



Evaluation of the Return-to-Work Fund in California's Workers' Compensation System

Performance to Date and Options for
Modification

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Preface

This report describes work undertaken by the RAND Corporation for the Department of Industrial Relations (DIR) to evaluate California’s Return-to-Work (RTW) Fund as it approaches its third year of implementation. The main tasks of the mixed-methods evaluation are (1) to evaluate the adequacy and equity of the Return-to-Work Supplement Program that was created to implement the RTW Fund and (2) to identify any practices and policies that would improve the adequacy, equity, and efficiency of the Return-to-Work Supplement Program’s administration.

This research builds directly on a number of past RAND studies for DIR and the Commission on Health and Safety and Workers’ Compensation. Most immediately, a 2014 RAND study (Seth A. Seabury and Ethan Scherer, *Identifying Permanently Disabled Workers with Disproportionate Earnings Losses for Supplemental Payments*, Santa Monica, Calif.: RAND Corporation, RR-425-CHSWC, 2014, available at www.rand.org/t/RR425) contained analysis and policy recommendations that informed the design of the program under evaluation in the present study.

A draft version of this report was posted online for public comment from April to May 2018. As of June 14, 2018, the resulting comments can be accessed at https://www.dir.ca.gov/chswc/Reports/2018/Public_Com_RTW_Fund_Draft_Report.pdf.

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Questions or comments about this report should be sent to the project leader, Michael Dworsky (Michael_Dworsky@rand.org). For more information about the RAND Institute for Civil Justice, see www.rand.org/icj or contact the director at icjdirector@rand.org.

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Summary

California’s workers’ compensation system provides medical care, indemnity (wage loss) benefits, and vocational rehabilitation (VR) services to workers who suffer occupational injury or illness. The California system is the largest in the country, with nearly 700,000 claims filed for injuries occurring in 2016, and as many as 100,000 permanent disability (PD) claims filed per year. Permanently disabling injuries generally result in large earnings losses that can last for years or for the duration of working life. Even though permanently disabled workers receive a sizable majority of all wage loss benefits paid in California, designing a system that provides fair and adequate compensation to permanently disabled workers remains a central challenge for policymakers in California and in other jurisdictions.

In 2012, California enacted Senate Bill (SB) 863, a major reform bill. The bill sought to improve the adequacy of permanent partial disability (PPD) benefits by raising the maximum weekly PPD benefit and by increasing disability ratings for selected injuries; both changes would lead to more-generous PPD benefits. To address remaining concerns about the adequacy and targeting of PPD benefits, SB 863 also instructed the director of the Department of Industrial Relations (DIR) to design and implement a new \$120 million program intended to make “supplemental payments to workers whose permanent disability benefits are disproportionately low in comparison to their earnings loss.” The resulting program, named the Return-to-Work Supplement Program (RTWSP), was established on April 13, 2015. Motivated by empirical findings that failure to return to work is one of the strongest predictors of poor employment outcomes, the program provides a one-time \$5,000 payment (known as the Return-to-Work [RTW] Supplement) to permanently disabled workers who are not given a work offer at the employer where the injury occurred. DIR operationalized this eligibility criterion by tying RTWSP eligibility to the Supplemental Job Displacement Benefit (SJDB), a voucher-based VR benefit established in 2004 that replaced California’s traditional VR system. Linking the RTWSP to the SJDB leveraged an existing process for identifying workers without a qualifying return-to-work offer. In 2017, the RTWSP was on track to disburse about \$80 million of payments to 16,000 disabled workers.

DIR has the authority to adjust the design and implementation of the RTWSP through additional regulations. To determine the need for modifications to the program, DIR asked RAND to evaluate the RTWSP’s performance and suggest improvements. Our research questions included the following:

- How many workers are eligible for, apply for, and receive the RTW Supplement?
- Does the RTWSP accurately target workers “whose permanent disability benefits are disproportionately low in comparison to their earnings loss”?

- Are the RTWSP and its related processes vulnerable to fraud and abuse?
- Are barriers to access preventing eligible workers from receiving the RTW Supplement?
- What modifications should DIR consider to help the RTWSP more fully meet its goals?

Because eligibility for and participation in the RTWSP depend on related processes, such as physician reporting and issuance of the SJDB voucher, we also identify areas where changes to these other processes might enhance RTWSP take-up and program integrity.

To address these questions, we conducted a thorough analysis of the program's operations since its inception, which included a review of regulations and practices governing the RTWSP; discussions with DIR staff about RTWSP operations; exploratory semistructured interviews with key stakeholders; and analysis of administrative data to (1) measure program participation, (2) understand patterns of take-up and targeting of the RTW Supplement, and (3) estimate the potential size of the eligible population. To obtain stakeholder input on interim findings and potential modifications, RAND also held a Technical Advisory Group meeting at DIR on January 23, 2018.

Key Findings

The RTWSP has been successfully targeted to workers with more-severe disabilities.

Compared with other permanently disabled workers, RTW Supplement recipients are a particularly vulnerable group on average. They come from lower-wage jobs with a higher risk of turnover, live in communities where they could face higher barriers to accessing support, and tend to experience more-severe injuries with longer durations. We also found that RTW Supplement recipients tend to have higher PD ratings than other permanently disabled workers without the RTW Supplement, providing further support for the finding that they experience more-severe injuries. The dollar value of the RTWSP is substantial relative to PPD benefits for many workers, with the RTW Supplement representing approximately 50 percent of the median PPD payment among workers who received both PPD benefits and the RTWSP. These findings suggest that the RTWSP is targeted to workers who are less likely to return to work and thus may face disproportionate earnings losses. While this study did not include data on post-injury employment outcomes for workers who received the RTW Supplement, these findings are consistent with existing evidence that lower-wage and more economically vulnerable workers are more likely to lose their jobs following permanently disabling injury and that failure to return to work leads to worse earnings losses.

Program administration is efficient and rapid, with little evidence of fraud or abuse.

Most workers receive the RTW Supplement within one year of ending their temporary total disability (TTD) benefits and beginning PPD payments, which is consistent with overall program guidelines that workers become eligible for RTWSP within three months of reaching maximum medical improvement (MMI). Workers who settle their claims are also likely to apply for the RTWSP around the time that their settlement payments are received. The RTWSP is paid to

workers in a timely manner after application: 90 percent of successful applicants are paid the RTW Supplement within three weeks of applying. This efficient administration of the program provides workers with additional resources at a key transition point in their claim—either after TTD benefits end or after the claim is settled. We also found that the vast majority of applicants ultimately receive the RTW Supplement. Based on RTWSP data provided by DIR, the ultimate acceptance rate among applicants is 96 percent. Stakeholders viewed RTWSP as having efficient administration and good program integrity, a perception that was consistent with our analysis of program data and our qualitative review of DIR’s procedures for verifying applicant eligibility.

Despite the efficiency of the application process, just over half of eligible workers apply for the RTWSP.

Although we lacked the data necessary to produce systemwide estimates of the take-up rate, evidence from a sample of SJDB voucher recipients spanning all segments of the workers’ compensation system shows substantially lower take-up rates than had previously been estimated using data on the more limited pool of workers who redeemed the SJDB voucher to obtain VR services. Take-up by eligible workers has increased significantly over the life of the program, yet just over half of eligible workers apply for the RTWSP, with most applications to the RTWSP submitted shortly after the SJDB voucher is issued. This low take-up rate among eligible workers in receipt of an SJDB voucher is the clearest shortcoming of the existing program.

Hypothesized barriers to access, such as language or geography, were not as important as legal representation in determining which eligible workers applied for the RTWSP.

Legal representation is the factor most strongly associated with take-up of the RTWSP among eligible workers. After controlling for a wide range of other factors, eligible workers with legal representation were more than 40 percentage points more likely to apply for the RTWSP than comparable eligible workers without representation were. Eligible workers were also more likely to apply if they had more-severe disabilities and lower pre-injury wages, but effects of these other factors were small compared with legal representation. We also found that age, gender, language ability, internet access, and proximity to Division of Workers’ Compensation field offices were not associated with higher RTWSP take-up. Apart from the effect of legal representation, other factors shaping which workers receive the RTW Supplement appear to be driven by SJDB voucher issuance (and thus eligibility for the RTWSP) rather than major differences in take-up behavior among groups of voucher recipients. Although the RTWSP application process was designed to be accessible to all eligible workers, including those without legal representation, the limited overall take-up of the RTWSP and the substantial difference in take-up rates between represented and unrepresented workers indicate that many workers who are targeted by the current program are not taking advantage of the benefit.

The eligible population for the program is larger than was expected when the program was established, and increasing receipt of the SJDB voucher may contribute to continued eligibility growth.

Although annual payments from the RTWSP have come in well below the \$120 million funding level, the program most likely has not reached its long-run application volume and could grow further, especially if DIR takes steps to increase take-up. The eligible population may be as much as twice as large as was assumed at the time the program was established, and so continued program growth may require DIR to increase the premium assessment used to sustain the RTW Fund. We also found some evidence that the eligible population may have grown because of recent increases in SJDB voucher issuance and payments. The increase in SJDB voucher payments is especially noteworthy because the strength of the California labor market in recent years should have led to improved return-to-work rates and fewer workers eligible for the SJDB. Instead, SJDB receipt has been increasing since 2012. Such increases are consistent with the incentives created by the RTWSP, although other policy changes in SB 863 are also likely to contribute to these increases in SJDB utilization.

The fact that a sharp increase in SJDB utilization was possible indicates that the SJDB was underutilized prior to SB 863. If VR services obtained with the SJDB are effective in helping permanently disabled workers find new employment, the increase in SJDB utilization incentivized by the RTWSP's design would represent a positive unintended consequence of the choice to tie RTWSP eligibility to the SJDB voucher; higher SJDB utilization was factored into cost projections used to develop the program, but the impact on workers of greater SJDB utilization was not explicitly considered in the research or the regulatory process that led to the establishment of the RTWSP. Until more is known about the effectiveness of the SJDB, however, any such benefits should be considered purely hypothetical.

Policy Recommendations to Improve the RTWSP

Our study indicated that low take-up among eligible workers was the most notable shortcoming of the existing RTWSP. Based on these findings, we developed several policy recommendations to improve program take-up. First, DIR could develop a system to make disbursement of the RTW Supplement automatic upon notification that a worker has received an SJDB voucher. Second, if the RTW Supplement is not made automatic, DIR could make changes to outreach and notification processes to help increase take-up of the RTWSP by eligible workers. While we also considered the case for either increasing the RTW Supplement amount or narrowing the eligibility criteria, we concluded that these options had significant risks and drawbacks that make them less favorable options for DIR.

Make the RTWSP Automatic

To ensure that the RTWSP reaches the full population of eligible workers, DIR might consider amending the regulations governing the program to make issuance of the RTW Supplement automatic for workers who receive the SJDB voucher. Automatic issuance of the RTW Supplement would guarantee that all eligible workers receive the benefit without preparing

and submitting an application, regardless of legal representation or other access or awareness issues. While this option would achieve full take-up of the benefit, it could reduce some of the current verification procedures in place that have been designed to prevent misuse of the system and could possibly introduce a greater administrative burden on claims administrators and DIR. The major obstacle to this approach is the fact that DIR would need to establish new reporting requirements to ensure complete and timely notification of SJDB voucher issuance.

Increase Outreach and Notification Efforts

If DIR does not make the RTWSP automatic, other steps might be taken to increase take-up among workers who are eligible under current law. Relatively minor changes to the content and formatting of the SJDB voucher notification might improve workers' awareness of the RTWSP and their understanding that the RTW Supplement is a readily available \$5,000 cash payment. We also learned that treating physicians do not always complete the forms necessary for workers to receive the SJDB and thus become eligible for the RTWSP, suggesting that targeted efforts to educate physicians about their reporting responsibilities could also improve workers' access to the RTW Supplement. Efforts to educate other injured workers' advocates about the RTWSP could also increase take-up, but we note that a strategy centered on improved awareness of the RTWSP among attorneys or other workers' advocates would not directly address low take-up among unrepresented workers. The major drawbacks of a strategy based on outreach and notification compared with a system of automatic payment issuance are that these options are unlikely to reach all eligible workers and may not lower the administrative burden currently experienced by workers. That said, a strategy based on outreach and notification would maintain the current system's verification procedures and would avoid administrative costs associated with new reporting requirements for claims administrators.

Both of these policy recommendations are likely to increase the volume of payments made by the RTWSP, perhaps by a substantial margin if a system for automatic payments is put into place. Unfortunately, DIR's ability to track the RTWSP-eligible population and fine-tune the program is hampered by the fact that there is no routine channel for claims administrators to report when SJDB vouchers are issued. Our study accordingly leads us to a third policy recommendation concerning the flow of information about SJDB voucher issuance.

Improve Monitoring of SJDB Voucher Issuance to Track Emerging Changes in the RTWSP-Eligible Population

Whether or not DIR decides to make the RTWSP automatic, we strongly recommend that DIR collect information from claims administrators about the issuance of SJDB vouchers, either on a systemwide or a representative basis. Given the wide range of program eligibility estimates that we found to be consistent with the available data, reliable systemwide estimates of the number of SJDB vouchers issued would be an important tool to help DIR anticipate the program cost implications of policy changes that would dramatically increase take-up. More broadly, the

system of physician and employer reporting that was developed to administer the SJDB voucher captures valuable information about workers' vocational outcomes, and DIR should take advantage of this information for future planning and evaluation efforts.

Given the current degree of uncertainty about the size of the RTWSP-eligible population, more routine reporting of SJDB voucher issuance could also be important in helping DIR to anticipate changes in the volume of RTWSP payments and the required funding level. Our estimates of the eligible population suggest that program costs when take-up levels are 100 percent could substantially exceed the \$120 million funding level specified in the labor code, although we note that a wide range of estimates are consistent with the available data. If DIR moves to substantially increase program take-up, it would be prudent to have a contingency plan for financing payments above \$120 million in a given year. Further analysis may also help to identify leading indicators for the volume of applications.

Better Evidence on Effectiveness of the SJDB Is Needed to Assess Whether the RTWSP Promotes Better Employment Outcomes by Encouraging Greater SJDB Utilization

Better reporting of the SJDB voucher would also be an important first step toward addressing widespread stakeholder concerns about the efficacy, integrity, and equity of the SJDB program itself. While the RTWSP was viewed as being largely unaffected by fraud, some stakeholders shared credible allegations of fraud and abuse in the VR system. Not all stakeholders agreed that SJDB fraud is an urgent matter for DIR to pursue, but essentially all stakeholders at the Technical Advisory Group felt that the effectiveness of the current VR system at helping workers find employment was not well substantiated. Meanwhile, stakeholders felt that the RTW Supplement was unlikely to promote better employment outcomes. Given that the RTWSP and other changes following SB 863 have boosted SJDB utilization, any positive impact of the RTWSP on employment outcomes (as opposed to workers' financial security) is likely to operate through the channel of increased SJDB voucher receipt and SJDB utilization.

Cost-effective interventions that reliably promote employment among disabled workers have proven elusive, however, and it is also possible that funds spent on the SJDB would be more valuable to workers in the form of cash benefits (similar to the RTWSP). DIR currently lacks the evidence base to make this judgment, but an empirical evaluation of the SJDB's effectiveness in improving employment outcomes could help guide policy in the future. Data on SJDB voucher issuance, along with more detailed VR billing data, would enable DIR to evaluate the state's current VR system and identify improvements to design a system that is maximally effective at helping permanently disabled workers recover function and maintain economic independence.

Some degree of mismatch between disability compensation and the losses experienced by individual workers is unavoidable in any compensation system that, like California's, is based on disability ratings. The inherent limits of California's approach to disability compensation present a case for a hybrid PPD benefit that combines a benefit based on disability ratings with some

measure of additional compensation targeted toward workers who experience disproportionate earnings losses. In terms of its effect on the targeting of disability compensation, the RTWSP effectively gives California such a hybrid system while avoiding perverse incentives by tying eligibility to events that are largely out of the worker's direct control. While further study with more complete data is needed to assess the RTW Supplement's full effects on employment outcomes and on benefit adequacy and equity in the context of the current PPD benefit system, the early results presented here are promising.

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Abbreviations

ACS	American Community Survey
ADA	Americans with Disabilities Act
ADJ number	district adjudication case number
AMA	American Medical Association
<i>AMA Guides</i>	<i>American Medical Association Guides to the Evaluation of Permanent Impairment, 5th Edition</i>
AME	agreed medical examiner
AOE	Arising Out of Employment
BTC	benefit type code
C&R	compromise and release
CHSWC	Commission on Health and Safety and Workers' Compensation
COE	Course of Employment
DEU	Disability Evaluation Unit
DIR	California Department of Industrial Relations
DWC	Division of Workers' Compensation
EAMS	Electronic Adjudication Management System
EDD	Employment Development Department
FCC	Federal Communications Commission
FEC	future earnings capacity
FEHA	Fair Employment Housing Act
FROI	First Report of Injury
ICJ	RAND Institute for Civil Justice
IW	injured worker
JCN	Jurisdiction Claim Number
JIE	RAND Justice, Infrastructure, and Environment
MMI	maximum medical improvement
NASI	National Academy of Social Insurance
P&S	permanent and stationary
PD	permanent disability
PDRS	Permanent Disability Rating Schedule
PPD	permanent partial disability
PTD	permanent total disability
PTP	primary treating physician
QME	qualified medical examiner
RTW	return to work

RTWSP	Return-to-Work Supplement Program
SB	Senate Bill
SJDB	Supplemental Job Displacement Benefit
SROI	Subsequent Report of Injury
SSDI	Social Security Disability Insurance
TAG	Technical Advisory Group
TTD	temporary total disability
UI	unemployment insurance
VR	vocational rehabilitation
WCAB	Workers' Compensation Appeals Board
WCARF	Workers' Compensation Administration Revolving Fund
WCIRB	Workers' Compensation Insurance Rating Bureau
WCIS	Workers' Compensation Information System

Chapter One: Introduction

California's workers' compensation system provides medical care, indemnity benefits, and vocational rehabilitation (VR) to nearly 700,000 workers per year who suffer on-the-job injuries and illnesses. Although most injured workers require only medical care and do not experience significant work disability, around 15 percent of injured worker claims will ultimately result in permanent disability (PD). Disability benefits for these workers, who represent the most-severe nonfatal injuries in the California workers' compensation system, account for over 80 percent of indemnity benefits paid for all nonfatal injuries. Permanently disabled workers in California experience substantial reductions in earnings and employment as a result of their disability, and the provision of fair and adequate compensation to permanently disabled workers has long been a major challenge for workers' compensation policy in California.

Concerns about the adequacy of benefits have been especially pronounced since the enactment of Senate Bill 899 (SB 899) in 2004, when California adopted the *American Medical Association Guides to the Evaluation of Permanent Impairment, 5th Edition (AMA Guides)* as the method for determining PD ratings. Permanent partial disability (PPD) benefits in California are assigned on the basis of PD ratings, so changes in the method used to assign ratings will directly affect levels of PPD benefits provided to workers. After the transition to the *AMA Guides*, PPD benefits fell sharply because the new approach to determining disability ratings assigned significantly lower ratings than had been assigned under California's previous rating system. Due to this decline in PD ratings and PPD benefits, the proportion of lost earnings that was replaced by PPD benefits (i.e., the wage replacement rate) fell by 26 percent in the three years after the reforms (Seabury et al., 2011). Wage replacement rates for permanently disabled workers dropped even more sharply after the Great Recession of 2008–2009 and California's slow labor market recovery made it even more difficult for disabled workers to return to work or find new employment following injury (Dworsky et al., 2016).

In 2012, another round of major workers' compensation reforms was enacted as Senate Bill 863 (SB 863). A major objective of SB 863 was to improve the adequacy of indemnity benefits for workers with PPD as a result of workplace injuries and illnesses. Besides modifying the disability rating process and increasing the maximum weekly benefit, SB 863 took the novel approach of creating an additional benefit for severely disabled workers that would operate separately from the more traditional indemnity benefit system. SB 863 instructed the director of the California Department of Industrial Relations (DIR) to create a "Return to Work Program" that would disburse up to \$120 million per year of supplemental benefits to disabled workers. Rather than establishing the rules for this new program in the statute law, SB 863 instructed the director of DIR to adopt regulations defining the benefit, specifying only that the program would have "the purpose of making supplemental payments to workers whose permanent disability

benefits are disproportionately low in comparison to their earnings loss.” The resulting program, ultimately named the Return-to-Work Supplement Program (RTWSP), provides one-time \$5,000 payments (the Return-to-Work [RTW] Supplement) to workers eligible for the Supplemental Job Displacement Benefit (SJDB). Workers are eligible for the SJDB, which is California’s voucher-based VR benefit, if they have PPD and do not receive a qualifying return-to-work offer from their at-injury employers.

Because SB 863 created a new cash benefit to be defined and administered separately from traditional indemnity benefits, the regulations establishing the program were developed under some uncertainty about how successful the initial program design would be at achieving the program’s goals of targeting workers with disproportionately low benefits in comparison to their earnings losses. Although DIR has monitored the program closely and has released occasional updates on the volume of applications and payments, the overall design and performance of the RTWSP have not been subjected to rigorous, independent study since the program was established.

Now, nearly three years after the RTWSP was established, sufficient data are becoming available to enable an early evaluation of the program’s design and implementation. The topics addressed include whether the RTWSP is accurately targeting the intended population of workers with disproportionate earnings loss, whether eligible workers have encountered barriers that prevent them from accessing the RTW Supplement, and whether the program’s design leaves it vulnerable to fraud or abuse. Because DIR has the authority to adjust the design of the RTWSP, evidence on the performance of the program could be valuable for improving the program’s ability to provide more adequate disability compensation for workers who might otherwise be undercompensated for lost earnings due to injury.

This report describes work undertaken by the RAND Corporation for DIR to evaluate California’s RTWSP as we approach the third anniversary of the program’s inception. RAND researchers conducted a mixed-methods evaluation with two key objectives: (1) to evaluate the design and performance of the RTWSP and (2) to identify practices and policies with the greatest potential to help the RTWSP achieve its objective of providing needed compensation to workers with disproportionately low PD benefits in comparison to their earnings loss.

Organization of the Report

Chapter Two provides background information on the RTWSP, including its design history, legislative history, implementation timeline, and an overview of the program’s current design and eligibility criteria. Chapter Two also describes RAND’s overall study design, lays out the research questions, and provides an overview of the mixed-methods approach.

Chapter Three describes in detail the operation of the RTWSP. Drawing on a review of the rules and regulations pertaining to the establishment of the RTWSP and discussions with DIR staff, we delineate the mechanics and timelines of how the RTWSP and its current practices fit

within the larger workers' compensation system. Chapter Three also presents statistics on RTWSP application volumes, denials and appeals, and the timeliness of application processing and payment issuance.

Chapter Four describes the perspectives of key stakeholders concerning the current purpose and design of the RTWSP and the perceived strengths and weaknesses of the RTWSP (as currently operated and implemented), addressing whether there are features of the program that lead to fraud or abuse and whether there is a perception among stakeholders that workers are having difficulty claiming the RTW Supplement without assistance from intermediaries.

Chapter Five describes the data sources and methods used in the quantitative analyses and defines the population of interest and the samples used in the quantitative analysis.

Chapter Six presents quantitative results on the targeting of the RTWSP and take-up of the benefit by eligible workers.

Chapter Seven characterizes the number of injured workers per injury year who are eligible for the RTWSP under the program's current design, providing a range of estimates under alternative assumptions about SJDB voucher issuance. Chapter Seven also illustrates the possible degree of variability in the eligible population due to changes in economic conditions.

Chapter Eight describes potential modifications and recommendations to the RTWSP based on the results from the preceding chapters. After recapping the problems identified, we discuss possible modifications to the design and operation of the RTWSP. We also suggest potential improvements to related aspects of the workers' compensation system, including physician reporting and the SJDB voucher.

Chapter Nine shares the authors' conclusions and policy recommendations.

Appendixes A and B provide qualitative information on the stakeholder interviews and quantitative data, including data sources, methods, and supplementary results.

Chapter Two: Background and Overview of Study

This chapter provides some background information on California's workers' compensation system and details the history of reform to PPD benefits in California that forms essential context of the Return-to-Work Fund's establishment by statute law in 2012. We then describe selected considerations and research findings that informed the RTWSP's current design and provide a general discussion of the program's eligibility criteria and operation. A detailed examination of the program's design and operation is presented in Chapter Three. Finally, this chapter provides an overview of this study, including a statement of our research questions and a brief introduction to the qualitative and quantitative methods used.

