to rehire injured workers at wages comparable to the pre-injury wages. These incentives could bring about a double benefit. Workers should return to work earlier because of higher wage offers and because fewer of them will need to undertake a job search. This provision in PPD benefits is similar to the use of modifiers in New Mexico.

The Wisconsin System

There are two ways in which Wisconsin encourages employers to offer jobs to injured workers. First, the Wisconsin Division of Workers' Compensation can order an employer who unreasonably refuses to rehire an injured worker to pay a penalty up to one year's wages to the State of Wisconsin during the period of the employer's refusal to rehire. Second, workers with permanent impairments become eligible for higher-earning-capacity benefits if their pre-injury employers do not rehire them at 85 percent or more of their former earnings.

The Wisconsin system also provides return-to-work incentives to workers with permanent impairments by paying low monthly PPD benefits, as is done in New Mexico. Unlike most other states, but like New Mexico, Wisconsin discourages advance lump-sum payments of unaccrued compensation. Indeed, the state discourages lump-sum payments to a greater extent than does New Mexico. Lump-sum payments typically are made only for the amount of incurred medical expenses plus any sums accrued up to the date of the agreement. When PPD benefits are paid or disputes resolved through compromise agreements, the worker receives unaccrued income benefits weekly or monthly.

The Washington System

Washington has a Preferred Worker Program that is similar to Oregon's. It provides funding to assist with job modification. In addition, if an employer hires a preferred worker, the employer is not charged premiums for up to 36 months and is also not charged for losses if the worker suffers an injury during the first 36 months of employment. The Washington and Oregon systems are among the most progressive in the country in directly providing assistance to employers, rather than relying upon incentives to promote return to work.

Comparing Return to Work Outcomes in New Mexico, Oregon, Washington, and Wisconsin

In the following sections, we compare return-to-work outcomes for workers injured in New Mexico with outcomes for injured workers in Oregon, Washington, and Wisconsin. We describe the substantial differences in return to work between New Mexico and the other states and then examine possible explanations for these differences.

Table 7-5 presents comparisons of worker, employer, and claim characteristics and duration off work for New Mexico, Oregon, Washington, and Wisconsin. While the states are generally similar, injured workers in New Mexico have lower tenure, a greater proportion of them work in mining and construction and fewer work in manufacturing, and they are more likely to be employed in the public sector. As with Washington and Wisconsin, New Mexico has very few compromised claims. Unlike in Chapter 6, which compares outcomes for PPD claimants, the results presented in this chapter are not restricted to PPD claimants but include all lost-time claimants.

Of the four states, New Mexico is in the low to middle range in terms of the duration of temporary total disability payments. However, when examining our measure of "days off work after injury" in Table 7-5, one gets an entirely different story. New Mexico workers stand out as having by far the highest number of days off work. Half of the injured workers in New Mexico had not gone back to work by 77 days after injury. This number for Washington, the next highest state in terms of duration off work, is 45 days. Moreover, 32 percent of workers in New Mexico did not return to the at-injury employer. Again, Washington is the runner-up in this category, with 27 percent not returning to work. Also, according to our data, 9 percent of workers with lost-time injuries in New Mexico had not returned to any employment by the end of 1998.[11]

One might think that because workers in New Mexico are off work the longest, they would have the highest losses. Yet the wage loss analysis determined that New Mexico had higher proportional losses than Washington and Oregon, but lower proportional losses than Wisconsin.

[11]In general, this group had no wages reported to the New Mexico unemployment compensation system after the first post-injury quarter.

Table 7-5

Summary Statistics for Return-to-Work Analysis, PPD or TTD Cases with at Least Eight Days Off Work