Policy Context for the Return-to-Work Fund

As in other states, California's workers' compensation system requires employers to provide medical payments and cash indemnity benefits to workers who experience job-related injuries or illnesses.¹ California requires all employers, regardless of size, to have coverage for workers' compensation. To obtain coverage, employers may self-insure or purchase workers' compensation from a private insurance carrier or the State Compensation Insurance Fund. Another option for employers that are too small to meet the self-insured requirements is to combine efforts with other employers and self-insure as a private group or as a joint public authority.

Nonfatal workplace-related injuries or illnesses may be classified as medical-only, temporary disability, or PD. Medical-only claims involve no lost time beyond the three-day waiting period before indemnity benefits start, so the only benefits provided consist of medical treatment. A temporary work-related injury or illness is defined as one that prevents a worker from doing his or her usual work for more than three days or that requires an inpatient hospital admission.² Workers with a temporary condition will collect weekly temporary total disability (TTD) or temporary partial disability benefits until they return to work at full wage or reach maximum medical improvement (MMI). Injured workers who attain MMI but still have some residual disability as a result of the injury are potentially eligible for PPD benefits.

Since 2013, about 610,000 to 640,000 new workers' compensation claims have been reported to DIR each year by claims administrators (California Department of Industrial Relations, 2017).

¹ Employers are also required to provide some death benefits to the dependents of workers who have died from a workplace injury or illness, though occupational fatalities are relatively infrequent.

² If an injury or illness requires the worker to be out of work for 14 days or longer, the first three days are covered retroactively.

Most workers who file a workers' compensation claim do not experience any work absence beyond the three-day waiting period, and thus they receive only medical care. However, three in ten injured workers will receive some form of indemnity benefits as compensation for a longer spell of work absence or for PD.³ Ultimately, around 15 percent of injured workers who file a workers' compensation claim—about half of those who receive indemnity benefits—will receive PPD benefits. Because these workers represent the most-severe nonfatal injuries in the system, they require a disproportionate share of medical care and receive 80 percent or more of total indemnity benefits paid for nonfatal injuries in the system. In total, PPD benefits accounted for about 38 percent of indemnity benefits paid to injuries that occurred in 2013.⁴

Permanently disabled workers in California have historically experienced quite severe earnings losses as a result of their injuries. The most recent published estimates of earnings losses for permanently disabled workers in California found that permanently disabled workers injured between 2005 and 2011 earned 29 percent less than they would have in the third year after their injuries (Dworsky et al., 2016). The bulk of earnings losses are driven by workers whose disability results in the loss of employment: Permanently disabling injuries led to a 24-percent reduction in the probability of employment three years after injury, though reduced hours, slower wage growth, and transitions to lower-paying jobs can also contribute to earnings losses among those who remain employed (Dworsky et al., 2016). Earnings and employment losses due to injury are not only large, but they also tend to be highly persistent or even permanent. These findings are not peculiar to California: Studies on the economic consequences of permanently disabling workplace injury from other settings also show large and persistent reductions in earnings and employment to be the expected result of permanently disabling workplace injury (Savych and Hunt, 2017; Galizzi and Boden, 2003; Hunt and Dillender, 2017).

Permanent Disability Ratings and Workers' Compensation Reform in California

The “grand bargain” of workers' compensation represents a compromise between workers and employers, in which workers' compensation supplanted the tort system as the exclusive remedy for workers to pursue compensation for workplace injuries. By replacing the courts with an administrative system for disbursing statutorily defined benefits, workers' compensation (at least in theory) promised workers and employers a way to resolve injury claims efficiently without the uncertainty, transaction costs, and delays associated with tort litigation. For the vast

³ About one-third of workers with paid or settled PD benefits do not receive any temporary disability benefits.

⁴ The Workers' Compensation Insurance Rating Bureau of California (WCIRB), which develops rates for commercial insurers that serve the California market, reports that PPD benefits were 41 percent of total indemnity payments paid in calendar year 2016 (WCIRB, 2017a). Calendar year and injury year (or accident year) statistics are not directly comparable, and the WCIRB does not capture data from the self-insured sector, which paid an estimated 30 percent of California workers' compensation benefits in calendar year 2015 (National Academy of Social Insurance [NASI], 2017).

majority of claims that involve uncontested minor injuries, it is arguably straightforward for the system to live up to the basic terms of the grand bargain.⁵

In contrast, the trade-offs and difficulties that are inherent in the grand bargain are thrown into sharper relief by the problem of compensating permanently disabled workers. These workers have the most-severe disabilities among nonfatal injuries, and the potential for inaccuracies, unfairness, or inadequacy in the system developed to assign disability ratings and benefits to workers grows in proportion to the economic losses experienced by disabled workers.

One of the fundamental challenges in designing a system for compensating permanent disabilities is that workers' compensation must take a structured, at least somewhat standardized approach to assigning disability compensation if the transaction costs and delays of the tort system are to be avoided.⁶ Without litigating each case, however, it becomes impossible to tailor benefits to individual circumstances. Considering that earnings losses for permanently disabled workers often reflect an all-or-nothing transition from employment to nonemployment, workers' economic outcomes after an injury may be highly variable even for individuals with the same degree of impairment.

In the TTD phase of an injury, California and other jurisdictions address the problem of assigning compensation by paying workers a daily benefit amount for each day of medically necessary work absence. Because workers are paid for each day of work absence, TTD benefits are mechanically linked to the total amount of lost wages. A conceptually similar approach can be taken to PD benefits, in which the worker's actual earnings after reaching maximum medical improvement are the primary factor determining the level of disability compensation: A fraction of the worker's pre-injury wage is paid for the duration of work absence even after MMI has been reached. Such a "wage loss" approach can offer a much better fit between workers' earnings losses and the value of PPD benefits than may be possible in impairment-based systems, a theoretical advantage that is substantiated by recent studies of benefit adequacy in Michigan, a wage loss state (Savych and Hunt, 2017).⁷

However, very few states use a "wage loss" approach to PD benefits today. One serious drawback of the wage loss approach is that tying compensation directly to post-injury earnings creates work disincentives that lead to higher disability duration, driving up system costs and potentially even undermining rehabilitation by implicitly penalizing efforts to return to work

⁵ This is not to say that workers' compensation—in California or elsewhere—functions flawlessly for workers with minor injuries or that the grand bargain as originally conceived is necessarily the optimal social insurance system for the current economy. Spieler (2017) provides a thorough critical discussion of the current status of the grand bargain.

⁶ Observers have pointed out that it is not always obvious that the frequently adversarial workers' compensation systems we have today are actually much more efficient than the tort system. See Abraham (2008), Chapter Two, for an analysis of workers' compensation in the context of tort law and liability insurance that highlights this irony of modern workers' compensation systems.

⁷ See Reville et al. (2005) for a thorough taxonomy of different approaches to PPD benefits used by different U.S. and Canadian jurisdictions, with discussion of their advantages and disadvantages.

(Butler, Gardner, and Kleinman, 2013; Markussen, Mykletun, and Røed, 2012). A related concern is that there may be additional delays involved in establishing earnings losses (Reville et al., 2005).

Instead, California (like many states) uses a disability rating–based approach to determining disability compensation, in which a medical or a functional examination is used to measure a worker’s degree of disability, and then compensation is assigned based on a formula set forth in the Permanent Disability Rating Schedule (PDRS), which effectively maps the worker’s disability rating and several other factors into an amount of compensation. Compared with a wage loss system, a system based on disability ratings avoids work disincentives, but at the expense of substantially increasing the potential for a mismatch between the degree of earnings loss and the level of disability compensation provided. The potential for such a mismatch is even more ethically problematic when we recall that, as part of the grand bargain, workers lost the right to pursue compensation for noneconomic damages (such as pain and suffering or reduced quality of life) resulting from their injuries. Because these noneconomic (and uncompensated) losses are generally greatest for permanently disabled workers, failure to provide adequate disability compensation for the economic losses that are addressed by workers’ compensation benefits is even more egregious for severely disabled workers.

In addition to the inherent difficulties involved in compensating permanent disabilities, the sizable amounts of money spent on PPD benefits make it a natural focus for legislative efforts to control system costs: While PPD benefits in California currently account for a smaller proportion of total system costs than is the case in many other states, PPD benefits represent roughly one in six dollars of benefits paid out to workers and approximately one in eight dollars paid into the system by employers.⁸ Providing fair and adequate compensation to permanently disabled workers is thus one of the most important tests of the grand bargain, and it is one of the features of workers’ compensation policy that has proven most reliably contentious.

It is not surprising, therefore, that the rating system in California has been at the heart of many controversies involving the California workers’ compensation system over the years. In earlier incarnations of the disability rating system, there were longstanding concerns that the system was overly subjective and promoted disputes (Berkowitz and Burton, 1987; Reville et al., 2005). Several past studies by RAND conducted for the Commission on Health and Safety and Workers’ Compensation (CHSWC) have questioned the adequacy of California’s PPD benefit

⁸ We approximated the proportion of total benefits and employer costs paid out as PPD by combining our Workers’ Compensation Information System (WCIS) estimate that 38 percent of injury year 2013 indemnity benefits paid to date are for PPD with estimates of covered payroll, total benefits paid, and employer costs per \$100 covered payroll in calendar year 2013 published by NASI (2015). This is a very rough approximation, because we have mixed calendar year and injury year statistics, but we think this is likely informative about how the total volume of PPD benefits compares with the overall size of the workers’ compensation system. The share of employer costs may be lower for more recent years, as calendar year statistics published by NASI show a lower proportion of employer costs paid as benefits in 2015 as compared with 2013; these more recent figures would imply that about one in ten dollars of employer costs go to PPD benefits.

levels (Peterson et al., 1997; Reville and Schoeni, 2001; Reville, Schoeni, and Martin, 2002; Seabury et al., 2011). This is despite the fact that, on a statutory basis, the benefits in California have not historically been markedly lower than in other states (Reville et al., 2005).

Below, we discuss how reforms to the system in 2004 led to the adoption of a system based on the *AMA Guides*. The implementation of this change resulted in a substantial decline in benefits and helped motivate the adoption of SB 863, which established the creation of the RTWSP. Nonetheless, concerns about adequacy have motivated several reforms to benefit levels over the years, including SB 863.

Senate Bill 899 and Adoption of the AMA Guides

Prior to the passage of SB 899 in 2004, California's disability rating system relied on a complex combination of factors to arrive at a disability rating. The pre-2005 disability rating system was marked by a reliance on functional evaluations that attempted to account for individual-level work restrictions, as well as other factors that were often criticized as being overly subjective. There were also adjustments based on age and occupation (State of California, 2005).

The passage of SB 899 in 2004 led to substantial changes in the disability rating system, with adoption of the system based on the *AMA Guides* (Labor Code §4660[b][1]). The new rating system abandoned the old subjective factors and work capacity guidelines, although it did keep the age and occupation modifiers. Instead, the *AMA Guides* are designed to produce impairment ratings that characterize the degree of physical deficit or impairment observed in an individual.

Additionally, SB 899 required the administrative director to incorporate empirical data on earnings losses for disabled workers to adjust disability ratings, which was done through what were referred to as future earnings capacity (FEC) adjustments. Another change in the disability rating system introduced by SB 899 was the introduction of new rules on how responsibility for the disability is split between the employer and worker ("apportionment"); the new apportionment rules reduced PD ratings by the fraction of disability that the physician deems was not work related.

The net effect of the changes to the PD rating system brought about by SB 899 was a substantial reduction in the level of PD ratings assigned by the system. The adoption of the *AMA Guides* led to a reduction because the average rating in the *AMA Guides* is lower than the rating assigned to a similar impairment evaluated using the pre-2005 PDRS. Neuhauser (2007) found that the average PD rating in California after adoption of the *AMA Guides* system was 41.7 percent lower than under the PDRS prior to adoption. Additionally, he found that 9.8 percent of all PD cases included apportionment in 2006, leading to an average reduction in ratings of 40.1 percent in apportioned cases. Overall, the apportioning of PD to causation reduced total PPD benefit payments by almost 6 percent, and the total decline in PD awards that could be attributed to lower disability ratings was more than 50 percent.

In the late 2000s, two developments increased pressure for further reform. The first was that premiums began to rise once more, largely driven by rising costs associated with the provision of medical care for injured workers. The second was a growing body of evidence that the 2004 reforms had led to a dramatic cut in PPD benefits for disabled workers. Even after the FEC adjustments, disability ratings (and thus disability benefit levels) were significantly lower on average than the ratings under the old schedule, and replacement rates of lost income fell by 26 percent after the reforms (Seabury et al., 2011). Given past evidence showing that California already had questionable benefit adequacy under the old benefit levels (Peterson et al., 1997), there was concern that the effort to cut costs had imposed considerable burden on permanently disabled workers.

A related concern was that the impairment ratings delivered under the *AMA Guides* were too coarse to accurately discriminate between the circumstances of individuals who might have similar impairments but would face very different degrees of disability, either because of subtle differences in skill and job content not recognized in the PDRS or because of differences in their work environment or employer's ability to provide accommodation. Disability researchers often conceptualize disability as the result of a complex interaction between an individual's impairment and that individual's social environment, strongly suggesting that the relationship between impairment and disability is mediated by a large number of contextual factors (Jette, 2006). As observers of workers' compensation policy have noted, the modern view of disability implies that there is no deterministic relationship between a worker's degree of impairment and the severity of the resulting work disability or earnings loss (Spieler, 2017). In this view, any attempt to assign disability ratings based primarily on evidence of physical impairment will result in some degree of mismatch between any individual's disability rating and the true degree of economic loss experienced by the individual. The components of the pre-SB 899 PDRS that incorporated work limitations and other subjective features might be understood as an effort by California policymakers to allow for a disability rating process that was more sensitive to differences in individual circumstances among different individuals with identical impairments.

Unfortunately, system observers and, ultimately, the legislature determined that the degree of conflict, physician-shopping, and other unintended consequences invited by the subjective features of the pre-SB 899 PDRS outweighed any benefits it may have offered in terms of more individualized disability ratings. Indeed, earlier wage loss studies revealed sizable inequities in wage replacement rates across different types of impairments, suggesting that the subjectivity of the pre-SB 899 PDRS managed to introduce conflict into the system, yet failed to deliver on the potential for such an individualized system to produce more-accurate disability ratings (Peterson et al., 1997; Reville et al., 2005). However, concerns about the adequacy and fairness of the disability rating system adopted under SB 899 raise the question of whether, by adopting a more strictly impairment-based rating system, California went too far in the opposite direction.

Reforms to Permanent Partial Disability Benefits in Senate Bill 863

In September 2012, California adopted SB 863 as an attempt to contain medical costs for injured workers while restoring some of the PPD benefits that had been reduced. The bill made many changes to PD benefits, including elimination of the FEC variable (replaced with a fixed multiplier of 1.4), an increase in the amount of wages that could be considered for calculation of PPD benefits, a limitation on compensation based on certain controversial types of add-on impairments (e.g., sexual dysfunction, psychological disorders, and sleep disorders), and various adjustments to administrative aspects of the system (such as the timing of PD advances).

SB 863 had two broad objectives: to control rapidly rising medical spending and to increase the generosity of indemnity benefits provided to permanently disabled workers as a means to improving the adequacy of indemnity benefits for workers with PPD that result from workplace injuries and illnesses (California Department of Industrial Relations, 2012). The hike in PD benefits was in part a response to declines in impairment ratings and benefits that followed the adoption, in 2005, of the *AMA Guides*, as discussed above.

While SB 863 retained the *AMA Guides* for rating impairments, the reforms included changes to the methods used for calculating final disability ratings that increased disability ratings for the majority of permanently impaired workers; the maximum weekly wage used to calculate PPD benefits was also increased for the first time since 2006. These changes, which were partially implemented in 2013 and fully implemented in 2014, led to significant increases in the amount of PPD benefits paid out to workers (Workers' Compensation Insurance Rating Bureau of California, 2017a). A wage loss study that used data on disability evaluations performed under the SB 899 rating system to provide an *ex ante* evaluation of the PPD changes in SB 863 found that after-tax wage replacement rates for workers injured between 2005 and 2012 would have been 18 percentage points higher (76.8 percent versus 58.8 percent) due to the higher PPD ratings and the higher maximum weekly benefit (Dworsky et al., 2016). Because SB 863 retained the *AMA Guides* as the primary input into the disability rating system, the fairness of the PPD benefit system was not meaningfully affected by the PPD reforms in SB 863. While the equity of benefits across workers with impairments of different body parts of varying severity was essentially unaffected by SB 863, increases in the minimum and the maximum weekly PPD benefit had a slightly regressive effect on the distribution of wage replacement rates across the income distribution. The lowest-wage workers had benefits that were already below the maximum, while the increase in the minimum was smaller and affected relatively fewer workers: In 2012, about 75 percent of PD workers had earnings above the weekly maximum, while only about 15 percent of PD workers had earnings below the weekly minimum.⁹

⁹ For the vast majority of PD workers with ratings below 70, SB 863 raised the maximum weekly benefit by \$60 per week between the 2012 and 2014 injury years, from \$230 to \$290. The minimum weekly benefit increased by \$30 per week, from \$130 to \$160 (California Department of Industrial Relations, 2018b).

Establishment of the Return-to-Work Supplement Program

Besides modifying the disability rating process and increasing the maximum weekly benefit, SB 863 took the novel approach of creating an additional benefit for severely disabled workers that would operate separately from the more traditional indemnity benefit system. SB 863 instructed the director of DIR to create a “Return to Work Program” that would disburse up to \$120 million per year of supplemental benefits to disabled workers. Rather than establishing the rules for this new program in the statute law, SB 863 instructed the director of DIR to adopt regulations defining the benefit, specifying only that the program would have “the purpose of making supplemental payments to workers whose permanent disability benefits are disproportionately low in comparison to their earnings loss.” Specifically, SB 863 amended Section 139.48 of the California Labor Code to read:

There shall be in the department a return-to-work program administered by the director, funded by one hundred twenty million dollars (\$120,000,000) annually derived from non-General Funds of the Workers’ Compensation Administration Revolving Fund, for the purpose of making supplemental payments to workers whose permanent disability benefits are disproportionately low in comparison to their earnings loss. Eligibility for payments and the amount of payments shall be determined by regulations adopted by the director, based on findings from studies conducted by the director in consultation with the Commission on Health and Safety and Workers’ Compensation. Determinations of the director shall be subject to review at the trial level of the appeals board upon the same grounds as prescribed for petitions for reconsideration.

To guide the design of this “return-to-work program,” the CHSWC commissioned an empirical study by the RAND Corporation, which suggested several alternative approaches to determining eligibility for and setting the level of payments to be provided. Informed by the results of this study, regulations established what was ultimately named the Return-to-Work Supplement Program (RTWSP) on April 13, 2015.

As outlined in Seabury and Scherer (2014), one of the key challenges in developing the RTWSP was developing well-defined eligibility criteria, without drastically affecting incentives to return to work. In an ideal world, benefit eligibility would be based directly on observed earnings losses, providing an extra payment to workers who experienced the worst outcomes after injury. However, it is not possible to design a system that compensates workers based directly on post-injury earnings without introducing some degree of work disincentive: By paying higher benefits to workers with lower earnings, any such system implicitly penalizes workers who earn more following the injury. Measuring earnings losses also requires a significant lag between the injury date and when earnings losses are realized. Similarly, using disability ratings could help to identify workers who are likely to experience a difficult return to work, but these ratings may not comprehensively capture return-to-work capacity.

As a result, the RTW Supplement was ultimately made available to workers who receive an SJDB voucher for an injury occurring on or after January 1, 2013. Workers are eligible for the SJDB if they did not receive a “qualifying return-to-work offer” from the at-injury employer. This means specifically that the employer must offer the injured worker modified or alternative work within 60 days of receipt of the RTW & Voucher Report from the primary treating physician. To qualify, the offer of regular or alternative work must be within the worker’s ability to perform the essential job functions, must consist of a regular position lasting at least 12 months with wages and compensation at least 85 percent of those at the time of injury, and must be located within a reasonable commuting distance of the worker’s residence at the time of the injury.

To receive the RTW Supplement, workers who have received the SJDB submit an online application to DIR. Workers who received an SJDB voucher after the RTWSP was implemented must apply within one year of the date when the SJDB was served; qualifying workers who received the SJDB voucher before April 13, 2015, could apply up to one year after the effective date of the regulations defining the program.¹⁰ Upon receipt of a completed application, DIR has 60 days to process the application and make a final eligibility determination before paying the RTW Supplement as a lump sum to the injured worker. Eligibility determinations may be appealed to the Workers’ Compensation Appeals Board (WCAB).

Another key decision in the creation of the RTWSP was to determine the appropriate structure and value of the benefit. The primary goal of the program—to make supplemental payments to workers with disproportionately low PD benefits in comparison to their earnings loss—would seem to call for a large payment to remedy inadequacies in the PPD benefit system. The optimal benefit amount would be driven by both the number of eligible workers and their amount of need, as determined by earnings losses. Yet the program’s fixed level of total funding (\$120 million per year) appears to create an inherent trade-off between the generosity of the RTW Supplement and the affordability of the RTWSP. After modeling various possible combinations of these parameters, it was determined that eligible workers who apply would receive a flat, one-time \$5,000 payment (the “RTW Supplement”) issued by DIR.

Anticipated Effects of the Return-to-Work Supplement Program

An *ex ante* evaluation of the RTWSP’s impact on benefit adequacy and equity was included in the wage loss study by Dworsky et al. (2016). The authors found that the value of the RTWSP for the average worker with PD would be modest in comparison to the other benefit hikes included in SB 863 and that impacts on either vertical or horizontal equity would be muted. In contrast, they found that several features of the RTWSP made it strongly progressive, in the sense that the increase in wage replacement rates due to the supplement was greatest for the

¹⁰ A one-year period of extended eligibility for workers who were issued vouchers prior to December 1, 2015, was later established on March 20, 2017 (8 CCR §17304).

lowest-wage workers. The RTWSP's progressivity is in part a mechanical consequence of the fact that it has a fixed value of \$5,000 regardless of the worker's wage level, but it also reflects the poorer return-to-work rates experienced by low-wage workers. In the context of the other benefit changes enacted by SB 863, then, the RTWSP was expected to make the overall impact of the law on wage replacement rates slightly more progressive.

As noted above, care was taken in the design of the RTWSP to avoid policy choices that would create work disincentives. DIR was able to preserve work incentives by defining eligibility in a way that takes the choices determining eligibility out of the direct control of the worker. Economic theory suggests that workers who receive a transfer of income may respond by choosing to work less, a behavioral response referred to as an "income effect." However, there is no currently available evidence substantiating the existence of income effects for permanently disabled workers, and it is also critically important to note that any such income effects do not detract from the efficiency of the labor market.

Indeed, there are several theoretical arguments for why the financial resources provided by the RTW Supplement could help workers achieve better economic outcomes even if an income transfer leads to reduced wage and salary employment in the short run. Provision of additional income at times when workers are under financial pressure can allow workers to afford a longer time to recover or to afford a longer search to find better long-run employment opportunities that might not be available right away.¹¹ Similarly, some workers could use the RTW supplement as an initial investment to start a business or pursue self-employment. RTW Supplement recipients might also use the money to purchase services or equipment that promotes functional and VR but that either is not covered by workers' compensation medical benefits or the SJDB or that has costs above the \$6,000 cap on the SJDB.

In addition to its primary objective of improving the adequacy of compensation for certain permanently disabled workers, one might ask whether the current design of the program could have any effect on return-to-work outcomes for permanently disabled workers. Contrary to what might be connoted by the program's name, promotion of return-to-work or better employment outcomes was not a statutory goal of the program, nor was this objective explicitly considered in the design study by Seabury and Scherer (2014), in the Standardized Regulatory Impact Assessment, in public comments submitted on the draft regulations, or in the final statement of

¹¹ A working paper by Rennane (2018) found evidence that such liquidity-related income effects were present for injured workers in Oregon receiving TTD benefits: In effect, workers who received a small lump-sum transfer had higher disability duration following the initial injury, a pattern consistent with the lump sum relaxing some financial pressure to return to work before rehabilitation is complete (which would increase the risk of a subsequent injury). We would expect that this mechanism would be less important for permanently disabled workers whose conditions have already reached MMI, but empirical investigation is needed to determine whether this is the case.

reasons issued by DIR to justify the regulations implementing the program.¹² As noted above, a greater emphasis was placed on avoiding work disincentives.