	Injury Years			
	1994–1996	1992–1993	1993–1994	1989–1990
	NM	OR	WA	WI
Individual Worker Characteristics				
Age in years	36.9	37.8	37.30	35.47
Median	36	37	36	34
Tenure in years	3.15	4.27	N/A	5.86
Median	1	1.75	1.75	2
Industry Type (proportion)				
Agriculture	0.03	0.04	0.04	0.01
Mining	0.05	0.00	0.00	0.00
Construction	0.14	0.08	0.13	0.10
Manufacturing	0.08	0.24	0.22	0.42
Transportation	0.05	0.07	0.07	0.05
Utilities	0.02	0.02	0.02	0.01
Wholesale trade	0.04	0.06	0.06	0.06
Retail trade	0.20	0.19	0.16	0.11
F.I.R.E.	0.02	0.02	0.02	0.01
Health care	0.08	0.07	0.08	0.08
Other services	0.19	0.18	0.15	0.10
Government	0.08	0.04	0.04	0.05
Employer Characteristics				
Number of employees	837	867	9,679[a]	1,162
Median	132	124	158	230
Proportion of employees in firms with 50 or fewer employees	0.32	0.35	0.33	0.26
Proportion in public sector	0.15	0.09	N/A	0.10
Claim Characteristics				
Proportion with PPD	0.28	0.32	0.30	0.14
Proportion with only TTD	0.74	0.55	0.70	0.82
Proportion of claims compromised	0.01	0.13	0.00	0.04
Duration Off Work				
Days of TTD benefit payments				
Median	24	24	28	18
75th percentile	77	69	90	47
Days off work after injury				
Median	77	39	45	41
75th percentile	275	149	123	102
Percent not returning to at-injury employer	32	16	27	16
Percent never returning to work	9	3	6	3
Number of observations	17,188	42,267	60,801	107,346

NOTE: N/A = not available.

[a]Removing one very large employer from the sample reduces the mean to 1,605.

This finding may be caused in part by the fact that the return-to-work analysis does not use a comparison group of uninjured workers. Uninjured workers in New Mexico may be more likely to have periods of unemployment than their counterparts in other states, particularly because New Mexico has more people employed in construction and mining. If this were in fact the case, we might expect to see longer return to work for injured workers in New Mexico than in the other states but not higher proportional wage losses.

For example, a construction worker might not recover from an injury until after the end of the project during which the worker was injured. That might be during a time period when the worker wouldn't have been employed anyway, even without the injury. However, given the way in which we measure duration off work, the clock would continue to tick until the worker secured a new job. Moreover, if the new job were with a different employer (as construction jobs frequently are), the worker would be considered as not having returned to the at-injury employer. In this case, the normal functioning of the construction labor market would lead to longer durations off work and less-frequent return to the at-injury employer for construction workers than for workers in other industries. However, these less-beneficial outcomes would not be caused by problems in New Mexico's labor market or workers' compensation system. They would be attributable to the state's relatively high proportion of employment in construction and mining.

We now turn to a question raised earlier in this report: To what extent is New Mexico's longer return to work related to return to the at-injury employer? Looking at Figure 7-2, we can see that New Mexico's return-to-work durations are not unusually high for those workers who *do return* to the at-injury employer. For those workers who *do not return* to the at-injury employer, New Mexico and Oregon have much longer return-to-work durations than do Washington and Wisconsin. This finding is similar to what is shown in Figure 7-1, in which we compare median days to return to work for New Mexico employers in different size categories. Median time off work by state and employer size can be examined in more detail in Table 7-6. Again, we see remarkable consistency among all four states for people who return to work for the at-injury employer. For those workers who did not return to the at-injury employer, New Mexico and Oregon did worse than Wisconsin and Washington. Still, Table 7-6 suggests that an increase in the fraction of workers returning to the at-injury employer in New Mexico would improve its position relative to the other states.

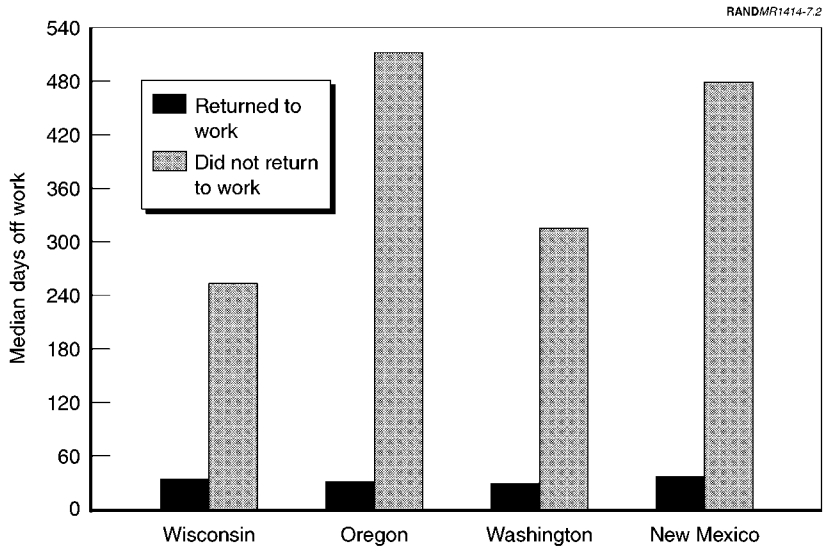


Figure 7-2—Return to the At-Injury Employer and Time Lost from Work: Wisconsin, Oregon, Washington, and New Mexico