Nonetheless, Seabury and Scherer (2014) did note that tying the RTW Supplement to receipt of the SJDB voucher could encourage increased rates of SJDB voucher issuance if, as was believed at the time, there was a sizable population of workers eligible for the SJDB who failed to receive vouchers. Seabury and Scherer (2014) analyzed the potential effect of the RTWSP on SJDB voucher issuance in the context of predicting program costs and did not emphasize the possibility that greater SJDB voucher issuance could affect injured workers' utilization of VR services, equipment, or counseling provided through the SJDB. However, to the extent that the SJDB is effective in promoting better employment outcomes, the design of the RTWSP might inadvertently improve return-to-work outcomes by incentivizing more workers to obtain and potentially use an SJDB voucher.

We note that the RTWSP's effects on employment and return-to-work outcomes were not within the scope of this study due to data limitations. As such, this preceding discussion of impacts on employment and VR outcomes is speculative in nature and is meant primarily to promote awareness of the full range of potential effects that might theoretically result from the current program design. Other program impacts that are more amenable to study with currently available data are examined later in the report.

The parameters of the RTWSP were based on analysis of historical program trends and estimated earnings losses from prior cohorts. Now that the RTWSP has been in operation for nearly three years, there are sufficient data and experience with the program to support an evaluation of the program's adequacy, equity, and administrative efficiency. Indeed, the RAND study that helped inform the initial design of the RTW program recommended that "the eligibility criteria and benefit design should be monitored and updated as new information is received" (Seabury and Scherer 2014).

To summarize, the RTWSP was designed to provide a one-time \$5,000 payment (the Return-to-Work [RTW] Supplement) to workers eligible for the SJDB. Workers are eligible for the SJDB if they have PPD and do not receive a qualifying return-to-work offer from their at-injury employers.

¹² Sources: California Department of Industrial Relations, Office of the Director, 2015; California Department of Industrial Relations, undated(a); and California Department of Industrial Relations, undated(b). Additional documentation from the regulatory process is available online at <https://www.dir.ca.gov/ODRegulations/ReturnToWorkRegulations/ReturnToWork.html> (California Department of Industrial Relations, 2018a).

Overview of Study

This evaluation study aims to provide new information about the extent to which the RTWSP achieved the goals of providing an adequate and equitable benefit to those injured workers with disproportionate earnings loss and to provide recommendations for ways to improve the program's design and administration. The remainder of this chapter outlines RAND's approach to conduct a rigorous, independent evaluation study of the RTWSP using data on actual RTWSP beneficiaries and information from key stakeholders. In what follows, we discuss how we assessed the targeting and take-up under the current benefit structure, analyzed the current benefit administration and potential susceptibility to fraud, and used data from the first few years of the program's operation to estimate the size of the eligible population and potential program costs under alternative assumptions about take-up and varying economic conditions.

Research Questions

To understand how the post-injury experiences of permanently disabled workers in California have been influenced by the existence and operation of the RTWSP, to evaluate the operation of the first two years of the RTWSP program, and to suggest potential changes to address any identified challenges, we examined the themes and information from the stakeholder interviews and the evidence from the quantitative findings to respond to the following evaluation research questions:

- How many workers are eligible for, apply for, and receive the RTW Supplement?
- Does the RTWSP accurately target workers “whose permanent disability benefits are disproportionately low in comparison to their earnings loss”?
- Is the RTWSP vulnerable to fraud and abuse?
- Are barriers to access preventing eligible workers from receiving the RTW Supplement?
- What modifications should DIR consider to help the RTWSP more fully meet its goals?

We will address these research and evaluation questions in the subsequent chapters based on the findings from the study.

Approach and Study Design

We employed a mixed-methods approach using quantitative and qualitative analyses to evaluate the RTWSP and to address specific research questions about the targeting, take-up, integrity, and cost of the RTWSP and provide recommendations on potential modifications to the design and operation of the RTWSP.

The qualitative efforts involved several efforts: review of California regulations and practices governing the RTWSP to understand the intended purpose, reporting requirements, eligibility requirements, filing processes, and application processes; discussions with DIR staff about the administrative and verification processes supporting the RTWSP and issuance of the RTW Supplement to understand how the RTWSP operates; exploratory semistructured interviews with

key stakeholders to validate the gathered information, to uncover any inconsistencies or areas of potential confusion, and to understand the issues of each of the stages leading up to the issuance of the RTW Supplement; and, importantly, a Technical Advisory Group (TAG) meeting held to discuss potential modifications in light of our qualitative and quantitative findings.

The quantitative efforts involved the compilation of several administrative data sources to plot trends in program participation over time; to analyze cases in which an individual received, or was eligible for, the RTW Supplement; and to compare characteristics and trends of RTW Supplement recipients with several groups of other workers' compensation beneficiaries.

Using our findings from the above background research, interviews, and analysis of secondary data sources, we convened an expert TAG discussion to review the findings, discuss the current trends and operation of the RTWSP, and gain input and feedback on potential refinements. The participants in these discussions were providers and report users. Readers should refer to Appendixes A and B for additional description of the methodology and approaches used in this study.

Qualitative Methods

First, we reviewed the rules and regulations pertaining to the RTWSP along several dimensions: intended purpose, reporting requirements (by whom, when, and to whom), SJDB voucher issuance, and RTW Supplement application process requirements. We then examined the specific data elements, fee schedule policy, estimated volume, and allowances for these required reports in 2014. To further our understanding of the operation and design of the RTWSP in California, we reviewed information available online about the RTWSP and the SJDB voucher issuance processes and held focused discussions with DIR staff about the context of the RTWSP in light of other workers' compensation benefits and details of the program's operation (application, verification, documentation, payment issuance, denials, and appeals).

To inform our assessment of the design and operation of the RTWSP, we conducted exploratory semistructured interviews with key stakeholders in the workers' compensation system. The interviews were conducted over a three-week period during late October and early November 2017. We invited 20 stakeholders in workers' compensation, including employers, labor representatives, insurance carriers, primary treating physicians, agreed medical examiner (AME) and qualified medical examiner (QME) physicians, claims administrators, and attorneys, to participate in a 45- to 60-minute phone interview with RAND researchers. Throughout these interviews, we sought to learn about the strengths and weaknesses of the RTWSP and the process of receiving the RTW Supplement benefit (starting with the physician completing and submitting the RTW & Voucher report through to when an injured worker receives the RTW Supplement benefit or appeals the decision). The aim of the interviews was to learn about the RTWSP and the RTW Supplement benefit process from the different vantage points of various stakeholder groups, validate the gathered information, uncover any inconsistencies or areas of potential

confusion, understand the issues of each of the stages leading up to the issuance of the RTW Supplement and importantly identify areas of possible improvement or modification.

Interview guides were developed based on an environmental scan of the rules and regulations of the RTWSP program and the content from several discussions with DIR staff about the operation and implementation of the program. Five standardized interview protocols were developed for physicians (primary treating physicians [PTPs]/AMEs/QMEs), employers/labor representatives, claims administrators/managers, defense attorneys, and applicant attorneys. Interview content was similar across all five guides and consisted of a set of core questions and a set of tailored questions specific to each stakeholder group and their particular vantage point in the system. To frame the context of the interview, participants were initially asked to describe their understanding of the intent and purpose of the RTW Supplement benefit and the SJDB voucher, their perspective on successful characteristics of the RTW program, the main challenges or weaknesses of the RTWSP program, and any evidence or data indicating possible misuse of the RTWSP processes. Participating stakeholders were then guided through a semistructured interview regarding their experiences with the details of workers' compensation reporting, the SJDB voucher issuance, and the RTW Supplement benefit issuance process, guided by three slides that were sent as background material for the interview. Slide 1 depicted the RTW & Voucher report process, Slide 2 depicted the SJDB voucher issuance process, and Slide 3 depicted the RTW Supplement benefit issuance process. Questions were then asked about the respondent's experience, knowledge, and understanding of the aspects of these processes, including the respondent's perspective on the purpose and intent of the RTW Fund and RTW Supplement; program implementation and program integrity (for example, application, verification, issuance) that facilitate the issuance of the RTW Supplement; strengths and weaknesses of the RTWSP; any evidence of misuse or possible fraud within the RTSP; any evidence of injured workers having difficulty claiming the RTW Supplement; and perspectives on policy issues related to the RTWSP program and application process, motivations of stakeholders, and any possible modifications.

All interviews were conducted by phone, and we acquired participant consent at the onset of each interview. All interviews with non-DIR stakeholders were audio recorded, and field notes were transcribed. We completed 15 out of 20 stakeholder interviews, for a response rate of 75 percent (four refusals and one no-show). The participating interviewees were two employers, two labor representatives, two primary treating and AME/QME physicians, two applicant attorneys, two defense attorneys, and five claim administrators/managers at insurance carriers. Transcripts were reviewed, aligned with the protocol questions, and finalized.

We used a variation of content analysis to develop a coding scheme for performing a qualitative description of the themes discussed by the workers' compensation stakeholders. In this approach, we first developed an initial codebook based on the items in the interview protocol. Two evaluation team members, led by Denise Quigley, independently test coded the same two transcripts (conducted by separate interviewers) for all major themes in the codebook.

Discrepancies were resolved by consensus in discussion among the two coders, which also resulted in additions or modifications a number of codes, as expected. The interviews were then coded from scratch in a two-stage process: first, coding text to all major themes in the revised codebook (16 main themes); then coding these categories for subthemes (e.g., identifying types of challenges and improvements to the RTW program and its associated processes). Team members worked together identifying themes and subthemes and writing summaries of the qualitative findings.

Quantitative Methods

The quantitative analyses began with a compilation of multiple administrative and public use data sets to provide a comprehensive picture of injured workers who have entered the workers' compensation system since 2011, around the time of the implementation of the RTWSP. These data sources include the Workers' Compensation Information System (WCIS), program records from the RTWSP, the Electronic Adjudicative Management System (EAMS), the Disability Evaluation Unit (DEU), data on use of SJDB vouchers from a convenience sample of claims administrators, and several auxiliary data sets from public sources. The combination of these data sources enabled us to observe all claimants who have received the RTWSP to date, to understand the characteristics of the claimant and of his or her claim, to identify potential barriers to participation, and to analyze claimant characteristics and claim trends relative to several comparison groups of contemporaneous workers' compensation claimants who did not participate in the RTWSP.

These data sources allowed us to conduct analyses achieving several objectives: an analysis of the current targeting of the RTWSP, an analysis of current patterns and trends in participation (take-up) in the RTWSP among claimants likely to be eligible for the program, an assessment of the extent to which the RTWSP influenced claimant behavior, and some estimates of the size of the eligible population. We also used these quantitative results to evaluate the accuracy of common themes and challenges identified in the qualitative findings, including themes around barriers to participation, program administration, and benefit timing.

To study the current targeting of the program, we identified several plausible comparison groups out of the universe of claims occurring during the first two years of RTWSP eligibility (2013–2014 injury years) that are reported to the WCIS. The main groups include (1) all claims with paid or settled indemnity benefits and (2) a narrower group composed of all claims with paid or settled PD benefits. Within each of these groups, we assessed the extent of differences in claimant demographics, employment and industry, geography, benefit receipt and value, and other claim characteristics between claimants who had received the RTW Supplement and those who had not. We also compared the size of the RTW Supplement with the value of other benefits. These analyses allow us to assess whether the RTWSP has been reaching workers' compensation claimants with the greatest need and provide an initial picture of the equity and adequacy of the program.

Next, we analyzed claims for which we were able to observe voucher issuance and voucher eligibility to estimate current take-up rates of the RTWSP and to identify claimant characteristics and external factors that are strongly associated with program participation. We initially compared recipients and nonrecipients among those issued vouchers in a series of descriptive statistics and then formalized this analysis in a multivariate logistic regression. We also analyzed several factors to identify behavioral responses that might influence participation. These analyses involved comparing trends in the issuance of vouchers over time, analyzing sensitivity to economic conditions, and comparing the timing of RTW Supplement receipt with the receipt of other benefits.

Finally, we examined trends in the rate of RTWSP applications by injury date to assess whether the program has yet reached a steady state in participation or if participation can be expected to continue to grow. For a more detailed discussion of the data sources and methods used in the quantitative analyses, see Chapter Five and Appendix B.

Chapter Three: Operation of the Return-to-Work Supplement Program

This chapter presents an overview of the RTWSP's operation and processes, based on RAND's review of the rules, regulations, and timelines surrounding the RTWSP and focused discussions with members of the DIR staff.

Overview of the Return-to-Work Supplement Program

During the qualitative phase of our mixed-methods approach, we reviewed the flow of all activities and processes that initiate an injured worker's potential eligibility for the RTW Supplement, which we will discuss in this chapter. Then, we reviewed this information with key stakeholders, verifying key decision points, dates, and contingencies (refer to Chapter Four for the findings from the key stakeholder interviews). We sought to situate each of these events within the life cycle of a typical workers' compensation claim, starting with the PTP's determination that the injured worker's medical condition has become permanent and stationary (i.e., has reached MMI) and ending with the issuance or denial (and potential appeal) of the RTW Supplement. This review of the processes surrounding the RTWSP was essential to understand the issues of each of the stages leading up to the issuance of the RTW Supplement.

Return-to-Work Supplement Program Operation and Timeline

While the issuance of the RTW Supplement is directly determined via the online application and DIR review process, eligibility for receipt of the RTW Supplement is contingent on several other aspects of the workers' compensation cycle. These events and their respective timelines shape the trajectory of the injured worker's outcomes and eligibility for benefits and are described in the subsections below. Figures 3.1 and 3.2 present flow charts of these events and timelines, illustrating the interdependence of the RTWSP's operation on other elements within the workers' compensation system. Table 3.1 is a summary table describing the relevant contents and purpose of the MMI Report, RTW & Voucher Report, SJDB voucher, and the RTW Supplement application, as well as the parties responsible for generating each report or form, the recipients, the event(s) requiring completion or submission of each report or form, and relevant timelines.

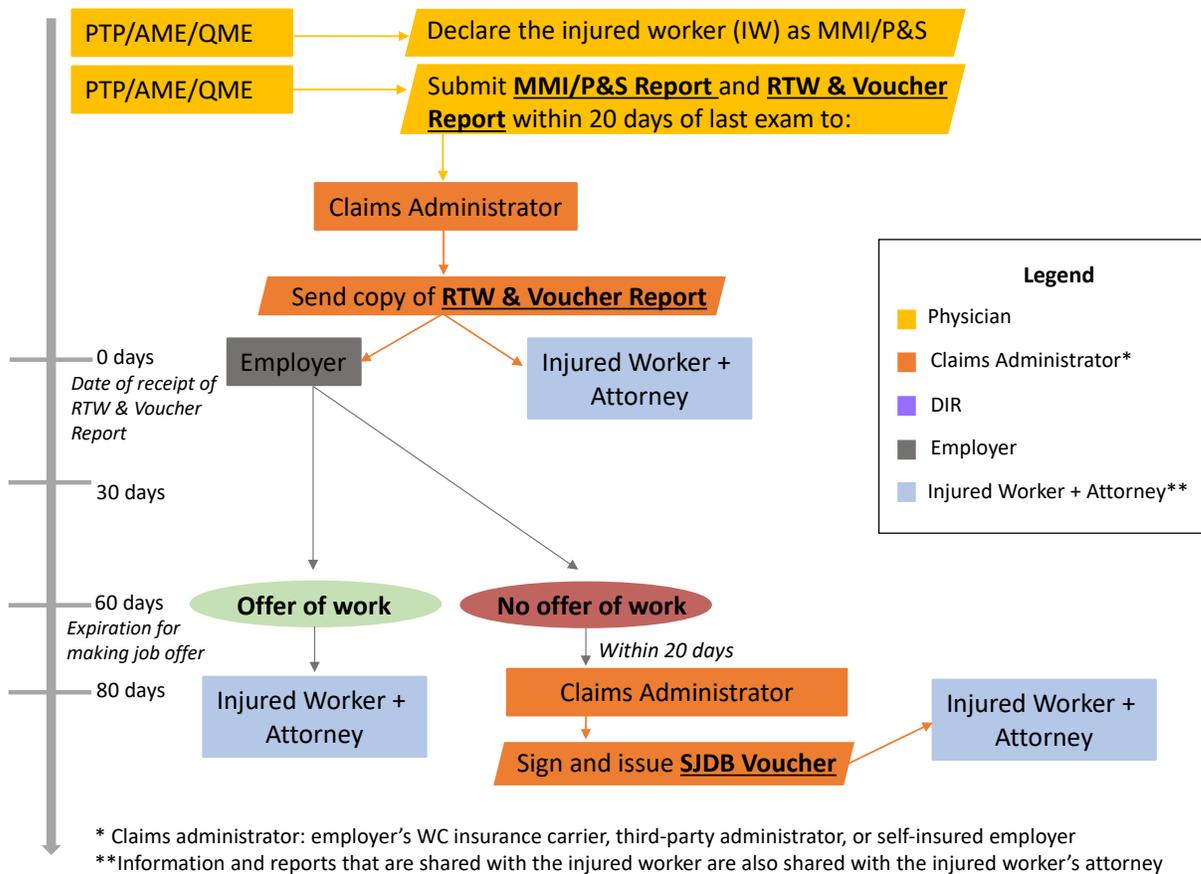
Maximum Medical Improvement and the Return to Work & Voucher Report

When an injured worker is determined by their PTP to have reached permanent and stationary status, which means achieving MMI as established by their PTP, their condition is

considered stable and without foreseeable substantial change. Subsequently, the PTP assesses how much, if any, PD resulted from the employee's work injury. Objective diagnostic findings from the worker's injury, as well as impairment ratings, apportionment, future medical treatment (if needed), an assessment of functional capacity, and work restrictions are documented in the MMI Report, formerly the Permanent and Stationary (P&S) Report. In addition, the PTP who files the MMI Report is required to complete and submit the Return to Work & Voucher Report, accompanying the MMI Report, to the claims administrator managing the claim. The claims administrator is then required to forward the RTW & Voucher Report to the employer, as the mechanism to (1) inform the employer that the injured worker has reached MMI and (2) inform the employer of the injured worker's work capacities and activity restrictions resulting from the injury that are relevant to potential regular work, modified work, or alternative work. Figure 3.1 illustrates the steps in this process, for reference.

The information contained in the RTW & Voucher Report is for informational purposes and is not considered in any permanent impairment rating or any PD indemnity. In our review of the rules and regulations and in our discussions with DIR staff members, we learned that this report is required to be sent by the PTP to the claims administrator within 20 days of the last exam when the injured worker's status was determined permanent and stationary. We also learned that while the RTW & Voucher Report contains some redundant information that is also contained on the MMI Report, the RTW & Voucher Report is an important standalone document because it omits the worker's protected health information that employers are not permitted to view and because it notifies the employer that the injured worker is in a stable condition and as such able to return to work (for example, regular, modified, or alternative work).

Figure 3.1. Required Timing and Flow of Information from Declaration of MMI Until Receipt of Work Offer or Issuance of SJDB Voucher



NOTES: IW = injured worker. The timeline indicates the maximum time allowed for each step relative to the date when the RTW & Voucher report is received by the employer.

Qualifying Work Offers and SJDB Voucher Issuance

Once the employer has received the RTW & Voucher Report from the claims administrator and has reviewed the employee's work capacities and activity restrictions, the employer must offer the injured worker modified or alternative work within 60 days of receipt of the RTW & Voucher Report (see Figure 3.1). The offer of regular, modified, or alternative work must be within the worker's ability to perform the essential job functions, must consist of a regular position lasting at least 12 months with wages and compensation at least 85 percent of those at the time of injury, and must be located within a reasonable commuting distance of their residence at the time of the injury. Failure of the employer to offer regular, modified, or alternative work within the 60-day window of receipt of the RTW & Voucher Report prompts the SJDB Voucher issuance process. Once this period for the employer to offer regular, modified, or alternative work expires, the claims administrator has 20 days to issue a signed SJDB voucher to the injured

worker and their representative. The final page of the SJDB voucher contains a “Proof of Service” form that requires the claims administrator to sign a declaration indicating the place, date, and method of service. It is important to note that eligibility for the SJDB (and thus the RTWSP) is limited to workers who do not receive a qualifying return-to-work offer from the employer; a worker who chooses to turn down a qualifying offer cannot receive an SJDB voucher.

The SJDB voucher is a nontransferrable voucher that the worker can redeem as payment at specified providers of services and equipment needed for the worker’s VR. This VR benefit is known as the SJDB. For injuries occurring on or after January 1, 2013, the total value of the SJDB is capped at \$6,000 for all levels of PD. Workers can spend up to this amount on education or retraining at state-accredited schools, California public educational institutions, and other providers on the state’s eligible training provider list. The full SJDB can also be used for fees and training related to occupational licensing or certification. A portion of the SJDB can also be used for vocational counseling services, computers and other tools or equipment, or for miscellaneous expense reimbursement. As noted above, the SJDB is nontransferrable and, for injuries occurring after December 1, 2013, cannot be settled.

Application Process and Eligibility Criteria

As mentioned in Chapter Two, injured workers who receive the SJDB voucher because they did not receive a qualifying offer of regular, modified, or alternative work from their at-injury employer are eligible to apply for the RTW Supplement. Workers who received the SJDB voucher after the establishment of the RTWSP must apply within one year of the date when the SJDB voucher was served to the injured worker. Workers who received the SJDB voucher before April 13, 2015, could apply up to one year after the effective date of the regulations defining the RTWSP. DIR subsequently opened a period of extended eligibility for one year from March 20, 2017, to workers injured in 2013 and later who were issued a voucher prior to December 1, 2015.¹³

To receive the RTW Supplement, injured workers who have received the SJDB voucher must submit an online application to DIR. The online application process requires the injured worker to provide identifying information, such as individual information and injury history, and to upload their SJDB voucher (signed by the issuing claims administrator) and certification as evidence that the injured worker did not receive a qualifying work offer from their at-injury employer and is eligible for the RTW Supplement. This information on the application is used by DIR to verify the injured worker’s identity, address, and eligibility for the RTW Supplement. DIR is not currently notified when an SJDB voucher is issued by a claims administrator.

Once DIR receives the application, it employs a systematic process for randomly assigning applications across nine reviewers. During the review process, DIR reviews each RTW

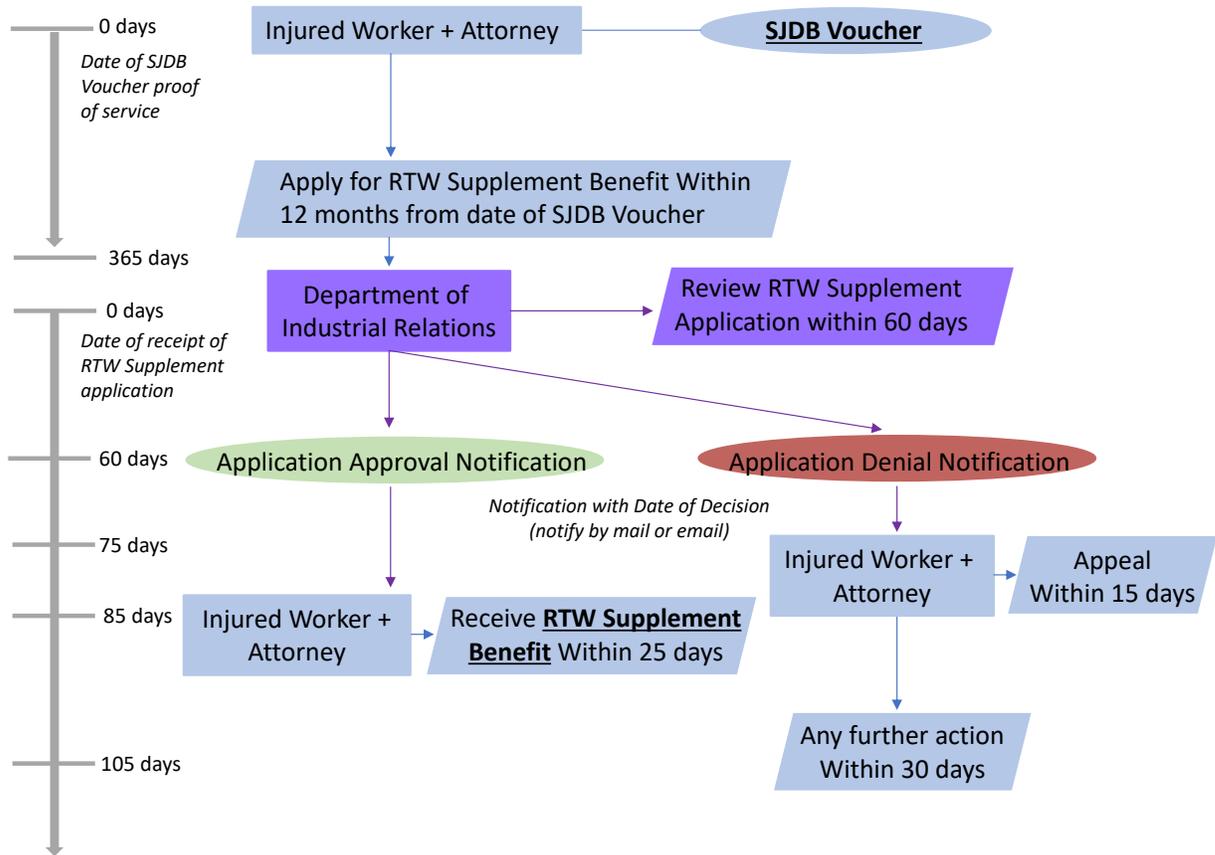
¹³ 8 CCR §17304.