Table 7-6

Median Duration in Days Until Return to Work, by Employer Size and Return to the At-Injury Employer

Employer Size	Return to At-Injury Employer	Wisconsin	Oregon	Washington	New Mexico
1–50 employees	Yes	30	30	32	32
51–250 employees	Yes	31	31	30	33
251–1,000 employees	Yes	31	32	28	33
1,001+ employees	Yes	37	32	27	30
1–50 employees	No	217	540	315	472
51–250 employees	No	196	470	305	564
251–1,000 employees	No	196	483	301	630
1,001+ employees	No	220	521	337	637

This analysis provides additional evidence that returning to the at-injury employer is an important determinant of the duration off work. However, as with the analysis earlier in this chapter in which we examined New Mexico only, we cannot rule out the possibility that individual and employer differences among the states and employer size groups account for at least part of the differences in the return to work outcomes that we found.

Controlling for Interstate Differences

In the states for which we compared return to work with that of New Mexico, we controlled for some of the differences among employers and workers by developing samples of injured workers with at least eight days of lost time or PPD benefits. In each of the three comparison states—Oregon, Washington, and Wisconsin—we chose a sample of workers such that each New Mexico injured worker with a lost-time claim is matched to one worker from the comparison state. The worker must be in the same industry category, his or her employer must match on insurance status (insured or self-insured), and the worker must have had average earnings in the four pre-injury quarters that were within 10 percent of the earnings of the matched New Mexico worker.

From among all workers whose criteria match, the worker with earnings that were closest to the matched New Mexico worker was the one that was selected. If no injured worker from the other state met the matching criteria for a New Mexico worker, we did not match that New Mexico worker. In this way, we created three matched data sets—one each for Oregon, Washington, and Wisconsin.

We found that the matching makes little difference in the return-to-work results. Table 7-7 shows the overall return-to-work statistics for the comparison-state claims matched to the New Mexico claims. Table 7-7 also shows, in parentheses, the statistics from each state as presented in Table 7-5. Some differences exist between the matched samples and the unmatched samples from Oregon, Washington, and Wisconsin. However, these differences have little impact on the gap between return to work in New Mexico and return to work in the other states.

Additionally, using the matching approach has little impact on our conclusions about the relationship between return to the at-injury employer and time lost from work. Figure 7-3, which illustrates this relationship for the matched samples, is virtually identical to Figure 7-2, which illustrates this relationship for the *unmatched* samples. New Mexico's durations off work are not unusual, once return to the at-injury employer is taken into account.

We also examined the median time off work by state and employer size for the matched samples, but the results were so similar to those shown in Table 7-6 that we elected not to include them here. We do, however, note that New Mexico durations continue to be similar to those in other states within employer size categories, after we control for whether the injured worker returned to the at-injury employer.