Supplement application for completeness and accuracy. In addition, DIR reviewers (1) check that the data fields in the application are complete (injured worker's name, address, claim number, Social Security number, date of injury, etc.); (2) verify the applicant's information against EAMS records; (3) check that the SJDB voucher is attached to the application and has the proof of service completed (i.e., is signed by the claims administrator); (4) check for timely submission of the application and whether the eligibility period has expired; (5) check for duplicate applicants; (6) review the MMI/P&S Reports and settlement documents as needed; and (7) follow up with the claims administrator and/or injured worker if any information is missing or incomplete. During our discussions with DIR staff, we learned that the DIR reviewers follow a protocol to obtain missing or incomplete information, making several attempts to contact the injured worker or claims administrator before reaching out to the attorney to obtain the necessary information. Applications with complete information that meet the criteria listed above are passed to one of three approvers for approval processing.

Approval and Payment Issuance

Within 60 days, DIR must review the submitted online application and provide notification of approval or denial for the RTW Supplement to the injured worker. Upon receipt of the denial notification, the injured worker has 15 days to appeal the decision. If the application is approved, the injured worker will receive the notifications and then the supplemental benefit within 25 days. Per our discussions with DIR staff, we learned that while the regulations specify 25 days for issuing the RTW Supplement payment to qualified injured workers, the payment is typically processed and issued within one week once the RTW Supplement application is approved. Payments are made in the form of a check issued directly to the injured worker. Injured workers' representatives are not permitted to charge a fee or to take a cut of the RTW Supplement payment for providing assistance or completing the application on behalf of the injured worker. Figure 3.2 illustrates the steps in this process for reference.

Figure 3.2. Steps Involved in RTW Supplement Application and Issuance Process



NOTES: The timeline indicates the maximum time allowed for each step relative to the date when the SJDB voucher is served (for RTWSP application) or the maximum time allowed for each step relative to the date of receipt of the RTWSP application by DIR.

Denials and Appeals Process

Applicants who disagree with DIR’s RTW Supplement decision may file an appeal with the WCAB district office by filing a Petition Appealing Denial of RTW Supplement. Based on our analysis of program data, the main reasons for denial include verification issues with the SJDB (35 percent of ineligible applications), such as an inability to confirm the person and address, the SJDB not being signed by claims administrator, or missing information on the application; cases in which the RTWSP had already been issued (22 percent of ineligible applications); filing applications too late (i.e., more than one year after issuance of the SJDB; 19 percent of ineligible applications); or applications for injuries that occurred prior to 2013 (15 percent of ineligible applications). The remaining denials occurred because of other verification issues with the applications.

Applicants who resubmit an application following a denial typically do so because they acquire and are able to provide a signed proof of service and/or signed SJDB voucher or because they are able to provide information previously omitted in the application to DIR. Since the inception of the RTWSP, only a trivial number of denied applications have been appealed to the WCAB.¹⁴ Table 3.1 summarizes the contents of the MMI and RTW & Voucher Reports, the SJDB voucher, and the RTW application.

¹⁴ In the interest of confidentiality, we do not report estimates based on fewer than 20 injured workers. According to EAMS data, there have been fewer than 20 RTWSP appeals filed with the WCAB.

Table 3.1. Summary of Contents and Characteristics of MMI and RTW & Voucher Reports, SJDB Voucher, and the RTW Application

	MMI Report (DWC Form PR-4)	RTW & Voucher Report (DWC-AD 10133.36)	SJDB Voucher	RTW Application
Summary	<p>Contents:</p> <ul style="list-style-type: none"> •Check box indicating that employee is P&S •Employee name •Date of injury •Claims administrator •Employer and address •Medical history, objective and subjective findings •Impairment ratings, causation, apportionment, stipulations of future medical coverage needed •Functional capacity assessment, activities, and restrictions specified •If physician has job description, report regular, modified, or alternative work 	<p>Contents:</p> <ul style="list-style-type: none"> •Check box indicating that employee is P&S •Employee name •Date of injury •Claims administrator •Employer and address •Claim number •Injured worker can return to work or work with restrictions •Restrictions specified •If physician has job description, report regular, modified, or alternative work 	<p>Description:</p> <p>Employees injured on or after January 1, 2013, with injuries that result in PPD, and whose employer does not offer regular, modified, or alternative work, may qualify for the SJDB voucher. The voucher amount is \$6,000 for all levels of PD and can be used for training at a California public school or any other provider listed on the state's eligible training provider list.</p>	<p>Application variables:</p> <ul style="list-style-type: none"> •Individual information •Injury history •Upload signed SJDB voucher •Certification •Review and submit
Preparer or submitter	Evaluating physician (PTP/AME/QME)	Evaluating physician (PTP/AME/QME)	Claims administrator	Injured worker
Recipient	DIR, claims administrator	DIR, claims administrator, employer, injured worker, injured worker's representative	Injured worker, injured worker's representative	DIR
Event requiring completion or submission of form	MMI/P&S established	MMI/P&S established	Employer fails to provide qualifying RTW offer	Receipt of SJDB voucher
Deadline for completion	Within 20 days of last exam	Within 20 days of last exam	Within 20 days of employer's failure to provide qualifying RTW offer; at most 80 days after date when RTW & Voucher Report is submitted to employer	Within 12 months of SJDB voucher receipt

NOTE: DWC = Division of Workers' Compensation.

Application Volumes and Timeliness of Processing

To understand the volume of RTW Supplement applications and the timeliness of processing them, we calculated some basic statistics on application volumes and trends using program data from the RTWSP provided by DIR. Table 3.2 reports total RTWSP application volumes from the inception of the program in April 2015 to the time of the data extraction in October 2017. As of that date, just under 31,000 applications had been filed to the RTWSP. The total number of applications from unique claims over that time frame was approximately 29,700, after excluding multiple applications filed within a claim. To date, 96 percent of applications filed have been approved, leading to total payments of approximately \$143 million over the two-and-a-half-year period for which we have program data.

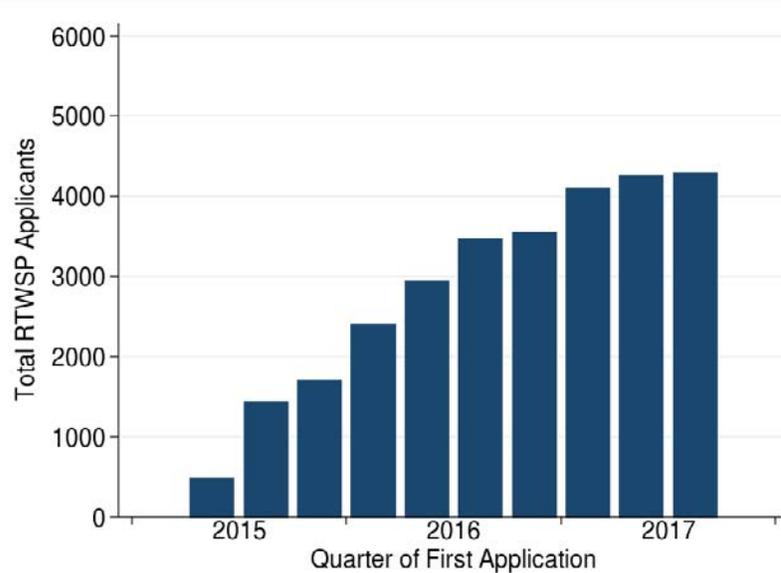
Table 3.2. Volume of RTWSP Applications and Payments

Total applications	30,893
Total unique applications	29,703
Total applications with payment	28,593
Total applications with payment: 2015	3,274
Total applications with payment: 2016	11,624
Total applications with payment: 2017	13,695
Total payments	\$142,965,000
Total payments: 2015	\$16,370,000
Total payments: 2016	\$58,120,000
Total payments: 2017	\$68,475,000

NOTE: Program data from the RTWSP were extracted in October 2017.

We also examined the volume of applications over time. Figure 3.3 breaks down the aggregate numbers to describe trends in application volume over time. Application volume increased steadily over the first two years of the program, increasing from around 3,300 applications from unique claims in 2015 to approximately 11,600 applications from unique claims in 2016. Application volumes have continued to increase in 2017, but the trend suggests that the overall volume may be beginning to level off at approximately 4,000 applications from unique claims per quarter over the first three quarters of 2017.

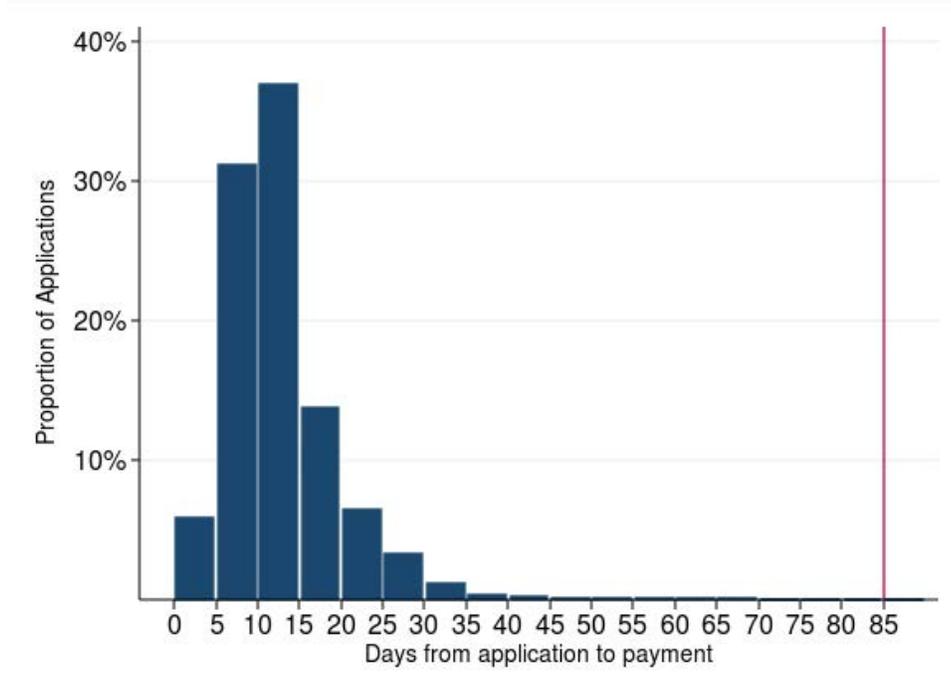
Figure 3.3. Number of Unique RTWSP Applicants, by Quarter of Application



NOTE: Program data from the RTWSP were extracted in October 2017.

We were also interested in understanding how quickly DIR processes the RTWSP application. The program data confirmed that applications are being processed quickly. Figure 3.4 shows the distribution of time between the RTWSP application and the issuance of a payment for all successful applications submitted by the time of data collection. The median duration from application to approval is five days, and 90 percent of approvals occur within 15 days of the application. The median time from approval to the payment being issued is also five days, and 90 percent of payments occur within seven days of approval. Overall, this means that 90 percent of applicants receive the RTW Supplement within three weeks of application, and 50 percent of applicants receive the RTW Supplement less than two weeks after application. This is well within the required time frames.

Figure 3.4. Time Between RTWSP Application and RTWSP Payment for Approved Applications



NOTE: Program data from the RTWSP were extracted in October 2017.

Volume and Utilization of SJDB Voucher Since SB 863

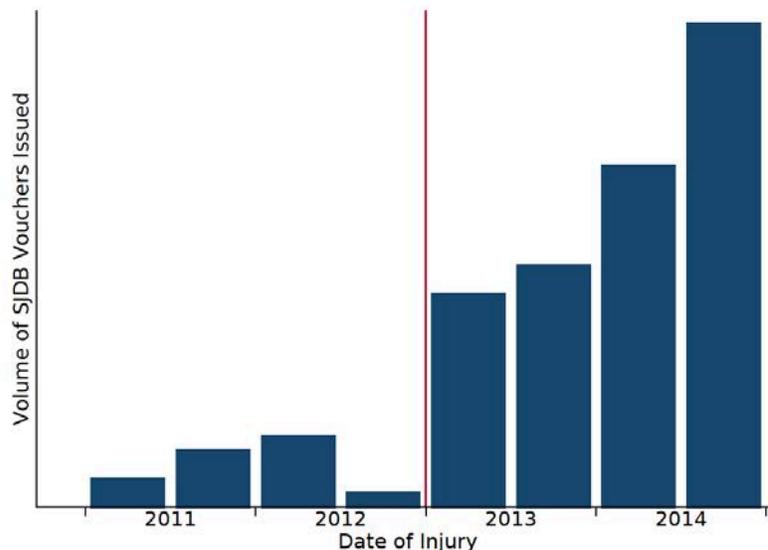
It was not possible to directly observe the size of the RTWSP-eligible population because claims administrators do not report SJDB voucher issuance to DIR. In Chapters Six and Seven, we use multiple data sources to provide rough estimates of the current eligible population. One important question that can be addressed directly, however, is whether utilization of the SJDB voucher has changed since SB 863 was enacted.

To understand the volume and take-up of the SJDB voucher, we analyzed data from the WCIS on cases where any payments were made for VR services, which predominantly reflects use of the SJDB. Among workers in WCIS with initial injury dates in 2013 and 2014, approximately 2.6 percent of all workers with any indemnity payment, and 5 percent of all workers with PPD benefits, used the SJDB for VR services. As described in Chapter Six, one limitation of the WCIS data is that they do not capture anyone who was issued an SJDB voucher, but never cashed it in. Still, these data are helpful to inform whether SJDB voucher usage has changed over this time.

Furthermore, to understand trends in voucher issuance, rather than voucher redemption, we turn also to the convenience sample of claims administrators from whom we have data from before SB 863 was enacted. Figure 3.5 shows a steadily increasing trend in voucher issuance in this sample over the time frame from 2013 to 2015. While these data provide crucial insight into trends in observed voucher issuance, these trends, of course, reflect voucher issuance patterns for

only a small subset of all claims. Still, the overall trend of a sharp increase in voucher issuance is consistent with findings from the WCIRB. In a 2016 monitoring report, the WCIRB found that SJDB payments had doubled from 2014 to 2016, which is consistent with higher rates of voucher issuance after the implementation of SB 863 (Workers' Compensation Insurance Rating Bureau of California, 2016b, 2017a).

Figure 3.5. Trends in SJDB Voucher Issuance in Claim Administrator Sample, by Quarter of Injury

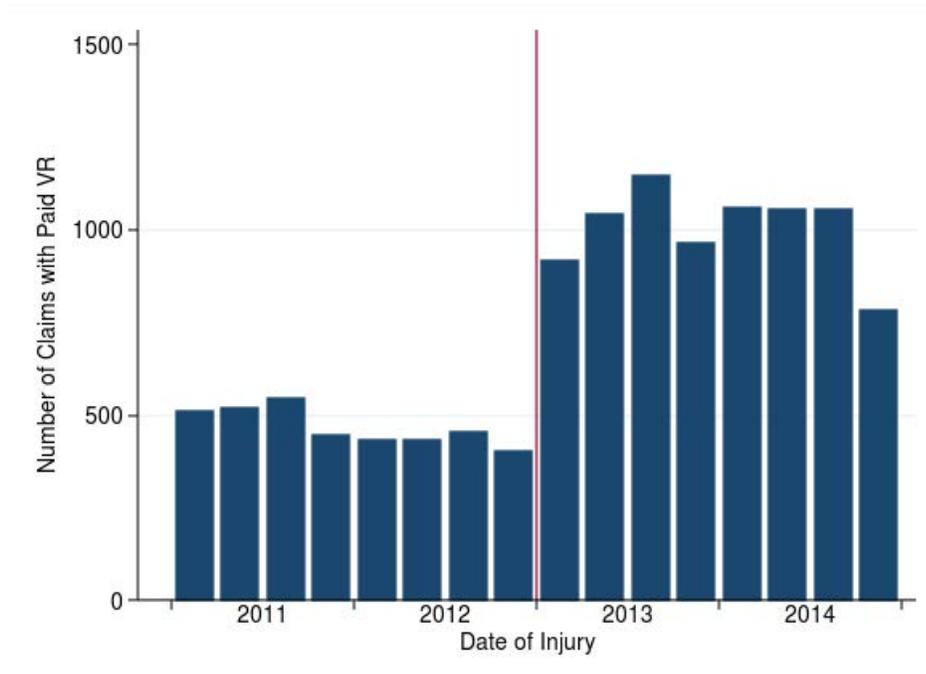


NOTES: Data are from a convenience sample of claims with SJDB reported. Not all claims administrators in the convenience sample were able to provide data from before the 2013 injury year. The Y axis does not include numbers to protect confidentiality. These data cover 2011–2014 injuries with SJDB vouchers issued within 34 months of injury.

To address voucher redemption, we examined those who received an SJDB payment in the WCIS, meaning that the injured worker cashed in their SJDB voucher. We estimated that the average total payment value was approximately \$4,600:¹⁵ Just over half (52.5 percent) of workers with SJDB payments in the WCIS had exhausted the full \$6,000 value of the SJDB by the time of data collection. As shown in Figure 3.6, voucher redemption increased sharply for injuries occurring during and after 2013, coinciding with the first few cohorts of individuals who would have been eligible to receive the RTWSP.

¹⁵ See Appendix B, Table B.14.

Figure 3.6. Total WCIS Claims with Paid SJDB, by Quarter of Injury



NOTE: Data are from WCIS, 2011–2014 injuries.

Thus, while both the WCIS data and claims administrator sample only provide a partial picture of overall voucher trends, these findings tell a consistent story of significant increases in SJDB utilization after 2013.

Discussion

The process that DIR established to administer the RTWSP relies on injured workers to complete an online application after being served the SJDB voucher. Although application volumes were modest at first after establishment of the RTWSP, application volumes have grown steadily over the first two and a half years of program operation, reaching over 4,000 applications per quarter in the most recently available data. The vast majority of completed applications are approved, and eligible workers who encounter difficulty on their first application generally appear to be able to fix errors and omissions and go on to successfully obtain the RTW Supplement. Almost no rejected applications result in appeals. This most likely reflects the fact that the eligibility criteria are extremely clear. We also found that DIR has been very efficient in processing applications and issuing payment, with the result that the vast majority of payments are issued within 15 days of the date when the application was submitted.

Rising application volumes may reflect several different phenomena, each with different implications for the performance and cost of the RTWSP. One possibility is that take-up by eligible workers was initially low due to unfamiliarity with the program and that more and more

eligible workers have applied as knowledge about the program diffuses through the workers' compensation system and as DIR has improved procedures regarding notification and access to the program, such as translating RTWSP materials into five additional languages following the enactment of Assembly Bill 438 in 2015. Take-up estimates produced by DIR for the sample of workers who exhausted the full \$6,000 value of the SJDB clearly indicate rising take-up between program inception and the present.

A different possibility (which does not in any way preclude rising take-up rates) is that SJDB issuance may have risen after SB 863 was enacted, either in response to the incentives created by the RTWSP or due to other provisions of the law. Figures 3.6 and 3.7 clearly indicate a sharp increase in SJDB utilization and, for a nonrepresentative convenience sample of claims, SJDB voucher issuance for injuries occurring in 2013 and later. To the extent that SJDB receipt and utilization rose as a result of the RTWSP, program changes that increase the value of the RTWSP could have the potential to further expand SJDB take-up and utilization and thereby expand the pool of eligible workers who can apply for the RTW Supplement. However, as we discuss below, SB 863 made other changes to the SJDB that would also tend to increase voucher issuance.

The fact that it was possible for SJDB utilization (SJDB voucher issuance and voucher redemption) to jump sharply in 2013 also points to the fact that there must have been a sizable population of SJDB-eligible workers injured before 2013 who either did not receive the voucher or who did not redeem the voucher. We further explore the implications of incomplete SJDB utilization in the following chapters.

Chapter Four: California’s Return-to-Work Supplement Program from the Perspective of Key Stakeholders

In this chapter, we describe the thematic findings identified in our interviews with stakeholders. These interviews sought to validate information we gathered in our review of the rules and regulations, uncover any inconsistencies or areas of confusion in these, understand the stages leading to the issuance of the RTW Supplement, learn about the RTWSP and its benefit process from varying stakeholder perspectives, and identify areas for improvement or modification. Altogether, we interviewed 15 stakeholders, including employers, labor representatives, insurance carriers, PTPs, AME and QME physicians, claims administrators, and applicant and defense attorneys, involved in each stage of RTW benefit processes.

We organize our interview findings in five areas. First, we provide context on the process for receiving the RTW Supplement and the SJDB. Second, we review whether stakeholders understand that the RTWSP targets workers with disproportionately low earnings loss. Third, we explore whether barriers prevent eligible workers from receiving the supplement. Fourth, we assess whether the RTWSP and the SJDB are vulnerable to fraud and abuse. We conclude with a discussion of our key findings, highlighting where different stakeholders held sharply divergent opinions

Context Surrounding the RTWSP and the SJDB Voucher Issuance

Our stakeholders provided in-depth contextual information on the legal process surrounding the RTWSP, as well as perceived behavioral changes associated with its implementation. Below we review several scenarios regarding the legal process and provide some insight on current practices, behaviors, and utilization of available benefits.

Legal Process

Stakeholders perceive the workers’ compensation process to be a “*very litigious process often driven by the applicant’s attorney.*” Three stakeholders with direct experience regarding the SJDB issuance process noted that settlement prior to being declared P&S or having reached MMI is not common. Two noted that a carrier may want to stipulate or issue the SJDB voucher with claim settlement. One stakeholder added that settlement prior to P&S or MMI typically occurs when there is dispute over the injury. This stakeholder said that in such instances the injured worker would not be entitled to the SJDB voucher. An injured worker successfully litigating such a case may still receive the voucher. Otherwise, as several stakeholders noted, offering the SJDB voucher may be used to settle a disputed case.

Applicant attorneys claimed that cases may be litigated because “*some employers fail to communicate productively with the injured worker*” or because employers are “*really adversarial or hostile in their communications with the injured worker.*” These attorneys suggested that such employers lack motivation to hold constructive and timely communication or lack interest in returning the injured employee to work.

Stakeholders acknowledged that “*the longer a file stays open, the more expensive it gets,*” which drives all involved to close claim files quickly. At the same time, no stakeholder reported that the RTW Supplement has changed the behavior of applicant attorneys in any way.

Employers primarily seek to close any open cases and return employees to work as long as it is safe for employees to do their usual and customary job. Four stakeholders said that employers’ main concern is “*the interactive process between the employer and injured worker and determining whether they could accommodate the injured worker.*” One stakeholder explained, “*the employers just need to know what the permanent restrictions are.*” Another stakeholder said,

“I think employers—whether they’re big or small—I do believe most of them try to do the right thing because it’s good for business. But as a business owner, they also understand the effect that losses have on their [experience modifier: an adjustment of an employer’s premium for workers’ compensation coverage based on the losses the insurer has experienced from that employer]. So that in itself is also a powerful incentive. We provide loss reports. We meet with the employers. So, it’s not foreign to them. They know what’s happening. So, they’re savvy about this. They know that it’s in their best interest to accommodate an employee to return to work and, if not, they know what it means to them.”