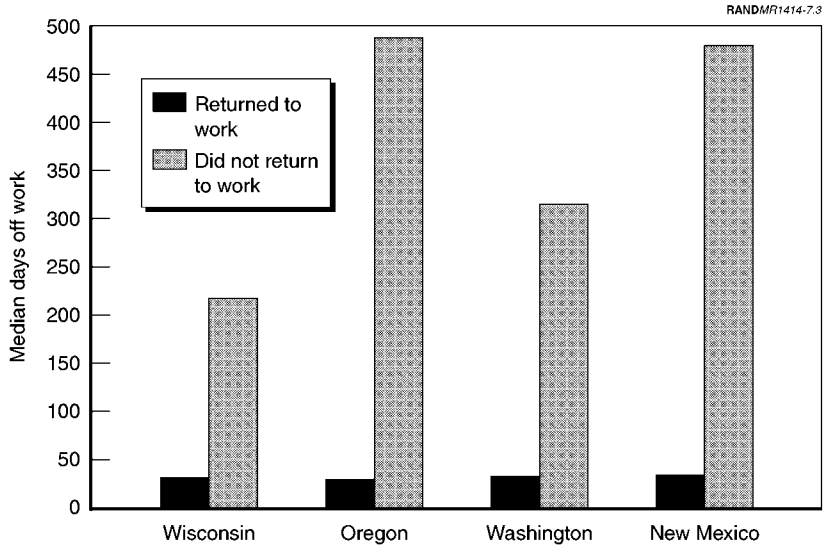
Table 7-7

Measures of Return to Work, PPD or TTD Cases with at Least Eight Days Off Work, New Mexico and Matched Samples from Other States

	New Mexico	Oregon	Washington	Wisconsin
	1994–1996	1992–1993	1993—994	1989–1990
Duration off Work				
Days of temporary total disability				
Median	24	22 (24)	27 (28)	17 (18)
75th percentile	77	62 (69)	87 (90)	45 (47)
Days off work after injury				
Median	77	38 (39)	45 (45)	36 (41)
75th percentile	275	130 (149)	132 (123)	97 (102)
Percent not returning to at-injury employer	32	18 (16)	28 (27)	15 (16)
Percent never returning to work	9	3 (3)	6 (6)	2 (3)
Number of observations	17,188	11,784[a]	13,451[a]	11,208[a]

NOTE: Values from Table 7-5 using all cases appear in parentheses.

[a]Not all of the possible 13,783 cases were matched.



NOTE: Wisconsin, Oregon, and Washington samples matched to New Mexico by pre-injury earnings, two-digit industry number, and self-insurance status.

Figure 7-3—Return to the At-Injury Employer and Time Lost from Work: Wisconsin, Oregon, Washington, and New Mexico, Matched Samples

The matched samples provide a better comparison between New Mexico and the other states, allowing us to control for some factors that might influence our findings. However, they do not change our overall conclusion that injured workers in New Mexico return to their at-injury employers less frequently, and that this factor may be a major contributor to New Mexico's longer return-to-work durations. This finding suggests that New Mexico may want to examine aspects of its workers' compensation system that support or impede the return to work of injured workers. New Mexico may also want to study programs in other states that are designed to improve return-to-work outcomes.

8. Conclusions

In this report, we examined the adequacy and equity of workers' compensation benefits for workers with permanent partial disabilities in New Mexico during the period from 1994 to 1998. We estimated the earnings losses of partially disabled workers over the ten years after injury and compared these losses with the benefits that workers received. We examined the post-injury employment patterns of these workers and of all workers with lost-time claims in New Mexico. We also compared benefits, wage losses, and post-injury employment of New Mexico workers' compensation claimants with those of claimants in four other states: California, Oregon, Washington, and Wisconsin.

Our primary measure of adequacy is the "replacement rate," which is defined as the fraction of lost earnings over the ten years after injury that is replaced by workers' compensation benefits. While, ultimately, policymakers decide what rate of wage replacement constitutes adequate benefits, by analogy to temporary total and permanent total disability and following the literature on the evaluation of adequacy of benefits, we define adequacy as two-thirds wage replacement.

Our findings include the following:

- Partially disabled workers in New Mexico experience significant and sustained earnings losses over the ten years following injury. We found that on average, they lose $34,314 (before tax) over the ten years after injury, or 21 percent of their earnings.
- Workers' compensation benefits are not adequate in New Mexico for PPD claimants. Over the ten years following injury, only 46.1 percent of losses are replaced by benefits (59.8 percent after tax).
- We found some evidence of improving outcomes for workers in New Mexico over the 1990s, which may have been driven by the robust New Mexico economy during this time period.
- Scheduled injuries are less-adequately compensated than unscheduled injuries. Over the ten years after injury, only approximately 40 percent of losses are replaced for scheduled injuries, whereas 50 percent of losses are replaced for unscheduled injuries. This result is entirely driven by the short duration of benefits paid to workers with scheduled injuries. Poor integration of the scheduled and unscheduled injuries also tends to lead to inequities with regard to severity of injury.