Three stakeholders noted that employers are highly concerned with potential exposure under the Americans with Disabilities Act (ADA) and the Fair Employment Housing Act (FEHA). As one said, “*what drives the employers probably has less to do with the California Workers’ Comp System and more to do with the federal ADA—mostly by compliance with FEHA and the ADA.*” Three stakeholders also said that employers may issue the SJDB voucher in an effort to terminate an employee (i.e., to get the injured worker “off the books”).

Several stakeholders acknowledged that employer actions may vary by industry and ability to retain an injured worker. Employer actions may vary for different types of workers (for example, blue-collar workers or scientists) and by how replaceable the worker is. One stakeholder said, “*some employers are . . . well, they all serve different sorts of industries out there. We deal with a lot of public entities and public safety officers; it’s more difficult to take someone back with anything other than a minor modification to be a firefighter or to be a patrol officer.*”

We asked seven stakeholders whether a worker can settle and receive the SJDB voucher if the insurer has not yet accepted the injury claim. Four of these said that the worker is not eligible to receive the SJDB if there is dispute over the cause of the injury. Two others claimed that the SJDB voucher can be included in the settlement if there is an Arising Out of

Employment/Course of Employment (AOE/COE) dispute and PD. The seventh stakeholder said that if the case is litigated and determined to be work-related, the injured worker would be eligible to receive all benefits—including the SJDB voucher, if they were eligible to receive it. Note that an AOE/COE investigation is a workers' compensation investigation to determine the facts surrounding an alleged injury to a worker on the job.

Behavior Changes Since RTW Fund Implementation

We asked 13 stakeholders whether they had observed any changes in the behavior of claims administrators, injured workers, or applicants' attorneys since the RTW Fund was implemented in the spring of 2013. We sought to learn whether changes had made pursuit or issuance of an SJDB voucher more likely, particularly now that the SJDB voucher is a requirement for RTW Supplement eligibility.

Twelve stakeholders said they had not seen any observed behavior changes since the implementation of the RTW Fund or increased likelihood that an injured worker would receive an SJDB voucher. Only one stakeholder, an employer representative, noted that the frequency of using the SJDB voucher had increased in recent years. Two stakeholders did acknowledge that the *“increase in the last two years in the amount of SJDB vouchers issued appears to be because it is now connected to the RTW benefit and the benefit can no longer be settled.”* Nevertheless, most stakeholders confirmed that they had not observed any evidence or data suggesting a change in use of the SJDB voucher or the RTW Fund.

Some stakeholders mentioned other behavioral changes that may be of interest. One reported attorneys requesting settlement language that the injured worker is entitled to the supplemental benefit or that an attorney can apply for the benefit on the worker's behalf. This stakeholder also claimed that settlements occur more often and claims close faster when they are part of compromise and release (C&R) agreements giving workers a lump sum to pay for medical care. In California, the WCAB must approve a C&R settlement.

In discussing any behavior changes since 2013, a defense attorney discussed using the RTW Fund as an incentive to close a settlement or provide a larger settlement amount. The RTW Fund, this attorney said, is not the “sticking point” on settling a case, indicating that other considerations, such as the size of the overall benefit package, are larger issues. Yet another defense attorney said that settlements for workers are not any larger than they were before 2013 in settlements that indicate that the injured worker is entitled to the SJDB voucher.

Two stakeholders suggested that since 2013 *“the injured worker community is more informed and aware of the SJDB voucher and RTW Supplemental benefit.”*

Does the RTWSP Target Workers with Disproportionately Low Earnings Loss?

We asked stakeholders about their knowledge of the RTWSP and its intended purpose to confirm that they understood that the RTWSP targets workers with disproportionately low earnings loss. All 15 stakeholders were familiar with the legislatively defined purpose and intent of the RTWSP. Twelve further indicated that the RTWSP has a twofold purpose: (1) to provide some financial relief and (2) to provide more fair redress to injured workers who are disproportionately affected by their injury and not fairly compensated. As one claims administrator said,

“As I understand it, the intent of it was to provide funding for people disproportionately affected by their disability. In the end, it was assigned—the decision was taken to determine eligibility by the fact that the person receives the job displacement voucher. We, on the comp side, determine eligibility for that based on a number of factors. After that, and if the person receives the voucher, they’re entitled to go and obtain the funds, which I understand is exactly \$5,000 at this point. So, it’s a money cash award that’s provided to people who receive the voucher. Whether it satisfies the intent by helping people get back to work in some fashion is unknown to us.”

In characterizing the success of the RTWSP, stakeholders noted the following attributes of the program:

- effective targeting and providing payment to injured workers with disproportionate earnings loss (six stakeholders)
- assisting injured workers with gaining employment (four stakeholders)
- benefiting injured workers (two stakeholders)
- providing cash to injured workers (two stakeholders)
- operating with low administrative burden so that the maximum amount of money can be distributed to injured workers (two stakeholders).

Eight stakeholders claimed that the RTW program is run “*efficiently, with low administrative burden*” and “*provides cash*” and “*some sort of benefit to injured workers.*” As one stakeholder said, “*the state has gotten those checks out to [the injured workers] within the time limit—certainly.*” Others mentioned the importance of the RTW Fund being distributed in its entirety to injured workers.

While several stakeholders agreed that the RTWSP is successful in operating “*efficiently, with low administrative burden,*” they pointed out that the program is not fully achieving its goal of “*targeting the injured workers with disproportionate earnings loss*” or of “*assisting injured workers with gaining employment.*” Three labor representatives said that the RTWSP is “*for low-wage workers who are particularly negatively affected economically by their work injuries. [For them,] there’ll be this extra pot of money to help them because even with the higher permanent*

disability awards, it's just not enough to really compensate someone for spending the rest of their lives [disabled] as a result of their work injury.” Eight stakeholders said that the primary issue with the RTWSP's design is that the RTW Supplement is not targeted or issued to “*injured workers with permanent disability that experience disproportionate earnings loss because there is no system or process in place for determining who has been disproportionately affected.*”

Twelve stakeholders indicated that there is a benefit to having the RTW Supplement linked or tied to the SJDB voucher. Eight stakeholders noted that the SJDB voucher serves as a straightforward mechanism for targeting. Four said it allows for timely and low-cost administration and distribution of the supplement. Four also said that, per the rules and regulations, it eliminates the ability to litigate. As one stakeholder said in discussing the link between the SJDB voucher and the issuance of the RTW Supplement,

“It's a simple and less-expensive way of figuring out who should get this, and why reinvent the wheel if you don't have to? So, I guess it makes sense. And in keeping with the spirit of Senate Bill 863, which was, let's try to eliminate unnecessary litigation and administration and costs and friction out of the system wherever possible, plug all that into benefits and medical treatment for injured workers, it makes sense to—even if it's not an exact 1:1 fit, if it's pretty close, that's probably the best way to do it rather than employing some giant floor full of people in the state building in Oakland to call all these workers and assess them and figure it out.”

While many stakeholders support of linking the SJDB voucher issuance and eligibility to apply for the RTW Supplement, as well as the “*partially effective*” use of the SJDB voucher to target injured workers with disproportionate earnings loss, some still noted problems with the linkage. As one said, the link between the RTW Supplement and the SJDB voucher “*still did not include specific consideration of the lost earnings that are disproportionately compensated by their permanent disability award.*”

Another stakeholder noted that the SJDB voucher is issued infrequently and only in cases involving the most severe types of injuries, thereby also narrowing RTW Supplement eligibility to those in most need. This stakeholder said, “*the majority of what I see in files is the ability to return [injured workers] to work even if it's a permanent modified position, and really the [SJDB] voucher is only coming into place for the most severe-type injuries. It's [issuance of the SJDB voucher] not something I see very frequently being sent or issued.*”

Several additional stakeholders raised the issue of whether the RTW Supplement effectively assists injured workers. Five stakeholders claimed that the supplement is not a sufficient incentive to return to work. As one said, the procedure to determine whether a person receives the RTW Supplement is “*not incentivizing return to work and that the amount of the benefit is not sufficient to account for lost earnings on its own; the supplemental benefit is not sufficient.*”

Stakeholders agreed that it is difficult to measure whether the RTWSP affects vocational outcomes. While most could define the primary purpose of the RTWSP and name valuable attributes of its design, ten stakeholders could not identify how the RTW Supplement benefits

injured workers or promotes return-to-work outcomes specifically. Stakeholders indicated that they did not have information about how the RTWSP program operated or information about the receipt or use of the RTW Supplement. Thirteen stakeholders went so far to say that the program's name, the "Return-to-Work Supplement Program," is misnamed or misleading, "*as it does not have to do with returning to work, it is only an RTW Supplement—e.g., it is just more money for an injured worker.*" They suggested renaming the program to align with its actual function and purpose.

Two additional stakeholders reported that the RTW Supplement could affect the behavior of workers, primarily low-income workers, given that the \$5,000 benefit would likely have more of an impact on such workers than for those with higher incomes. Some mentioned, for example, that the "*monetary value of \$5,000 looks very different for different people*" and that the RTW Supplement adds value only if "*it goes to those that need it; but there is no way to track this.*" One stakeholder noted that most workers would or should know that the RTW Supplement is not a large sum relative to what they would receive by returning to work (with or without modifications); therefore, the RTW Supplement is unlikely to affect worker behavior. Another stakeholder indicated that there is value in not permitting the RTW Supplement to be included in settlements, as this reduces transaction costs by limiting the scope for disputes.

These interview findings validate our understanding of the rules and regulations that established the program. They confirm the understanding that the primary intent of the RTWSP is to provide payment to injured workers with disproportionate earnings loss. They do not pinpoint any areas of confusion about the RTWSP itself.

Are Barriers Preventing Eligible Workers from Receiving the Supplement?

Most stakeholders did not indicate or provide any evidence that injured workers experience difficulty applying for or claiming the RTW Supplement. Eight stakeholders reported that the RTW Supplement application process is simple. At the same time, stakeholders said that some injured worker populations have difficulty with the process. Some of this difficulty pertains to physician reporting and how it relates to the issuance of the SJDB voucher.

Notification Process

Ten stakeholders indicated that there needs to be "*more specific and clear information in the notification that is issued with the SJDB voucher concerning the RTW Supplement,*" specifically on due dates and timelines. The notification sent to the injured worker delineates two separate timelines: one year to apply for the RTW Supplement and two years to use the SJDB voucher. Eight stakeholders noted these separate timelines as a source of confusion.

Five stakeholders also said there needs to be "*clearer information on the DWC website for injured workers about applying for the RTW Supplement.*" As one stakeholder explained,

“If you go onto the DIR website and then go to the DWC site, there’s a section that says, ‘if you’re an injured worker’ or ‘for injured workers.’ If you click on that, because I did, there is nothing that comes up about the Return-to-Work Fund in the injured worker section. It’s separate, down the page from the injured worker section. And trying to find out about this program, I think is so tough for injured workers. So, it should be included in that injured worker section on the DWC website.”

RTW Supplement Application Process

When discussing access to the RTW Supplement, stakeholders mentioned both the simplicity of the RTW Supplement application process and the timely issuance of the supplement to injured workers. When asked about access barriers, stakeholders instead mentioned several facilitators that assist injured workers applying for the RTW Supplement. These included (1) the injured worker having a highly qualified representative; (2) SJDB and RTW Supplement notifications being translated into five languages, as state law requires; (3) applicant attorneys applying on the injured worker’s behalf; and (4) injured workers being able to go to a district office and have an information assistance officer help them complete the RTWSP application if they are unable to do so at home.

Nevertheless, several stakeholders mentioned concerns related to access and lack of awareness about the RTW Supplement. Five stakeholders, including attorneys and claims administrators, said that it is not easy for injured workers to apply for the RTWSP program but that *“they typically need assistance with the application.”* Other stakeholders indicated that there are insufficient advocates to assist injured workers in navigating the workers’ compensation system and those eligible for the RTW Supplement.

Eight stakeholders noted that the RTW Supplement application process requires the use of a computer, internet access, and a scanner (to upload the SJDB voucher signed by a claims administrator). This adversely affects injured workers who have lower incomes, are non-English-speaking, and do not live near or have ability to access a WCAB or kiosk. Some stakeholders also noted that English is not the preferred or primary language for many injured workers in California. While California and DIR offer translated information about the RTWSP in five languages, our interviews suggest that translating the RTWSP information into additional languages may help some injured workers.

Physician Reporting Process

Thirteen stakeholders said that physicians may fail to generate and file the required RTW & Voucher Report. These must accompany the MMI Report once an injured worker’s status is established as permanent and stationary. Half of the stakeholders noted that, without this RTW & Voucher Report, the SJDB voucher cannot be issued, preventing workers from applying for the RTW Supplement. The stakeholders pointed to two potential reasons why physicians are not submitting the RTW & Voucher Report: (1) The required reporting of both the MMI Report and

the RTW & Voucher Report are an administrative burden on physicians, and (2) the primary treating physician must generate the RTW & Voucher Report.

Claims administrators reported that they are *“not receiving the RTW & Voucher Report and often need to remind physicians to submit that report.”* They note that this issue has increased costs for the workers’ compensation system because money and resources are needed to follow up with such physicians. One defense attorney noted that *“more than 90 percent of the time, claims administrators have to request that the physician complete and submit the RTW & Voucher Report.”* Claims administrators often pointed to this need to remind physicians to complete the RTW & Voucher Report. They suggested that the duplicative paperwork between the MMI Report (formerly known as the P&S Report) and the RTW & Voucher Report results in physicians not completing the RTW & Voucher Report. Physicians agreed that the information contained on the MMI and the RTW & Voucher Reports *is* redundant and increases the amount of paperwork required of the PTP. In such cases, physicians provide information in the MMI Report but do not fill out or submit the RTW & Voucher Report. As a result, fewer SJDB vouchers are issued to those who would otherwise be eligible.

Once they receive documentation that the injured worker has permanent restrictions, claims administrators begin the process to determine whether the employer can provide permanent modified duty. Claims administrators said that they forward the reports to the relevant recipients within a week. Some claims administrators also indicated that they will use the MMI Report to work with the employer to determine work restrictions and accommodations in the absence of the RTW & Voucher Report, though most do not use this workaround. Where modified duty is not feasible, four claims administrators will issue the SJDB voucher (even when the RTW & Voucher Report has not been received) to avoid further delay. As one said, they *“don’t always wait for the trigger report to address permanent restrictions if temporary disability [TD] is ending,”* and they try to determine PD as soon as possible.

All of the claims administrators with whom we spoke noted that the 60-day time frame for the employer to determine whether permanent modified duty is feasible is a reasonable amount of time. This assumes that the claims administrator has received the MMI Report and RTW & Voucher Report and that the employer has received and reviewed the contents of the RTW & Voucher Report.

Regarding underissuance of the SJDB voucher, stakeholders said that claims administrators may fail to sign the SJDB voucher, which serves as the proof of service, or fail to issue the voucher. This may also lead to misuse of the SJDB voucher.

Instructions and Content of RTW & Voucher Report

Some stakeholders said that the *“instructions on [the] RTW & Voucher Report are unclear.”* Under the current labor code and as specified in the instructions on the form, the RTW & Voucher Report form does not need to be completed until all conditions for which compensation is claimed have become permanent and stationary. This appears to be especially unclear to

physicians treating cases with multiple conditions. One stakeholder suggested that the regulations be amended to state that the “Return to Work & Voucher Report *shall be completed*” to make the regulations clearer that physicians must complete the report.

Several stakeholders also reported confusion regarding required recipients of physicians’ MMI Report and RTW & Voucher Report. One applicant attorney noted that the physician’s responsibility is fulfilled once the physician has sent copies of both reports to the claims adjuster. There are no requirements for the physician to share copies with attorneys or the injured worker. As a result, the applicant attorney said, employers, attorneys, and injured workers must rely on the claims administrators for copies of the reports.

Eight stakeholders indicated that “*physicians are not paid to complete and submit the RTW & Voucher Report.*” In turn, physician stakeholders claimed that the RTW & Voucher report is “*time-consuming to complete.*” Physicians also claimed that the RTW & Voucher report is particularly burdensome to complete when the injured worker’s information is not completed in advance. As one said, the RTW & Voucher Report is “*difficult to complete based on a patient visit, and the RTW & Voucher report does not replace a quality functional capacity evaluation.*” A physician noted that reporting efficiencies can vary by practice size, entity type, and electronic medical record capabilities, and that smaller physicians’ offices likely experience more burden with generating reports. Two stakeholders mentioned that the RTWSP process does not include a functional capacity examination (FCE), which could “*help physicians complete the RTW & Voucher report and assist in determining permanent restrictions.*”

Finally, we heard from claims administrators and employers that the rationale for a separate RTW & Voucher Report is to prevent sharing detailed medical information with employers. While the MMI Report contains detailed medical information that cannot be sent to employers, the RTW & Voucher Report omits injured workers’ sensitive medical information. Five stakeholders noted that “*the Return to Work & Voucher Report is a ‘slim-but-very-important’ report to keep attached to the MMI Report, as [the RTW & Voucher Report] doesn’t contain the type of medical information that employers are not allowed to see.*” This partially explains why the RTW & Voucher Report only includes a check box to indicate that an injured worker’s injuries are permanent and stationary and that the injured worker has reached MMI.

Is the RTWSP Vulnerable to Fraud and Abuse?

We asked stakeholders whether they knew of any evidence of fraud or abuse related to the RTWSP. Rather than noting vulnerability to fraud and abuse, stakeholders discussed strengths in the RTWSP’s operation and design (as noted above).

When further asked about any evidence about possible misuse of the RTW Supplement, eight stakeholders said that there was no evidence of misuse with the RTWSP or the RTW Supplement monies. Only four stakeholders (a defense attorney, a labor representative, an employer, and a claims administrator) indicated any issues. These included injured workers obtaining more than

one SJDB voucher per claim or injury (for example, by job-hopping); claims administrators pushing to settle prior to the injured worker being established as permanent and stationary; the “doubling” of SJDB voucher take-up (or, as one said, “*when they associated the \$5,000 fund to the voucher, we saw a tremendous increase in interest in receiving the voucher*”); the general suspicion that “*as with every area of the [workers’ compensation] system where there’s money involved, there’s fraud involved and someone’s trying to rip off the system*”; and the perceptions that “*anyone with access to a computer can get the RTW Supplemental benefit.*”

Stakeholders noted several weaknesses in RTWSP targeting of injured workers with disproportionate earnings loss, the amount of the RTW Supplement, and difficulty with measuring or monitoring RTW outcomes. Nevertheless, we heard little indication of misuse or compromised integrity specifically concerning the RTWSP, according to stakeholders.

Is the SJDB Process Vulnerable to Fraud and Abuse?

Stakeholders suggested that the SJDB voucher and benefit are subject to some misuse. One noted that “*the aggregate amount of people that are accessing the [workers’ compensation] benefit has gone up. So, in the year from June 2016 through—or I guess August 2016 through July 2017, the amount that we paid out on those benefits has doubled from the previous 12 months. We’ve determined that this increase is apparently, in large part, due to an abuse of the SJDB voucher system.*”

A potential area of misuse in the SJDB process is the use of electronic stamps or electronic signatures for the SJDB voucher. Stakeholders indicated that, in some cases that they are further investigating, they have found that the electronic signature does not match the individual’s actual signature on the SJDB paperwork.

Some stakeholders suspect billing fraud attached to the SJDB voucher and agreements that accompany the invoices from reimbursement of the SJDB voucher. One stakeholder said, “*there’s probably \$30 [million] to \$40 million in voucher benefits, which are being paid out by the industry that is either abuse or fraud due to overpricing of costs and bills documented for the voucher funds.*” Another stakeholder explained,

“*So, we’ve seen injured workers who speak only Spanish who are signed up for English-language training classes. We’ve seen bills for software which—for example, there’s a software called Rosetta Stone which costs about 150 bucks to get to learn English. And they’ll bill for the software for I believe \$1,800 and then they’ll do training for this self-use software and they’ll give six hours of training for \$1,800 and bill that. And there are courses where we’ve identified through interviews that the injured workers are actually not getting the training courses that are being billed and that we’re paying. Because the way the voucher process works is we’ll get the bill and as long as there’s sufficient documentation, we pay the bill and the training should be done. But we’re finding that often they’re billing a lot more than what the services or the goods are actually worth*”

and that the training is not being done, that the training that they're asserting as being provided is not in the language that the injured worker speaks."

A few stakeholders mentioned issues that would contribute to the underissuance of SJDB vouchers. Two stakeholders reported experiences with claims administrators *"not signing the voucher or not providing proof of service"* (as referred to above) and claims administrators *"failing to send or being late in sending the SJDB voucher to the injured worker."* Several stakeholders noted the lack of *"penalties for claims administrators who are slow in informing the injured worker their right to the benefit in timely manner."*

Finally, some stakeholders did express interest in understanding *how* injured workers spend the RTW Supplement monies. One stakeholder said, *"We have very little, if any, knowledge of what happens when people get that [RTW Supplement] money, how many people get the money, what they do with the money. Our concern is with the voucher and how it is potentially being mishandled or misused."* These issues, beyond our focus, should be studied further.

Discussion

Stakeholders provided informative context on the RTWSP and SJDB voucher issuance process and legal process, as well as anecdotes about motivations and behaviors within the workers' compensation system. While they disagreed on several matters, they broadly endorsed certain propositions. Stakeholders perceive the workers' compensation system to be a very litigious system. They agreed that the primary motivation of all involved is to resolve or close claims quickly and return injured employees to work when possible. They also noted that disputes over causes of injury, compliance with state (FEHA) and federal (ADA) antidiscrimination laws, and the type of industry and worker involved in the claim can all affect claims processes.

Most stakeholders initially agreed that there have been no observable behavior changes or trends associated with the RTW Supplement or SJDB voucher since the inception of the program. When questioned further, however, some stakeholders mentioned that claims administrators aim to close claims more rapidly; the volume of compromise and release agreements has increased; attorneys insist on settlement language to ensure injured workers' entitlement to the RTW Supplement; use of the SJDB voucher has increased among injured workers; and awareness of the SJDB voucher and RTW Supplement has increased among injured workers.

Key stakeholders agreed on several important strengths and attributes for RTWSP success. These include efficient and low-cost program administration, simplicity of the supplement application process, timely issuance of the supplement to injured workers, and legal separation of the supplement from any settlement.

Stakeholders also noted several important facilitators for simplifying the RTW Supplement application process. These included having legal representation, receiving program notifications

in a preferred language, and receiving assistance from an information assistance officer in a district office. The program reduces transaction costs by limiting the scope for disputes and by using the SJDB voucher as a mechanism for targeting, albeit somewhat inconsistently. Two additional strengths associated with the larger workers' compensation system are resolution of most claims by the primary treating physician and use of the RTW & Voucher Report as an effective "trigger" report documenting work-restriction determinations and addressing permanent restrictions. Many physicians, however, fail to generate the RTW & Voucher Report because of the administrative burden. This results in underreporting and underissuance of the SJDB voucher to eligible workers who do not receive a qualifying work offer from their at-injury employer.

Stakeholders largely agreed that the intent of the RTWSP is to provide additional compensation to injured workers disproportionately impacted by their injuries. Still, they indicated that it is only partially fulfilling its intended purpose and meeting stakeholders' expectations. The RTWSP is currently operated efficiently with low administrative cost, providing timely and needed supplemental funds to injured workers who are unable to return to work at their at-injury employer. Yet some stakeholders perceived that the RTWSP is not succeeding at directing funds to those injured workers with disproportionate earnings loss. Instead, these stakeholders claim, the funds are being distributed to any injured worker who receives the SJDB voucher and applies for the RTW Supplement, with the level of disproportionate earnings loss not considered. Other stakeholders, however, indicated that the SJDB is an effective mechanism for targeting injured workers with disproportionate earnings loss, as it narrows the pool of injured workers to those not able to return to their at-injury employer. In sum, stakeholder views are mixed on whether the RTW Supplement is appropriately going to injured workers with disproportionate earnings loss.

Some stakeholders claimed that the full amount of the RTW Fund (\$120 million) is not being disbursed. Others disputed that this was a problem—indicating a need for further clarity on the program's purpose and design strategy.