- Compromise (lump-sum-payment) cases in New Mexico have particularly poor long-term outcomes, with larger losses on average and lower benefits. Only 30 percent of losses are replaced by workers' compensation benefits for compromise cases.
- Higher-income PPD claimants have the lowest fraction of wage losses replaced.
- New Mexico PPD claimants had wage losses that were higher (as a proportion of income) than those for PPD claimants in Washington and Oregon, and lower than those for PPD claimants in Wisconsin and California.
- Without controlling for differences across states, replacement rates in New Mexico are higher than those in the other states. This result is partly driven by the low wages of New Mexico PPD claimants. When comparing replacement rates using comparable samples of PPD claimants across states, New Mexico's replacement rates are equal to California's, lower than Washington's, and higher than Oregon's.
- The duration until return to work for lost-time claimants is higher in New Mexico than it is in Oregon, Wisconsin, or Washington. This result is driven largely by differences across states in the fraction of workers who return to the at-injury employer. Of the four states, New Mexico has the lowest fraction of workers returning to the at-injury employer.

The two states that consistently appear to have the best outcomes with regard to post-injury employment are Washington and Oregon. These two states also have programs that provide assistance to employers who make modifications to assist disabled workers returning to work. Typically, workers' compensation programs attempt to rely upon financial incentives to encourage workers to return to work or encourage employers to make post-injury employment offers. It may be that direct assistance is a more promising way to ensure high rates of post-injury employment for workers' compensation claimants. We encourage New Mexico to consider a program like Oregon's Preferred Worker or Employer-at-Injury Program, or Washington's Preferred Worker Program. However, even if New Mexico achieves rates of return to work that are comparable to Oregon's and Wisconsin's, benefit increases, particularly for workers with scheduled injuries, may be appropriate.

This study has several limitations that should be mentioned. First, we do not have information on other benefits that may be available to injured workers, such as Social Security Disability Insurance. Future research that examines the total package of social insurance programs available to disabled workers may yield

different results. Second, we have not examined the implications of differences across states in the fraction of claimants that receives permanent disability benefits. California's tendency to provide permanent disability benefits to a larger fraction of workers implies compensation for some seriously disabled workers who would receive only temporary disability in New Mexico. If this is the case, examination of a wider pool of workers with serious injuries (that is, not only PPD claimants) may lead to different cross-state comparison results. Third, recent increases in benefits in New Mexico (including increases in the compensation rate and adjustments in the modifiers) and increased payment of "loss-of-use" benefits to workers with scheduled injuries may have mitigated some of the problems described in this report. With data on the magnitude of these changes, it would be possible to simulate the impact on the adequacy and equity of benefits. We recommend this exercise for future research.

The New Mexico workers' compensation reforms in 1990 were in many ways a success. Employer costs are among the lowest in the country. However, the results of this study suggest that reforms that improve outcomes for workers are warranted. We suggest that particular attention be paid to the approach to workers' compensation in Washington. Washington is also a low-cost state for employers, while at the same time it ensures prompt return to gainful employment and adequate benefits for injured workers. Oregon also has prompt return to sustained work, and programs that merit attention, although our data precede the implementation of the Oregon Employer-at-Injury Program.

Appendix. Data Used in This Study

The New Mexico workers' compensation data are from a database of claims maintained by the New Mexico Workers' Compensation Administration. Employers and insurers report information on workers' compensation claims to the NMWCA for this database in two forms: the First Report of Injury or Illness and the Notice of Benefit Payment.[1] In addition to paid-to-date amounts, the reports include the Social Security number of the injured worker (although neither the Social Security numbers nor any other identifying information was provided to RAND).

Electronic data reporting has been optional since 1994, except for carriers with more than 500 claims per year, for whom it has been mandatory since 1997. Prior to 1994, the NMWCA staff entered paper reports. RAND received data on claims with injury dates from 1994 through 1998 and that had reported information through the end of 2000. This database provided RAND with the date of injury, date of last action (used to determine the point in time when the indemnity paid amounts were valued), date of MMI, and other relevant dates; indemnity payment amounts by benefit type; medical benefits paid; and other information about the claim, claimant, and employer. We also received additional data from the NMWCA on disputed cases that went through mediation, arbitration, or trial (although a very small fraction of all claims, they form a majority of PPD claims).

We received data on a total of 119,691 claims from the NMWCA. These claims included 87,354 medical-only claims; 24,204 temporary disability-only claims; 7,543 PPD claims and 287 claims paid as compromise *lump sums*;[2] 126 PTD claims; and 77 deaths.

The NMWCA linked the claims data to quarterly wage data from the Detail Wage database maintained by the NMDoL. In New Mexico (and nearly every other state), every employer is required to report the total wages paid over the

[1]The First Report of Injury or Illness is required from an employer within ten days of notification of an injury for seven or more days of lost time by a worker. The Notice of Benefit Payment is filed for medical-only claims exceeding $300, initial payment of indemnity benefits, change in disability determination and payment (such as from TTD to PPD), and final payment of indemnity or medical benefits.

[2]Workers with PPD claims in which their payments are accelerated or forwarded are still categorized by the NMWCA as PPD claimants. The NMWCA has another category called "lump sums," which are cases in which disputes (typically over compensability) result in a compromise that is paid in a lump sum. We typically include the 287 lump sums with the PPD cases.

prior quarter-year for all of their workers who are covered by the UI system.[3] The data across quarters are combined into a longitudinal record of all UI-covered wages in New Mexico including an identifier for each employer in the quarter. (The identifier was the Employer Account Number, or EAN, which RAND received scrambled so that specific employers could not be identified.) We received wage records from the second quarter of 1993 through the third quarter of 1999. Therefore, we were able to calculate total wages at all employers, and also tenure at every employer in New Mexico in every quarter. Of the 119,691 claims on the NMWCA database, 115,274 (or 96.3 percent) were matched successfully to the NMDoL data.

The final step was to create a database of wages for workers who are similar to the injured workers prior to injury but who are not injured. We drew this information directly from the NMDoL data. RAND provided the NMWCA with the scrambled EANs of all 3,010 employers who experienced at least one PPD claim in New Mexico between 1994 and 1998. NMWCA unscrambled these numbers and provided the information to NMDoL, who provided data (with scrambled identifiers) on all of the other workers at these firms. Given this information, and using the injured worker's average wage over the four quarters prior to injury, we identified workers at the injured worker's employer with wages similar to those of the injured worker. We required comparison workers to have wages that differed no more than a certain amount from those of the injured worker.[4] From among the comparison workers who meet this criterion, we selected up to five with wages that were closest to those of the injured worker.

The median age of the PPD claimants is 39 years. Ten percent are over 55, and only 1 percent is over 65. Just over half of the claimants have unscheduled injuries, and almost half (41 percent) of their claims are for injuries to the back. The mean pre-injury quarterly earnings is $5,248, although one-fourth of the

[3]These data are used to set benefits and determine eligibility for UI. More than 90 percent of workers are covered by UI in New Mexico, with railroad workers, federal employees, nonprofit and church employees, and self-employed workers the most prominent exceptions. The research labs at Los Alamos are also excluded from the New Mexico UI system (and are covered in California). The coverage of workers' compensation in New Mexico is similar to coverage for UI except that farm workers are excluded, and nonprofit and church workers and the Los Alamos workers are included.

[4]Specifically, we required that the log of the average quarterly earnings of the potential control worker is equal to the injured worker's log average quarterly earnings, plus or minus 10 percent of the standard deviation of the log average quarterly earnings of the population of PPD claimants for injuries in that quarter. For example, for a worker with average quarterly earnings of $3,000, the log average quarterly earnings are 8.01. If the injury occurred in first quarter 1993, the standard deviation of the log average quarterly earnings is 0.80. Therefore, the log of the average quarterly earnings of the control must be between 7.93 and 8.09. This implies a dollar range between $2,779 and $3,262. The average for the control is taken over the five quarters prior to and including the injured worker's quarter of injury. For both the injured workers and the controls, if earnings are not found in a quarter prior to the injury quarter, the missing quarter is not included in the average.

claimants make less than $3,000 and one-fourth make more than $7,000 per quarter.

About 18 percent of PPD claimants have no controls and were dropped from the subsequent analysis. These are typically workers at smaller firms who may not have coworkers with similar wages. In Reville and Schoeni (2001), the authors show that, in California, this exclusion does not affect the results. Of the remaining PPD claimants, 72 percent are matched to five uninjured workers; 11 percent are matched to only one uninjured worker; 7 percent to two uninjured workers; 5 percent to four uninjured workers; and 5 percent to three uninjured workers.

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