Stakeholders identified two operational challenges with the program: issues with its application process and insufficient awareness of it among injured workers. While injured workers have generally not had difficulty claiming the RTW Supplement, many lack awareness of, access to, and information regarding the application process. Stakeholders suggested that the program's design does not appropriately target injured workers with disproportionate earnings loss.

Two additional weaknesses outside the RTWSP have important effects on it. These are the administrative and reporting burden on physicians (i.e., the requirement to generate an RTW & Voucher Report) and claims administrators failing to sign or issue the SJDB voucher. Some stakeholders also noted that the RTWSP does not distinctly promote return-to-work outcomes and suggested that DIR should rename the program to better align with its objectives. Stakeholders did not mention the possibility that the RTWSP might help workers achieve better

employment outcomes, whether through rehabilitation, training, investment, or incentives to use the SJDB for services.

Stakeholders reported little to no misuse of the RTWSP. They did note, however, that some processes that lead to the issuance of the RTW Supplement may be susceptible to fraud or misuse. Particular concerns included injured workers obtaining more than one SJDB voucher per claim or injury, claims administrators pushing to settle prior to the injured worker being determined as having reached permanent and stationary status, dramatic take-up and utilization of the SJDB voucher, and ineligible individuals applying for and receiving the RTW Supplement. Stakeholders also noted improper and incomplete physician reporting, which has a direct effect on injured workers' receipt of a qualifying job offer or SJDB voucher, and misuse of the SJDB voucher, including suspected billing fraud and voucher validity.

Our findings must be interpreted as opinions and assertions of interested parties rather than as objective facts that have been verified through research. Even so, they offer a deeper understanding of stakeholder beliefs about the program that can help identify areas of concern and hypotheses for quantitative analysis, address questions that are difficult to answer with objective data, and help policymakers navigate the constraints of political sustainability as they seek to reform and strengthen the system. While some of the topics our stakeholders addressed are not amenable to direct examination with administrative data made available to us, others regarding targeting and take-up of the RTWSP were. We turn to quantitative analysis of these in subsequent chapters.

Chapter Five: Data Sources and Methods for Quantitative Analysis

This chapter presents an overview of the data sources and methods used in our quantitative analysis of the RTWSP. Additional details on the construction of our analytic samples are presented in Appendix B, along with more-technical descriptions of our statistical methods.

Data Sources for Quantitative Analysis of the RTWSP

We drew upon multiple sources of data on workers' compensation claims in order to conduct the quantitative analysis of the RTWSP. We worked closely with DIR to extract needed information from its databases and to link records across various data sets. Below, we describe each of the data sources used in this report: the WCIS, program records from the RTWSP, EAMS, ratings performed by the state DEU, data on SJDB voucher issuance from a convenience sample of claims administrators, and several auxiliary datasets from public sources.

This wide variety of data sources is necessary to address the broad range of research questions posed in this study. In combination, these data sources allow us to observe all injured workers who have received the RTW Supplement to date, to understand the characteristics of the claimant and of his or her claim, and to analyze claimant characteristics and claim trends relative to several comparison groups. To assess how many workers apply and receive the RTW Supplement, we relied directly on program data from the RTWSP. To analyze the potential pool of eligible workers, we combined this program data with the WCIS and data on SJDB voucher issuance from our convenience sample of claims administrators. Our analysis of the RTWSP's targeting used WCIS data matched to RTWSP program data to compare recipients and non-recipients. And finally, to analyze potential barriers to receiving the RTWSP, we supplemented these same administrative data sources with public use data on geographic and demographic characteristics to provide context about the worker's environment. Table 5.1 summarizes how we used these various data sources to answer the research questions. Below, we describe in detail each data source and then elaborate on how we used these data sources to construct the analytic samples and implement the analysis.

Table 5.1. Analytic Sample Definitions

Analytic Sample	Research Question	Data Source	Population of Interest	N (unweighted)	Method
Indemnity sample	Does the RTWSP target workers with disproportionate earnings losses?	Injury year 2013–2014 WCIS	All timely and complete WCIS claims with paid or settled indemnity benefits	259,771	Comparison of characteristics and benefit receipt
PPD sample	Does the RTWSP target workers with disproportionate earnings losses?	Injury year 2013–2014 WCIS	All timely and complete WCIS claims with paid or settled PPD benefits	120,304	Comparison of characteristics and benefit receipt
DEU sample	Does the RTWSP target workers with disproportionate earnings losses?	Injury year 2013 WCIS matched to DEU	All timely and complete WCIS claims that match to the DEU	11,625	Comparison of disability ratings
Voucher PPD sample	Who is eligible for the RTWSP, and are barriers to access preventing eligible workers from receiving the RTWSP?	Injury year 2013–2014 claims from California convenience sample	All PPD claims from California that supplied data on SJDB voucher issuance	20,015	Logistic regression for SDJB voucher receipt
Voucher RTW sample	Who applies for the RTWSP, and are barriers to access preventing eligible workers from receiving the RTWSP?	Injury year 2013–2014 claims from California convenience sample	All claims with an SDJB voucher from California that supplied data on SJDB voucher issuance	3,641	Logistic regression for RTWSP application

The Workers' Compensation Information System

The WCIS is a database of workers' compensation claims maintained by the DWC within DIR. The WCIS covers essentially all workers' compensation payers in the California system, making it the most complete available data source on workers' compensation claims in California. For this study, DWC extracted information from the WCIS for injuries occurring between 2011 and the third quarter of 2017 (the time of the extraction) and provided de-identified versions of these files to RAND. These records include information from the First Report of Injury (FROI), which contains detailed information on the injured worker, employer, nature of the injury, and event leading to injury, and the Subsequent Report of Injury (SROI), which incorporates transaction-level data on indemnity payments and the timing of important events in the claim history. We linked the records on the FROI and SROI together using the Jurisdiction Claim Number (JCN), a unique identifier for each claim in the WCIS.

Key variables from the WCIS for our analysis include the date of injury, worker characteristics (including age, gender, pre-injury wage, zip code of residence, and industry),

types of benefits paid to date (including TTD benefits, PPD benefits, VR benefits, and any settlement payments), payment start and end dates, and the date of MMI.

As described in prior RAND reports, these data represent a uniquely comprehensive source of information for analyzing and evaluating the California workers' compensation system. However, the WCIS data do have some limitations that require care when using the WCIS for research. Most important, while improving over time, these data are incomplete, with a substantial fraction of claims administrators not reporting any information beyond the FROI. Consequently, the WCIS may not be representative of the system as a whole, and the representativeness and composition may change over time. Again, reporting has been improving over time due to efforts by DIR: Recent statutory changes authorizing financial penalties for noncompliance are expected to increase participation, and technical difficulties that interfered with data submission have been addressed in recent years.

While these limitations mean that WCIS data have to be analyzed with care, the WCIS remains an indispensable resource for studying California's workers' compensation system. With the appropriate sample definitions, information on the cost of claims, duration of disability, medical treatment patterns, and costs and trends in all cost components over time can be reliably estimated. When alternative DIR data sources are available for important data elements that are not reliably captured in the WCIS, we have relied on these sources instead. Three critically important pieces of information for this study that were obtained from data sources other than the WCIS are PD ratings, legal representation status, and issuance of SJDB vouchers.

Reliable data on receipt of benefits and other milestones in the history of the claim are necessary to define sensible comparison groups for recipients of the RTW Supplement. If data with incomplete SROI reporting were used, then one might reach misleading conclusions about the RTWSP's success in targeting the intended population of workers with disproportionate earnings loss.¹⁶ To select an analytic sample with reliable data, we analyzed the frequency of claims with indemnity benefits reported on the SROI by each claims administrator to identify claims administrators with timely and complete information. Then we constructed weights so that the claims from claims administrators with complete reporting could be adjusted to reflect the overall distribution of claims with a FROI in the WCIS. Our primary analysis uses weighted estimates for this subset of claims to produce estimates that are representative of the universe of claims with a FROI reported to WCIS.¹⁷

¹⁶ Previous RAND research using the WCIS has not been quite so reliant on the accuracy of SROI, because previous studies have either focused exclusively on the population of workers in receipt of PPD benefits or have emphasized systemwide average outcomes for all workers with a FROI.

¹⁷ Specifically, our estimation weights produce estimates that match the joint distribution of the following variables in the FROI: injury year, geographic region, gender, age, pre-injury earnings, and self-insured status. Under the assumption that claim administrator reporting quality is not correlated with worker outcomes within groups defined by combinations of these variables, our estimates are representative of the full WCIS population. Additional details on our weighting procedure are provided in Appendix B.

The other DIR databases used in this study do not use the JCN, and so it was necessary to use other identifiers to link WCIS records to these data sets. These other databases collect the district adjudication number (ADJ number), as well as a number of direct identifiers (such as name and Social Security number) that were not transferred to RAND. DIR used a combination of these sensitive direct identifiers to develop crosswalks linking ADJ number to JCN for records appearing in the RTWSP data, EAMS, or the DEU.¹⁸ These crosswalks were then transferred to RAND and used to link records to basic worker and claim characteristics captured in the WCIS. As expected, given DIR estimates that 8 to 9 percent of injuries are not reported to the WCIS as a FROI, not all cases in these other databases were successfully linked to WCIS.

RTWSP Data

DIR also provided data on the universe of complete RTWSP applications received from the program’s inception on April 13, 2015, to the time of data extraction in October 2017. Each record represents a completed online application that was submitted to the RTWSP.¹⁹ In addition to the application date and information about the injury that was reported in the RTWSP application, these data capture whether the application was accepted, appealed, and paid and the dates associated with these events. The data also contained a set of codes indicating reasons for denied applications.

While most applicants to the RTWSP submit only one application, a small number of individuals had two or more applications. We collapsed multiple records to a single record per ADJ number that contained information about the date of the first submission, whether any applications were successful, and key dates associated with successful applications.

Table 5.2. Number of Applications per ADJ

Number of Applications	Total ADJs	ADJs Paid on First Application	ADJs Paid on Subsequent Application
1	28,596	27,537	0
2	1,041	286	712
3	57	6	48
4	5	0	4
5	3	0	2
9	1	1	1
Total	29,703	27,830	767

NOTE: Program data from the RTWSP were extracted in October 2017.

¹⁸ The ADJ number is a number assigned to users of EAMS, DWC’s electronic case management system. See Appendix B for further details on the methods used by RAND and DIR to crosswalk ADJ number to JCN.

¹⁹ DIR was not able to provide data on incomplete or abandoned online applications, nor was DIR able to provide metadata, such as time needed to complete all pages of the application.

In this report, statistics on the volume of applications and payments are calculated from the RTWSP data before any linkage to other DIR databases. Statistics on RTWSP take-up or characteristics of workers with or without the RTW Supplement are estimated using a subset of cases that linked successfully to the relevant databases (e.g., WCIS to study benefit payments, SJDB voucher data to study take-up, or DEU ratings to study targeting). Workers in these other databases that fail to link to an RTWSP application are assumed not to have applied to the program.

EAMS and DEU Data

DIR provided data from the EAMS and DEU databases, which contain key variables to provide more details about the claim. The data from the EAMS enable us to observe whether the claimant obtained legal representation, and the DEU database provides detailed information on the PD rating for injured workers. EAMS and DEU data were provided for injuries from 2011 to 2017. DIR again provided the crosswalk to link these files to the JCN for the claim.

The appeals process for denied RTWSP applications is also handled through the EAMS, so the EAMS file that we received also contained information about RTWSP appeals. However, only a trivial number of appeals have been filed to date, so we do not analyze the RTWSP appeals process in further detail in this study.

SJDB Voucher Issuance

Eligibility for the RTWSP is determined by whether a worker was issued an SJDB voucher. While the WCIS provides information about SJDB utilization (i.e., cases in which individuals redeemed their SJDB vouchers to pay for VR services, education and training, computers, or other services and equipment covered by the SJDB), voucher issuance is not reported to DIR in any form, and so we were unable to observe voucher issuance in the WCIS directly.

To remedy this shortcoming, DIR issued a data call in the summer of 2017 to several claims administrators about voucher issuance on injuries in 2013 and later. After consulting with RAND, DIR was able to extend this call to additional claims administrators in order to represent all sectors of the workers' compensation market. We were able to obtain data on voucher use from all participating claims administrators for injuries occurring between 2013 and 2015. For a subset of these claims administrators, we were able to expand the data call to cover injuries occurring in 2011–2012, providing a baseline against which to compare SJDB voucher issuance patterns observed after SB 863 took effect.

Pooling together the results of this data call gave us a convenience sample of claims for which it was possible for us to observe whether an SJDB voucher was issued. These claims were linked to the WCIS and the other data sets in our study, enabling us to study factors affecting SJDB voucher issuance among eligible workers. We caution that these data represent a convenience sample of claims administrators from whom we were able to obtain data and are not a representative sample of all injured workers. Despite the potentially unrepresentative nature of these data, they represent our only opportunity to study take-up of the RTWSP among a

population of workers known to be eligible for the supplement. We explain how we account for the nonrepresentative nature of this data sample below.

Other Public-Use Data Sets: Federal Communications Commission, American Community Survey, and Quarterly Census of Employment and Wages

Finally, we supplemented these administrative data sources with additional public use data to provide context about potential barriers to use of the RTWSP and to understand the economic conditions for claimants in different parts of the state. Because the application for the RTW Supplement is only available online, we obtained information about internet access in California. We accessed data on residential internet access at the census tract level as of December 2015 from the Federal Communications Commission (FCC) Form 477²⁰ and aggregated these data to the zip-code level to match to the zip code available in the WCIS.

Language barriers may pose another challenge to accessing the RTWSP. As a result, we incorporated data on English language ability at the zip-code level from the American Community Survey (ACS) five-year estimates from 2011 through 2015.²¹ The detailed measures include the population of residents in a given zip code who speak English very well and the population of residents speaking other languages, including Spanish, Chinese, Tagalog, Korean, and Vietnamese. We used these variables to identify zip codes with relatively low rates of English speakers. As with the internet data, we matched the English language data to the injured worker's zip code as reported to the WCIS.

DWC operates a network of 24 field offices throughout the state, and we hypothesized that access to a DWC field office might help workers prepare their RTWSP application, particularly since some workers might lack access to a scanner or a desktop computer (both of which are provided at DWC field offices). However, many communities in California are located far from any DWC field office, and so we hypothesized that distance from DWC field offices might also be a predictor of low take-up. We downloaded the addresses of the DWC field offices from the DIR website and calculated the distance from each zip code in California to the nearest field office.

To understand the impact of the business cycle on applying for the RTW Supplement, we incorporated quarterly data on employment at the industry-county level from the Quarterly Census of Employment and Wages.²² We normalized employment to obtain a measure of employment relative to the same quarter of the year in 2012 for each industry-county pair and matched this data to the injured worker's county of residence. This measure thus captures the cumulative change of industry-level employment in an injured worker's local labor market as of the quarter of injury, after accounting for industry-specific seasonality.

²⁰ Data available on Form 477 from the FCC (see FCC, 2017).

²¹ See U.S. Census Bureau, undated.

²² See Bureau of Labor Statistics, 2018.

Description of Analytic Samples and Methods

We focused on several different populations of injured workers when addressing different research questions posed in this study. We describe each below in relation to the research question. More detail is provided in Chapters Six and Seven and Appendix B. We note that the available data sets did not enable a quantitative analysis of potential fraud and abuse in the RTWSP. Our conclusions about program integrity draw primarily upon the qualitative research discussed in Chapter Four.

Does the RTWSP target workers with disproportionate earnings losses? We focused primarily on workers with paid or settled PPD benefits as the population of interest when evaluating the targeting of the RTWSP. We additionally narrowed our focus to workers with 2013 or 2014 injury dates whose claims were reported by claims administrators that met our standards of timely and complete reporting. We refer to this population as the **PPD sample**. We focused on these earlier cohorts to allow for the maximum amount of time to have elapsed for workers to reach MMI, receive a voucher, and apply for the RTWSP. Our analysis of targeting focuses on differences between workers with and without the RTW Supplement, so we performed comparisons that effectively controlled for the claim maturity (i.e., the time elapsed between the injury date and the time of data collection) by comparing workers injured in the same years (and thus roughly at the same maturity at the time of data collection).

A complication arose in defining our sample, which was that not all workers who are eligible for the RTW Supplement are clearly identified as permanently disabled in the WCIS. Even among the sample of claims for which we believe the SROI is accurately reported, we found that about one in four workers who received the RTW Supplement had no record of paid or settled PPD amounts, while one in ten workers who received the RTW Supplement had no indemnity payments at all. We have no reason to believe that these workers are not permanently disabled; rather, they appear to have settled the indemnity portion of their claim before reaching MMI or having any PPD benefits paid.²³ Accordingly, we also replicated some of our analyses using a sample consisting of all workers with paid or settled indemnity benefits, which we refer to as the **indemnity sample**.

To evaluate the targeting of the RTWSP in terms of disability severity, we matched RTWSP data to data on PD ratings performed at the DEU. In addition to the worker and claim characteristics that we were able to observe in the WCIS comparison samples, this comparison sample provides additional information about how the severity of RTW Supplement recipients' injuries compare to those of other permanently disabled workers, as measured by their PD ratings. We refer to this population as the **DEU sample**.

²³ Although the WCIS identifies settlement payments that are specifically for settled PPD, claims administrators can report "Unspecified" settlements on cases with PD. Consistent with this possibility, we found that most RTW Supplement recipients with settled amounts but no PPD payments received "Unspecified" settlements. Furthermore, our stakeholder interviews indicated that it is common for injured workers to reach a stipulation with the claims administrator that explicitly promises the worker an SJDB voucher after the settlement is reached; these workers would qualify for the RTWSP and seem likely to have severe injuries.

To understand how well targeted the program is, we performed a series of descriptive comparisons of RTW Supplement recipients to nonrecipients in the PPD sample, the indemnity sample, and the DEU sample. We also provide descriptive evidence on the timing of RTWSP application and receipt relative to other milestones in the claim history and compare the dollar value of the supplement payment to other workers' compensation benefits an injured worker may receive.

Who is eligible, applies for, and receives the RTWSP? To analyze take-up of the RTWSP and to estimate the size of the RTWSP-eligible population, we had to identify a sample of eligible workers, meaning those in receipt of an SJDB voucher for injuries in 2013 or later. SJDB voucher receipt is not reported to the WCIS, so our analysis sample for studying take-up behavior and RTWSP eligibility is based on the convenience sample of voucher recipients identified by the cooperating claims administrators discussed above. After linking these claims to the WCIS, we used the claim administrator's Federal Employer Identification Number field to identify the universe of claims from the relevant claims administrators in the WCIS data. We again conducted the majority of our analysis of take-up with the 2013 and 2014 injury cohorts in order to observe the cohorts with most complete information about RTWSP eligibility. We refer to the sample of PPD workers for whom we observe voucher issuance as the **voucher PPD sample**, and we refer to the sample of known voucher recipients as the **voucher RTW sample**. While we were not able to estimate eligibility in the entire population directly with the data sets currently available, we used these data as a reference point for setting some bounds on the size of the eligible population. We describe these methods in more detail in Chapter Seven and Appendix B.

Are there barriers to accessing the RTWSP? To analyze barriers to take-up, we used cases from the voucher PPD sample and the voucher RTW sample. In addition to WCIS, EAMS, SJDB voucher issuance, and RTWSP data, we incorporated public use data providing information about the availability of internet access, the extent to which English is spoken in a community, local economic conditions, and the distance from the closest DWC field office. We calculated RTWSP application rates by date of SJDB voucher issuance to illustrate trends in take-up, and we estimated logistic regressions for SJDB voucher issuance and RTWSP application to identify barriers to take-up and other factors shaping which workers receive the RTWSP. Logistic regression allows us to control for multiple factors that may influence voucher issuance and RTW Supplement take-up, enabling a more formal statistical analysis to determine which factors and barriers are most strongly associated with SJDB and RTWSP participation.

Chapter Six: Targeting and Take-Up of the RTWSP

This chapter presents the main findings of our quantitative analysis of the RTWSP. With the data sources described in Chapter Five, we were able to address a range of research questions. First, we analyze whether the RTWSP is actually reaching the population of workers likely to experience disproportionate earnings loss—i.e., whether the program’s *targeting* is consistent with its intended design.

To evaluate the targeting of the RTWSP, we used data on permanently disabled workers with 2013–2014 injury dates (the PPD sample described in Chapter Five) to address two broad research questions:

1. How do RTW Supplement recipients compare to other PPD workers in terms of demographics, job characteristics, and disability severity?
2. How do RTW Supplement payments compare to other benefits received by workers?

Receipt of the RTW Supplement is determined both by eligibility and by decisions to apply made by eligible workers (take-up behavior). We used data from a convenience sample of claims administrators (the voucher PPD sample described in Chapter Five) to identify factors that are associated with issuance of the SJDB voucher, which determines eligibility for the RTW Supplement. We then focused on SJDB voucher recipients (the Voucher RTW Sample described in Chapter Five) to examine take-up behavior among eligible workers. Specifically, we addressed several additional research questions:

3. What proportion of eligible workers are applying for and receiving the supplement?
4. Are patterns of RTW Supplement receipt driven by SJDB voucher issuance or by take-up behavior among eligible workers?
5. What factors predict SJDB voucher issuance and RTW Supplement take-up?

Targeting of the RTWSP

Our evaluation of the RTWSP’s targeting focuses primarily on the population of workers with PD benefits or settlements for PD paid as of the time of data collection.²⁴ We compared RTW Supplement recipients with PD to the population of workers with PD who did not receive the RTW Supplement. We focused on workers with injury dates in 2013 and 2014, the years for

²⁴ We included workers with paid amounts in benefit type codes (BTCs) 020 (Permanent Total Disability [PTD]), 030 (Permanent Partial Disability), 040 (Permanent Partial Unscheduled), and 090 (Permanent Partial Disfigurement), as well as the settlement BTCs corresponding to these benefit types (520, 530, 540, and 590). PTD and Permanent Partial Disfigurement are quite rare compared with PPD, while PPD Unscheduled is an obsolete BTC for the time period under study that is nevertheless reported on some claims with more recent injury dates.

which we believe the potential for bias due to incomplete claim development or right-censoring (which occurs when data is collected before the outcome of interest is observed) is lowest. Table 6.1 compares claimant characteristics for RTWSP recipients and each of these comparison groups. The average age of claimants is around 45 across all comparison groups. RTWSP recipients are slightly older when compared with the overall sample of indemnity claims but slightly younger when compared with PPD recipients. RTWSP recipients are more likely to be female than both comparison groups in the WCIS and had substantially lower wages prior to their injuries: The average wage for permanently disabled workers with an RTW Supplement is \$661 per week in real 2017 dollars, compared with an average wage of \$813 per week for other workers with PD. RTWSP claimants are also more likely to live in zip codes where fewer residents speak English well and more likely to live in zip codes with low levels of residential internet access. Compared with other PPD recipients, RTWSP recipients are less likely to live in Southern California and more likely to live in the San Francisco Bay Area. On average, recipients also live slightly closer to a DWC field office.

Table 6.1. Characteristics of Permanently Disabled Workers With and Without the RTW Supplement

	RTW Supplement Paid?	
	No	Yes
<i>Sociodemographics</i>		
Female	41%	44%
Age	45.12 (11.57)	44.09 (11.06)
Weekly wage	813.08 (662.30)	661.15 (512.84)
<i>Geography and Barriers to Access</i>		
Low-English zip code	36%	41%
Low-internet zip code	27%	29%
Distance from DWC office	15.42	14.51
Southern California	52%	48%
Los Angeles	31%	26%
Inland Empire	21%	21%
Bay Area	15%	18%
Central Valley	11%	11%
San Diego	7%	7%
Rest of California	14%	16%
<i>Industry</i>		
Manufacturing	13%	15%
Transportation	4%	5%
Health care	8%	7%
Public administration	15%	5%
Administrative support	7%	10%
Agriculture	4%	5%
Retail	11%	13%
Accommodations/food services	7%	8%
Construction	5%	9%
Education	8%	3%
Wholesale	4%	5%
Other	14%	14%
Observations	110,239	10,065

NOTES: The sample contains 2013–2014 injuries in the WCIS analytic sample with paid or settled PD benefits reported to WCIS by October 2017. Sample weights were applied to make estimates representative of all 2013–2014 injuries with a FROI reported to WCIS. Standard deviations of continuous variables are in parentheses. Southern California is defined to include the Los Angeles and Inland Empire DWC regions (which, together, include the counties of Los Angeles, Orange, Riverside, San Bernardino, and Imperial).

There are noticeable differences in the industrial composition of the RTW Supplement recipients as compared with other workers with PD. RTW Supplement receipt is significantly more common among industries with a high degree of turnover, including administrative support, retail, and construction, although we also note higher RTW Supplement receipt in manufacturing, which has a lower turnover rate than other private-sector employment.²⁵ Similarly, RTW Supplement receipt is significantly less common among workers in public administration and education, industries with relatively low rates of turnover.

²⁵ Comparison of turnover rates is based on Bureau of Labor Statistics JOLTS estimates (Bureau of Labor Statistics, 2017).

Table 6.2 compares patterns of other workers’ compensation benefit receipt between RTW Supplement recipients and other workers with PD. Supplement recipients are less likely to work in self-insured firms prior to injury, which likely reflects the fact that larger firms (including public-sector employers) are both more likely to self-insure and may be more able to provide accommodation and avoid issuing SJDB vouchers. RTW Supplement recipients are also more likely to have settled their claims by the time of data collection than other workers with PD are.

Table 6.2. Claim Characteristics and Benefit Receipt Patterns for Permanently Disabled Workers With and Without the RTW Supplement Payment

	RTW Supplement Paid?	
	No	Yes
Benefit Indicators		
Cumulative injury	23%	19%
Self-insured	34%	19%
Settled claim	43%	66%
Has representation	49%	91%
Median weeks of TTD paid	25.0	58.0
Any paid SJDB	2%	39%
SJDB exhausted	1%	21%
Mean Benefit Amounts (Conditional on Receiving)		
PPD paid to date	\$11,415 (17,125)	\$16,642 (21,781)
Settled amounts paid to date	\$20,484 (23,822)	\$34,094 (31,504)
TTD paid to date	\$18,346 (22,774)	\$26,655 (23,987)
Observations	110,239	10,065

NOTES: This sample contains 2013–2014 injuries in the WCIS analytic sample with paid or settled PD benefits reported to WCIS by October 2017. Sample weights were applied to make estimates representative of all 2013–2014 injuries with a FROI reported to WCIS. Standard deviations of continuous variables are in parentheses. “Any paid SJDB” indicates that a worker has a nonzero amount of SJDB payments reported to the WCIS. “SJDB exhausted” indicates that a worker has received the maximum allowed amount of SJDB payments (\$6,000 for injuries in 2013 and later years).

Importantly, legal representation rates are significantly higher among RTW Supplement recipients than the comparison groups. Over 90 percent of RTW Supplement recipients have legal representation, compared with 49 percent of other workers with PD.²⁶ This pattern likely

²⁶ The proportion of PD workers with representation based on our linked EAMS-WCIS data is somewhat lower than estimates previously reported by the WCIRB for the insured sector. However, it is possible that injured worker

reflects the fact that more-severe and more-complex cases are more likely to require legal representation, but it is also suggestive of possible differences in take-up between represented and unrepresented workers; we will return to this question when we analyze take-up in a sample of SJDB voucher recipients later in this chapter.

Compared with workers with PD who do not receive the supplement, RTW Supplement recipients have far higher TTD duration. The median disability duration is 58 weeks for RTW Supplement recipients versus 25 weeks for nonrecipients. TTD and PPD payments are over 45 percent higher for RTW Supplement recipients compared with other workers with PD. As shown in Table 6.2, average total TTD payments for RTW Supplement recipients are more than double the average total TTD payment received by all other beneficiaries with indemnity payments. Thus, while supplement recipients receive much higher benefit payments than nonrecipients, the difference in total disability duration strongly suggests that these benefit payments are likely driven by greater injury severity.

Data on disability ratings performed at the DEU give us a more direct way to compare disability severity between RTW Supplement recipients and nonrecipients. Among workers with PD ratings performed at the DEU, we find that PD ratings were sharply higher for RTW Supplement recipients than for nonrecipients: In 2013, the average PD rating among RTW Supplement recipients was 31, compared with 22 for other PPD claimants.²⁷

Taken together, these findings suggest that, compared with other workers' compensation claimants, RTW Supplement recipients are a relatively vulnerable group. They come from lower-wage jobs with a higher risk of turnover, live in communities where they could face higher barriers to accessing support, and tend to experience more-severe injuries with longer durations. At a broad level, these findings suggest that the RTWSP is targeted to workers who could be more likely to face disproportionate earnings loss and may face greater difficulty in returning to work after an injury.

As discussed in Chapter Five, only about three in four RTW Supplement recipients actually have PPD benefits paid: Another 15 percent of RTW Supplement recipients have other indemnity benefits or settled indemnity benefits, while 10 percent have no paid indemnity benefits reported to the WCIS. In Appendix B, we supplement the analysis of targeting shown here by broadening the population of interest to include all workers with indemnity claims from 2013–2014 injuries. Although the population of workers with indemnity claims is nearly twice as large as the population of injured workers with PD, the comparisons shown in Tables 6.1 and 6.2 are generally similar. Compared with other workers with indemnity claims, RTW Supplement recipients with indemnity claims have lower wages, are more likely to be female, are more likely

representation rates are in fact lower at self-insured employers if these employers have different claims management practices that enable them to avoid disputes. Stakeholder participants in the TAG did not indicate that the representation rate estimated using our data was unrealistically low.

²⁷ PD ratings range from zero to 100, but the average rating for 2013 injuries rated at the DEU by October 2017 was 22.7; higher ratings indicate more-severe impairments and result in larger PPD payments. Appendix Figure B.2 shows the full distribution of PD ratings for RTW Supplement recipients compared with other PPD recipients. The distribution for RTW Supplement recipients is shifted to the right, reflecting the fact that they receive higher ratings.

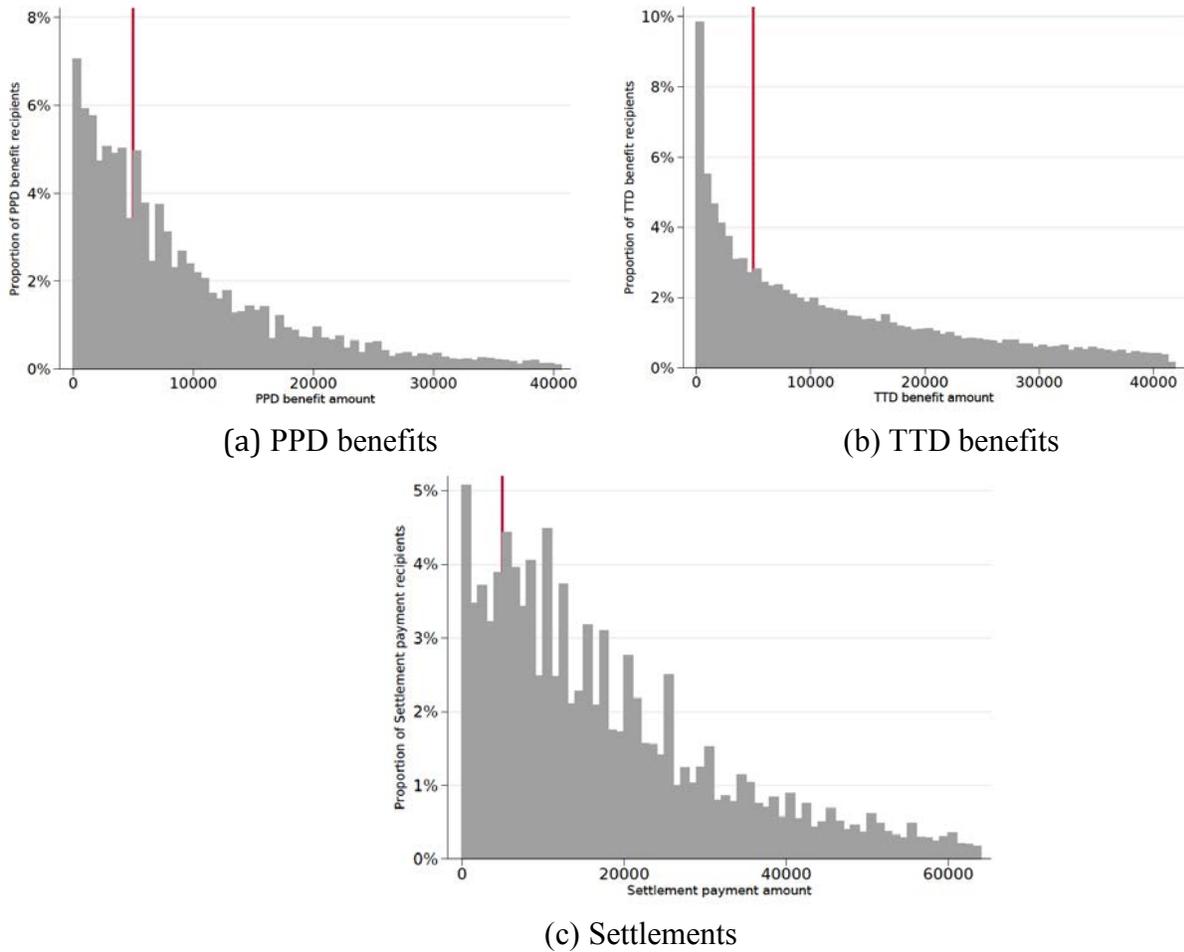
to live in zip codes with low English-language ability and low internet connection rates, are more likely to work in manufacturing or certain high-turnover industries, and are less likely to work in public administration or education. RTW Supplement recipients are also far more likely to have legal representation and to have settled their claims.

Size of RTW Supplement Payments in Comparison to Other Indemnity Benefits

To get a sense of the size of the RTW Supplement relative to other benefits received, Figure 6.1 displays the distribution of paid benefit amounts for RTW Supplement recipients, with separate charts for TTD benefits, PPD benefits, settled amounts, and total benefits paid (including indemnity benefits and settlements). Each bar shows the share of recipients, with the total benefit value indicated on the x axis. To provide a sense of how this compares with the RTW Supplement amount, the red vertical line indicates the \$5,000 value of the supplement; workers represented by the bars to the left of the vertical line have total benefits less than the supplement value, and workers represented by bars to the right of the vertical line have total benefits greater than the supplement value. Among claimants who received both the RTW Supplement and TTD benefits, the median TTD benefit amount is around \$18,000, meaning that the supplement value is approximately 28 percent of the median TTD amount. Similarly, the supplement value is approximately 20 percent of the median settlement value for those claimants who received both the supplement and a settlement payment, and it is nearly 50 percent of the median PPD value for claimants receiving both PPD and the supplement. Combining all payment sources, the supplement reflects approximately 10 percent of the median total indemnity and settlement payments received by RTWSP recipients.

Still, these figures reflect only the 50th percentile of the distribution. As indicated by the dispersion shown in Figure 6.1, the relative economic impact of receiving the supplement relative to other disability compensation varies significantly even within the population of those who receive the supplement. For some, an additional \$5,000 reflects only 10 to 15 percent of other compensation they may receive, while for others with low values of other benefits, the RTW Supplement can more than double the total value of compensation received.

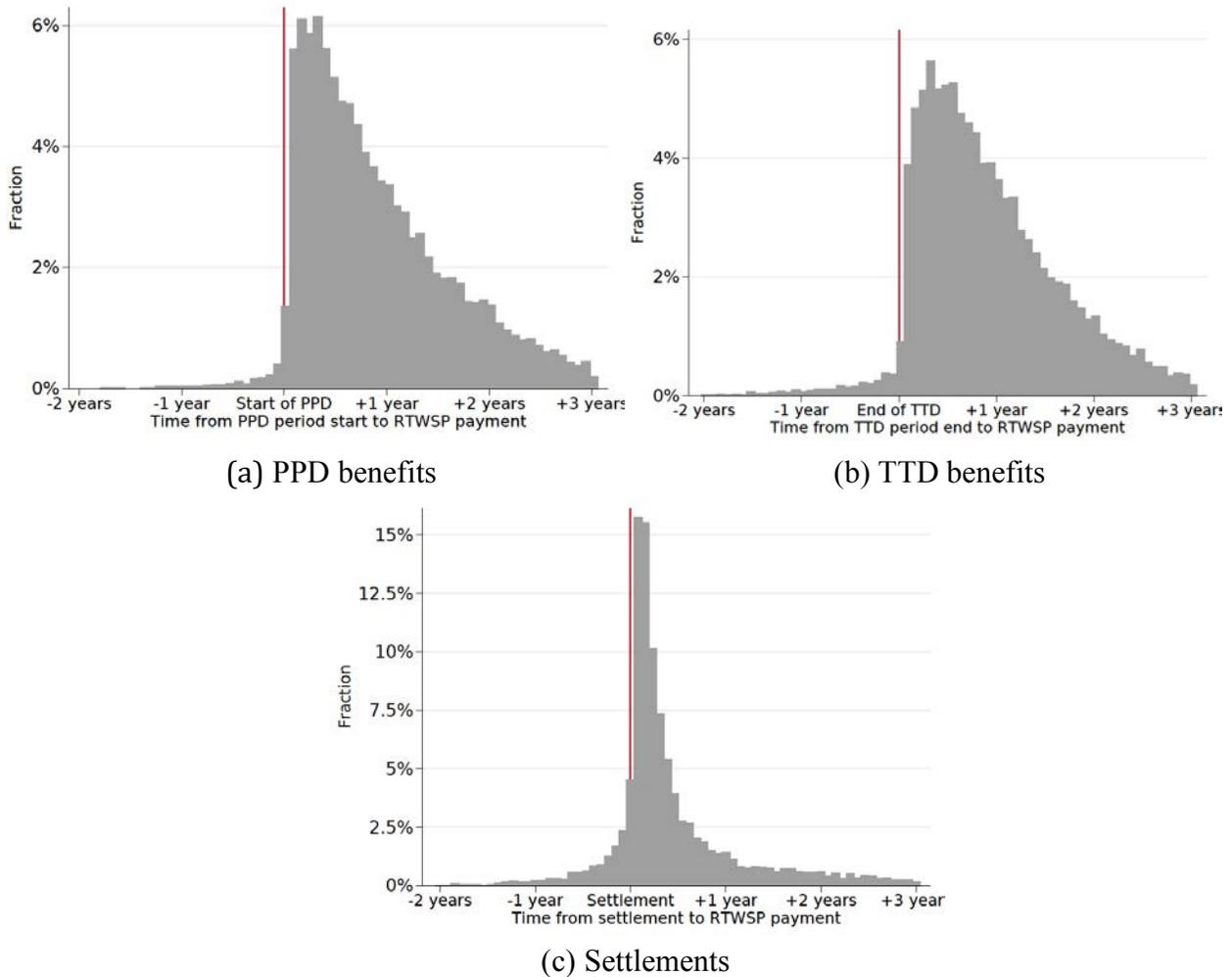
Figure 6.1. Distribution of Benefit Values Among PPD Recipients, Relative to RTWSP



NOTE: Data are from WCIS, injury years 2013–2014.

In addition to the overall value of the supplement, the timing of when claimants receive the supplement is another important actor for assessing the extent to which it might provide meaningful financial relief to injured workers. Figure 6.2 displays the share of workers receiving the RTW Supplement at different points in time relative to receipt of other benefit types. Most workers receive the benefit within one year of ending their TTD benefits and beginning PPD payments, again consistent with overall program guidelines that workers become eligible for RTWSP after reaching MMI. Figure 6.2 also shows that workers also commonly apply for the RTWSP around the time of a settlement.

Figure 6.2. Distribution of Benefit Timing Among PPD Recipients, Relative to RTWSP



NOTE: Data are from the WCIS, injury years 2013–2014, and program data from RTWSP extracted in October 2017.

Along with the findings on claim processing reported in Chapter Three, these findings confirm that the RTWSP is paid to workers in a timely manner, providing them with extra resources at a key transition point in their claim after TTD benefits end. While the benefit reflects a meaningful share of total benefits for some workers, it is a fairly small fraction of total benefits for others.

A limitation of this study is that we were not able to access data on earnings loss and return to work for the population of workers eligible for the RTWSP. The lack of data on earnings losses for these workers makes it difficult to evaluate directly whether the RTWSP is targeting the subset of the PD worker population with disproportionate earnings losses in comparison to their PPD benefits. Dworsky et al. (2016), in an analysis of earnings losses and PD benefits leading up to SB 863, found that wage replacement rates (relative to earnings losses over the first

five years after injury) rose steadily with workers' combined final rating before apportionment.²⁸ However, as other researchers who have studied workers' compensation have noted, comparing wage replacement rates across workers with different degrees of earnings loss can be misleading (Savych and Hunt, 2017). A worker might have a higher wage replacement rate but smaller uncompensated losses than another worker. Estimates reported in Dworsky et al. (2016) imply that this is the case for California's rating system: While the after-tax wage replacement rate increases more or less linearly with the final rating, the dollar value of uncompensated losses under the PPD rating and benefit changes imposed under SB 863 peaks around a final rating of 20 before starting to decline.

The implications for the RTWSP's targeting of the empirical relationship between uncompensated losses and final ratings are not entirely clear, however. On the one hand, injuries with very low ratings have limited uncompensated losses, and so it might be seen as appropriate that relatively few RTWSP payments go to workers with low ratings. On the other hand, the average final DEU rating for nonrecipients of the RTW Supplement injured in 2013 was very close to the point in the rating distribution at which uncompensated losses are maximized, which might seem to suggest that RTWSP recipients' ratings are too high to be consistent with optimal targeting. In fact, Dworsky et al.'s estimates indicated that workers with ratings above 30 (under the anticipated SB 863 rating system) turn out to be the only group of PD workers in the system who have adequate PD benefits on average when judged against the 80-percent wage replacement rate suggested by Hunt (2004).²⁹

Furthermore, comparing rates of RTW Supplement receipt with average wage replacement rates for workers with different disability ratings does not address the most important question for targeting, which is whether workers without a qualifying return-to-work offer are likely to have disproportionate earnings losses relative to their disability benefits. Figures reported in Seabury and Scherer (2014) and earlier RAND studies answer this question in the affirmative.

The most informative comparison about how the RTWSP's targeting relates to disproportionate earnings loss would be an estimate of the additional earnings loss associated with failure to return to work as a function of an injured worker's final ratings. To the extent that two workers with the same pre-injury earnings who cannot work after their injuries can expect the same earnings loss regardless of the severity of their impairment, the targeting of the current RTWSP may in fact be optimal. This is an empirical question, however, since one could just as well imagine that a disabled worker with a final rating of 2 might have better odds of retraining and finding a new occupation than another worker with a final rating of 20.

²⁸ See Figure 6.5 and Figure 6.6 in Dworsky et al. (2016). The slope of the line connecting the origin to each point along the curve of best fit is the wage replacement rate, while the vertical distance between the curve and the 45-degree line is the magnitude of the uncompensated loss. The curve of best fit is U-shaped, indicating that uncompensated losses increase with ratings before beginning to fall at higher ratings. Yet Figure 6.6 in that document shows that the after-tax wage replacement rate is increasing in the final rating.

²⁹ This conclusion is valid only with respect to earnings losses over the first five years post-injury. Even though the Dworsky et al. calculations include the present value of California's life pension, lifetime wage replacement rates are likely lower for workers with very high ratings because their earnings losses are more likely to be permanent.

Reville et al. (2005) addressed this question directly, comparing the average earnings losses experienced by PD workers to losses among those who remained employed at the at-injury employer two years after injury. They found that workers with sustained return to work as of the second year after injury had far less severe earnings losses five years after the injury, by about 19 percentage points of what the workers would have earned if uninjured. The comparison reported by Reville et al. (2005) was conducted between workers with the same disability rating (under the pre-2005 PDRS), and so this evidence clearly shows the association between failure to return to work and disproportionate earnings losses. Furthermore, they found that the difference in earnings loss (as a proportion of what workers would have earned if uninjured) associated with failure to return to work was markedly higher for workers with higher ratings. These estimates suggest that greater receipt of the RTWSP by workers with higher disability ratings is an indicator of good targeting. However, we note that the data used by Reville et al. (2005) are now 25 years old. It would be worthwhile to revisit this question when more data on the earnings losses of workers eligible for the RTWSP (including at least 2015 injuries) become available for study.

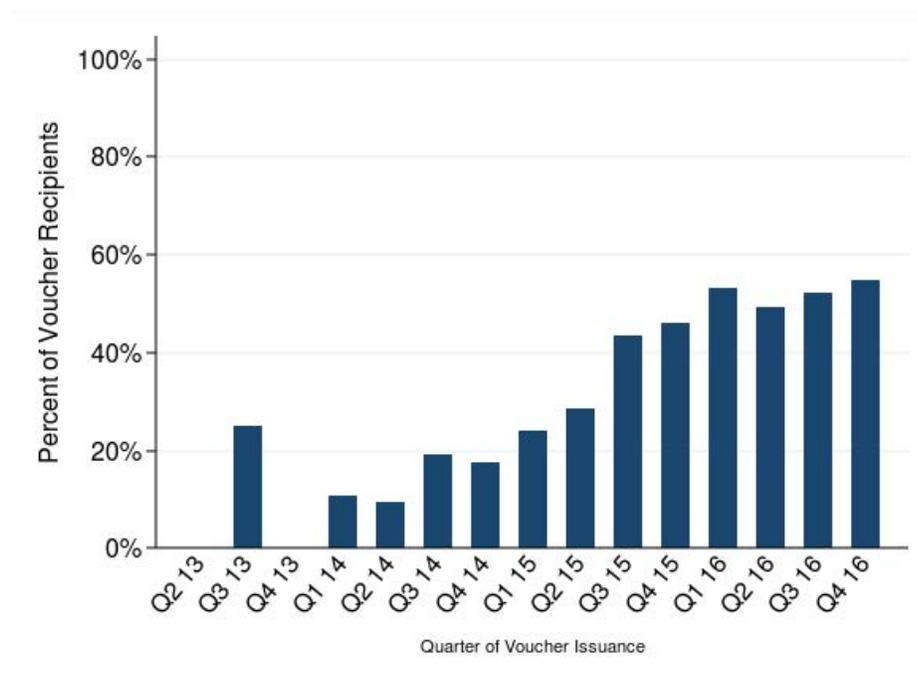
Take-Up of the RTWSP Among Eligible Workers and Patterns of SJDB Voucher Issuance

We next analyze more-specific trends in take-up of the RTWSP to provide more detail on how well workers with these characteristics are able to access the program and to identify factors that play an important role in use of the RTWSP.

Figure 6.3 shows overall trends in take-up of the RTW Supplement among the sample of claims for which we observe voucher issuance. We measure take-up in terms of those who apply for the supplement as a function of the date when the SJDB voucher was issued. Patterns of approved applications and RTW Supplement payment are nearly identical because almost all applications are approved. Take-up rates are typically below 20 percent for claimants who received a voucher prior to the implementation of the RTWSP, although we note that a period of extended eligibility for vouchers issued before December 2015 that was opened in March 2017 remained open at the time data for this report were extracted, and so take-up for workers who received vouchers in this period may rise further.³⁰ However, take-up by voucher recipients increased significantly for claimants who were issued a voucher in 2015 and appeared flat, at about 52.5 percent, among claimants who were issued a voucher in 2016. Because claimants have up to one year to claim the RTW Supplement after being issued a voucher, this figure should be close to the ultimate take-up rate for vouchers issued in 2016 within our convenience sample: Only vouchers issued in the fourth quarter of 2016 remained eligible to apply to the RTWSP, and we have seen that most applications to the RTWSP are submitted shortly after the voucher is issued.

³⁰ 8 CCR §17304.

Figure 6.3. Take-Up Rates of RTWSP, by Quarter of Voucher Issuance



NOTES: Data are from a convenience sample of claims administrators, and program data from RTWSP were extracted in October 2017. No RTWSP applications were submitted by workers in the voucher RTW sample who were issued vouchers in Q2 2013 or Q4 2013, yielding a take-up rate of zero in these quarters.

We next estimated a series of multivariate logistic regression models to conduct a deeper analysis of factors that are predictive of voucher issuance and RTW Supplement take-up. We estimated the model analyzing SJDB voucher issuance on the voucher PPD sample (all PPD claimants with 2013–2014 injury dates in the convenience sample for whom we observed voucher issuance). Because RTWSP take-up is conditional on having received a voucher, we estimated the model analyzing take-up of RTWSP on the voucher RTW sample (consisting of all voucher recipients in the convenience sample with 2013–2014 injury dates).³¹ Key covariates in the model include indicators for potential barriers to take-up (including living in a low-English or low-internet zip code, distance to the closest field office, and having representation), economic conditions in the claimant’s county and industry in the quarter of injury, industry, claimant demographics and geographic region, indicators for key claim milestones and the amount of paid benefits, and indicators for the quarter of injury. Because of differences in the sectors and industries represented in the convenience sample, we also included fixed effects for each of the

³¹ See Table 5.1 for details.

claims administrators included in the sample. Complete details on the regression specification are reported in Appendix B.³²

Table 6.3 shows the direction of the effect on voucher issuance and RTW Supplement take-up for the variables for which we observed a statistically significant effect. Full regression tables are included in Appendix B. Claims that settled, reached MMI, and had legal representation were significantly more likely to be issued the SJDB voucher. Furthermore, claimants living in the Bay Area, claimants with lower wages, and claimants with high indemnity benefits or settlement payments were also significantly more likely to be issued a voucher. On the other hand, claimants working in the public administration, transportation, administrative support services,³³ agriculture, accommodations/food services, or wholesale industries were significantly less likely to be issued a voucher.

Conditional on receiving a voucher, claimants who are female, those with cumulative injuries, those who settled claims that have reached MMI, and claimants with legal representation were significantly more likely to receive the RTW Supplement, and claimants working in public administration were significantly less likely to receive the RTW Supplement. However, few other characteristics—neither those that were predictive of voucher issuance, nor otherwise—significantly affect the take-up of the RTW Supplement.

³² In the discussion in this chapter, we focus on estimates for a pooled model that combines data from all participating claims administrators. We also estimated models stratified by claims administrator and did not find evidence that predictors of voucher issuance differed substantially from the overall estimates presented here. These estimates are not reported in order to preserve the confidentiality of the claims administrators that provided data for this study.

³³ North American Industry Classification System code 561 (administrative support services) is of interest because it contains temporary help agencies and professional employer organizations, as well as outsourcing firms that provide some other high-hazard workers, such as security guards, building maintenance, janitors, and landscaping.

Table 6.3. Direction of Effect on Take-Up on Voucher and RTWSP for Significant Covariates

Covariate with a Significant Impact on Voucher Issuance or RTWSP Take-Up	(1) Voucher Issued	(2) RTW Supplement Paid (if voucher was issued)
Settled claim	+	
MMI date reported	+	
Settled claim and MMI date reported	+	+
Having legal representation	+	+
Cumulative injury		+
High TTD duration	+	
Settled amount above median	+	
PPD paid amount above median	+	
Female		+
Below median wage	+	
Region = Bay Area	+	
Region = rest of state	+	
Industry = transportation/warehousing	-	
Industry = public administration	-	-
Industry = administrative/support services	-	
Industry = agriculture	-	
Industry = accommodations/food services	-	
Industry = wholesale	-	

NOTES: This table indicates the direction of the effect for significant coefficients in the logistic regression model of take-up. Positive and significant coefficients are indicated with a plus sign (+), and negative and significant coefficients are indicated with a negative sign (-). See Appendix Tables B.10 and B.11 for a complete listing of all the coefficients included in the model and average marginal effects. Regression is based on data from 2013 and 2014 injuries in the convenience sample of claims administrators who provided data on SJDB voucher issuance. Column 1 is based on the subset of claims that received PPD, and column 2 is based on the subset of claims that were issued a voucher.

The multivariate regression analysis confirmed that legal representation is the factor most strongly associated with take-up of the RTWSP among eligible workers. The coefficient tables in Appendix B show that even after controlling for a wide range of other factors, eligible workers with legal representation were over 40 percentage points more likely to apply for the RTWSP than comparable eligible workers without representation were. Apart from the sharp differences in legal representation, the findings of our earlier analysis of RTWSP targeting appear to be driven by patterns of SJDB voucher issuance (and thus eligibility for the RTWSP) rather than major differences in take-up behavior among groups of voucher recipients.

Notably, only some of the other differences between RTW Supplement recipients and nonrecipients that were reported in Table 6.1 and 6.2 remained significant predictors of SJDB voucher receipt or RTWSP take-up after adjusting for other individual characteristics. More advanced claim disposition (meaning settlement and MMI status), higher paid benefit amounts, residence in the Bay Area, and low pre-injury wages were all predictive of higher SJDB voucher receipt when controlling for other factors. However, age, gender, language ability, and internet access were not associated with SJDB voucher receipt. The fact that potential barriers to participation (e.g., language ability and internet access) were not significant factors in take-up

could result from the fact that we were only able to proxy for these characteristics at the zip-code level.³⁴

Somewhat surprisingly, economic conditions were also not associated with SJDB voucher receipt or RTWSP take-up. This finding was unexpected because return-to-work rates are sensitive to the business cycle (Dworsky et al., 2016). We suspect that the time period we used to examine voucher issuance may have been too short to provide meaningful variation in economic conditions. Over the 2013–2014 sample period, the labor market in most regions of California was steadily improving, and any cross-regional changes may have been too subtle to have a detectable impact on SJDB voucher issuance in the small sample of claims available to us.

The patterns of RTW Supplement receipt we saw across different industries also appear slightly different when adjusted for other factors. Workers in high-turnover industries—administrative/support services, agriculture, construction, and retail—that were disproportionately represented among RTW Supplement recipients do not appear more likely to receive SJDB vouchers after controlling for other worker characteristics. In fact, permanently disabled workers injured in agriculture and accommodations/food services (which has one of the highest annual turnover rates of all nonagricultural U.S. industries) are *less* likely to receive an SJDB voucher once other characteristics are accounted for. We suspect that the high rates of RTW Supplement receipt in those industries observed before adjusting for worker characteristics may have reflected the high prevalence of low-wage workers in these industries. That said, some of the strongest industry patterns observed in Table 6.1 remain significant and economically important after controlling for other worker characteristics: SJDB voucher receipt is much lower in the public sector, as is RTWSP take-up among those who receive the SJDB voucher. While some portion of the differences between our findings on SJDB voucher issuance and the unadjusted patterns reported in Tables 6.1 and 6.2 surely reflects the unrepresentative nature of our convenience sample, additional estimates reported in Appendix B show that similar unadjusted patterns are evident in our convenience sample as well.

To sum up, the behavior of workers observed in a convenience sample of SJDB voucher recipients suggests that only 50 to 55 percent of eligible workers applied for and received the RTW Supplement. Given that these workers can obtain a \$5,000 payment by completing a short online application that is designed to take around 20 minutes, we suspect that many workers do not understand what they stand to gain from completing the RTW Supplement application. Contrary to our expectations and the perspectives voiced by some stakeholders, failure to take up the RTWSP was not associated with any indicators of socioeconomic vulnerability or specific barriers to access that we examined, with one exception: Workers were overwhelmingly more

³⁴ We were somewhat surprised that these hypothesized barriers to access were not more strongly associated with RTWSP take-up or voucher receipt, and we explored the possibility that these factors might affect take-up for unrepresented workers but not for represented workers. We did find that the effect of distance on SJDB voucher issuance varies depending on whether a worker is represented or not. Claimants who are farther from a DWC field office and do not have representation are less likely to receive a voucher, while distance has no effect on voucher issuance for claimants who are represented. Other barriers to access were not significantly associated with SJDB voucher issuance even for unrepresented workers, however.

likely to apply for and receive the RTW Supplement if they had legal representation. The fact that legal representation is such an important predictor of take-up strongly suggests that unrepresented workers are finding it difficult to comprehend or navigate the RTWSP.

Chapter Seven: Eligible Population and Program Cost Estimates

The previous chapter found that many eligible workers—perhaps as much as half of the eligible population—fail to apply for and receive the RTW Supplement. Two important policy implications follow from these findings. First, low take-up is the most apparent shortcoming of the current RTWSP, and DIR should seriously consider program modifications that will allow the RTW Supplement to reach more of the currently eligible population. Second, the fact that the RTW Fund has not yet come close to issuing the full \$120 million in a single year appears to reflect, in large part, incomplete take-up among eligible workers.

Modifications that would either raise take-up or increase the value of the supplement could have very different implications for the level of assessments needed to finance the RTWSP depending on the true level of eligibility and the true take-up rate once the current program reaches steady state. A further consideration is that the RTWSP has operated during a period of steady economic expansion and falling unemployment rates; the next economic downturn might affect the size of the eligible population through changing return-to-work rates and several other channels. This chapter examines results from our analyses and from outside estimates to provide a range of estimates for the population eligible for the RTWSP and consider other issues relevant to monitoring program take-up and costs as the program matures and economic conditions evolve. We address the following specific questions:

1. Is DIR's current methodology for monitoring RTWSP take-up rates accurate?
2. How many workers per injury year will ultimately be eligible for the RTWSP under the current program design?
3. Have RTW Supplement application volumes stabilized?
4. How would an economic downturn affect the volume of RTWSP payments?

Estimates of the Eligible Population

In an ideal world, we would observe the entire pool of eligible workers directly through representative data on SJDB voucher issuance. In reality, this calculation requires assumptions about a number of quantities that can be informed by empirical analysis but that cannot be estimated directly with currently available data. We consider alternative approaches to estimating the eligible population and discuss a reasonable range of assumptions, proceeding in the following three steps:

1. Project SJDB eligibility among PD worker population.
2. Project total size of PD population.
3. Consider RTWSP take-up within non-PD population.

Before estimating the size of the eligible population, we also evaluate how take-up rates estimated by DIR compare with the levels of take-up we found in the convenience sample of workers with SJDB vouchers. We then discuss the implications for monitoring of the take-up rate by DIR, given the limitations of currently available data on SJDB voucher issuance.

Estimates of Current Take-Up Rates

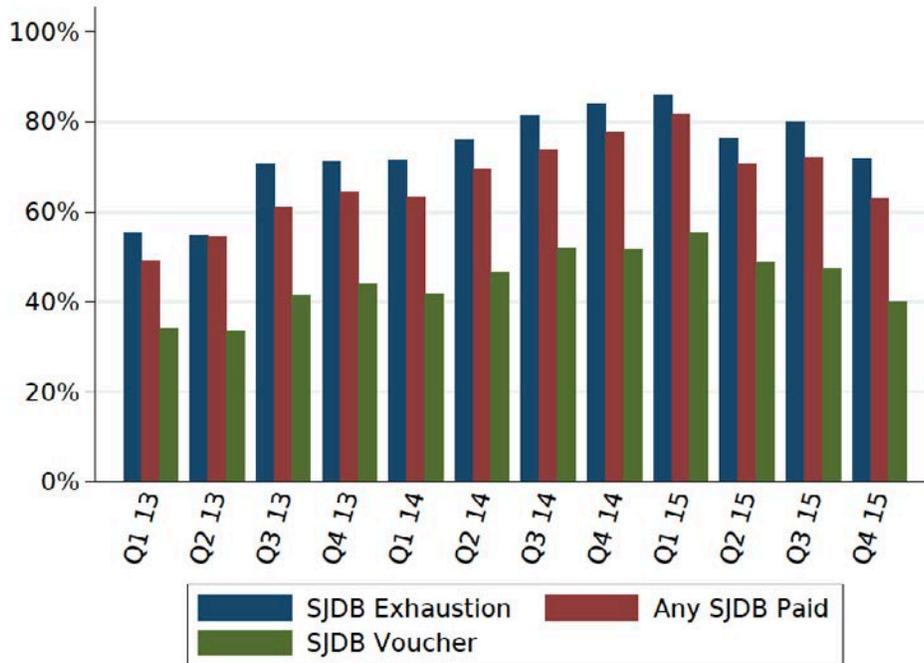
The currently available data are not sufficient to provide a definitive answer about the size of the eligible population (and thus the systemwide take-up rate). In the absence of representative data on SJDB voucher issuance, we attempt to provide some estimates that narrow the likely range of the eligible population. We also compare these estimates with figures prepared by DIR using only WCIS data.

To date, DIR has operated under some uncertainty about the size of the RTWSP-eligible population and the take-up rate. Because claims administrators do not routinely notify DIR when SJDB vouchers are issued, DIR does not have a way to track the true number of SJDB voucher recipients at any point in time. In the absence of data that would allow DIR to directly estimate the take-up rate, alternative methods had to be developed. In response to a December 2016 letter from the Chair of the Senate Committee on Labor and Industrial Relations, DIR staff estimated the take-up rate of the RTWSP using data available in house at DIR through the end of February 2017. To proxy for RTWSP eligibility, DIR used the WCIS to identify workers who had redeemed the full \$6,000 value of the SJDB. Among workers who exhausted the SJDB benefit, take-up rates calculated using the DIR method rose over time before beginning to flatten out for 2015 injuries.

However, DIR's method led to a dramatically higher estimated take-up rate than the take-up rate estimated here. In the March 2017 presentation to CHSWC, DIR reported that take-up rates for the RTWSP had been 80 percent or higher beginning with workers injured in the fourth quarter of 2014 and continuing through the fourth quarter of 2015.

In contrast, our estimates based on the convenience sample of voucher recipients indicated that recent take-up rates are more likely in the neighborhood of 50 to 55 percent. To evaluate the degree to which the method used by DIR may overestimate the take-up rate, we applied DIR's method to claims reported by the claims administrators who participated in our convenience sample of voucher recipients. For the population of claims reported to WCIS by these claims administrators, we calculated the RTWSP using three alternative denominators: workers who redeemed the full \$6,000 value of the SJDB voucher ("SJDB exhaustion"), workers who redeemed any portion of the SJDB voucher ("any paid SJDB"), and workers who were issued an SJDB voucher. A comparison of these rates stratified by the quarter of injury is presented in Figure 7.1. Using the SJDB exhaustion method, we obtain similar take-up estimates as reported in prior calculations by DIR. While this method has the benefit of utilizing data from the full WCIS, it misses any possible take-up from people who were issued vouchers but did not redeem them. Thus, we rely on the more-conservative take-up estimates based on SJDB voucher issuance from the convenience sample in the estimates of the eligible population that follow.

Figure 7.1. Alternative Take-Up Rate Estimates by Quarter of Injury



NOTES: This sample is restricted to injuries reported by claims administrators in the convenience sample. The denominator for the SJDB exhaustion take-up rate consists of workers who redeemed the full \$6,000 value of the SJDB voucher. The denominator for the any paid SJDB take-up rate consists of workers with any nonzero payment for VR services. The denominator for the SJDB voucher take-up rate consists of workers who were issued an SJDB voucher, regardless of whether the voucher was redeemed.

Some calculations can be performed using the convenience sample to give a rough idea of the possible size of the RTWSP-eligible population. The simplest possible approach to calculating the eligible population in a given calendar year is to divide the number of unique RTWSP applicants by the take-up rate. In the first three quarters of 2017, the RTWSP received applications from 12,630 unique injured workers. If applications continue at the same rate in the last quarter of the year, this suggests that 16,840 applications would be received in 2017. If we assume that the 52.5 percent take-up rate observed in the convenience sample is similar to the systemwide take-up rate, there may have been a total of about 32,000 workers across all injury years eligible to apply to the RTWSP in 2017. While these figures represent estimates based on the best available data at this time, we caution that the claims administrators in our sample are not necessarily representative of the workers' compensation system as a whole or even of the market segments represented by claims administrators in the sample.

Instead of attempting to extrapolate from the convenience sample, it seems more appropriate to take a top-down approach in the spirit of that employed by Seabury and Scherer (2014) in the analysis that informed the current design of the program. They assumed a volume of 60,000 PPD claims per injury year and relied on estimates provided by the WCIRB that about 20 percent of PD claims receive an SJDB voucher at some point during the life of the claim. In recognition that

SJDB voucher issuance might rise in response to the financial incentives created by the SJDB, Seabury and Scherer allowed for the SJDB voucher issuance rate (as a proportion of PD claims) to double to 40 percent. The estimate of a yearly eligible population of 24,000 helped to pin down the affordable value of the RTW Supplement at \$5,000.

To sum up, Seabury and Scherer (2014) relied on three key assumptions to estimate the eligible population:

1. 20 percent of PPD workers would receive the SJDB voucher, with voucher receipt potentially doubling (to 40 percent) in response to the \$5,000 payment and other policy changes.
2. The PD population is about 60,000 workers per year.
3. The SJDB voucher recipient population is given by the percentage of PPD workers with a voucher times the number of PPD workers.

We reexamine each of these assumptions on the basis of data now available.

SJDB Eligibility Among PD Workers

Early evidence on SJDB redemption patterns suggests that the first assumption (of a doubling in SJDB voucher issuance) may have been prescient. The proportion of PD injuries with any paid SJDB reported to the WCIS by October 2017 jumped from 2.1 percent to 5.0 percent between the 2012 and 2013 injury years. This increase likely reflects both the incentive effects of the RTWSP and other changes to the SJDB voucher that were enacted in SB 863.

It is difficult to assess more-recent trends in SJDB voucher issuance and payments using WCIS data: Many claims take a long time to reach MMI, and even with our focus on 2013 and 2014 injury years, some claims may not yet have reached this milestone, leading to concerns about right-censoring in the available data. However, the proportion of PPD claims with paid SJDB amounts in the WCIS remains at 5.0 percent for 2014 injuries despite the fact that 2014 claims are more likely to be subject to right-censoring. If SJDB voucher issuance remained constant between the 2013 and 2014 injury years, we would have expected to observe fewer 2014 claims with vouchers compared with 2013, since fewer 2014 claims would be expected to have exhausted the SJDB. The fact that right-censoring did not lead to lower rates of paid SJDB in 2014 provides another indication that SJDB voucher issuance has risen.

Other data can help provide a more recent picture of SJDB utilization. The WCIRB has published calendar year estimates of paid SJDB amounts for the insured sector covering the years 2008 to 2016. These data are not directly comparable to the injury year statistics that we have reported from the WCIS, but the longer time frame and independent data collection of the WCIRB's calendar year data are a valuable complement to our estimates.³⁵

³⁵ In contrast to indemnity benefits, WCIS data on SJDB payments do not have payment start and end dates reported to the WCIS. Similarly, dates of service or line billing detail for VR services are not reported to the WCIS. At RAND's request, DIR provided information on the date when payments were reported to the WCIS. However, some complexities with the SJDB reporting process made it very error-prone to infer when SJDB redemption had begun

The WCIRB also reports a sharp uptick in calendar year paid SJDB starting in 2015, which likely reflects an uptick in paid SJDB for 2013 injuries, given the typical times needed to reach MMI and the two-year voucher redemption window. Paid SJDB per calendar year for the insured sector had fluctuated between \$30 million and \$37 million between 2010 and 2014. After 2014, however, the calendar year paid SJDB amount increased sharply, to \$45.8 million in 2015 and again to \$65 million in 2016 (Workers' Compensation Insurance Rating Bureau of California, 2016a; Workers' Compensation Insurance Rating Bureau of California, 2017a; Workers' Compensation Insurance Rating Bureau of California, 2016b). While more recent data have not yet been published, WCIRB staff expressed the view that SJDB utilization has not shown any signs yet of stabilizing.³⁶ In short, both WCIS and independently collected claims data indicate that SJDB utilization has at least doubled since SB 863 took effect.

Because it may not yet be possible to estimate the long-run level of SJDB voucher issuance directly, it would be helpful to have an upper bound on the proportion of PD claims that could potentially be eligible for the SJDB. Because qualifying return-to-work offers are not routinely reported to DIR, outside data are needed. The WCIRB collects data on the proportion of PD claims with qualifying return-to-work offers reported to the insurer by 28 months after injury. Between the 2010 and 2014 injury years, this proportion ranged between 16 percent and 21 percent, a rate that would seem to imply that as many as four out of five PD workers could potentially receive the SJDB voucher.³⁷ However, WCIS data on 2005 injuries extracted nine years after injury indicate that as many as 25 percent of workers who ultimately received paid or settled PD benefits had not reached MMI by 28 months post-injury.³⁸ In addition, as we reported in Chapter Four, employers may not bother to formalize the return-to-work offer in cases where return to work is rapid and clearly successful (so that the worker is unlikely to pursue the SJDB voucher). We are confident that far fewer workers are potentially eligible for the SJDB voucher than might initially be suggested by the WCIRB's figures on qualifying return-to-work offers.

An alternative approach to estimating an upper bound on SJDB voucher issuance is to examine post-injury employment patterns using administrative earnings records. Dworsky et al. (2016) constructed a proxy for SJDB voucher eligibility by combining wage loss data from the Employment Development Department (EDD) with information about the MMI date reported on the WCIS to identify all PPD workers injured in 2005–2010 who had separated from the at-injury employer by the quarter in which MMI was reached.³⁹ This definition may exclude

on the basis of the transaction date data. Improving SJDB reporting in order to allow more rigorous evaluation of the VR system is one of the policy recommendations that we make in Chapter Eight.

³⁶ Personal communications, Tony Milano, vice president and actuary, WCIRB of California, February 6, 2018.

³⁷ WCIRB, *Actuarial Committee Meeting Agenda*, December 6, 2017c.

³⁸ Authors' calculations based on data from WCIS.

³⁹ This methodology may either overestimate or underestimate the number of workers who are truly eligible for the SJDB. The method may overestimate eligibility because EDD wage data do not indicate the reason for a job separation: Workers who quit or were fired for cause would be included in the figures produced by Dworsky et al.

workers who might receive an SJDB voucher as a result of a failed attempt to return to work or who remained on payroll up to the date of MMI and then separated from the employer. Despite these shortcomings, the use of actual post-injury employment data on PPD workers likely makes this estimate more reflective of ultimate SJDB eligibility than the PD survey data on return-to-work offers reported by the WCIRB.

The estimates reported in Dworsky et al. (2016) suggest that 45.4 percent of PPD workers injured between 2005 and 2010 might have qualified for the SJDB voucher. Ninety-two percent of workers in this sample had a valid MMI date reported, so if we make a somewhat conservative assumption that those without an MMI date reported would not have received a voucher, we obtain an estimate of 40.6 percent of permanently disabled workers who might potentially be eligible to receive an SJDB voucher, triggering eligibility for the RTWSP. Interestingly, this 40 percent figure is nearly identical to the assumption used by Seabury and Scherer (2014) to calculate the potential size of the RTWSP-eligible population under a doubling of SJDB voucher issuance. Seabury and Scherer also noted that the pre-SJDB VR benefit, for which eligibility was also based on a worker's failure to receive a qualifying return-to-work offer, had a take-up rate of around 40 percent among PD workers.

In light of these figures, we assume that 45.4 percent of PD workers is an upper bound for the proportion that could potentially receive the SJDB voucher. In order to produce an updated estimate of the eligible population for the RTWSP, then, we need to revisit Seabury and Scherer's assumptions about the size of the PPD population and the eligibility of non-PPD workers for the RTWSP.

Estimating the PD Injury Population

Estimating the PD injury population is complicated by several factors. PD can take several years to emerge, and California has more-permissive timetables for filing claims than some other states. As a consequence, the population of claims who will ultimately receive PD (and thus might qualify for the RTW Supplement) cannot be directly observed until many years after the date of injury. In addition, while the WCIS now captures over 90 percent of FROI in the system (according to audit data reported by DIR), 8 to 9 percent of claims are never reported to the WCIS, and so population estimates for the WCIS have to be scaled up.⁴⁰

We take two approaches to calculating the statewide PD population using different methods to address these data limitations. First, we produce estimates of the number of PPD claims in the WCIS and scale up to the statewide population by dividing by the rate of WCIS completeness

(2016). That said, the Dworsky et al. (2016) approach may also produce an underestimate because a very high bar was used to identify separations from the at-injury firm: Workers must have ceased wage and salary earnings prior to the MMI date and must go without any earnings from the at-injury employer for the next four quarters.

⁴⁰ There are also the issues relating to underreporting of SROI. We address this limitation by focusing on a sample of claims (accounting for about 86 percent of all FROI) for which we have high confidence that SROI are reported accurately. See Appendix B for details.

(which we assume to be the midpoint of the range reported by DIR: 0.915). This method is reasonable for older injury cohorts (at least five years post-injury) but is subject to right-censoring of PPD claims for more recent years. As an alternative, we estimate the total number of ultimate indemnity claims in the WCIS by applying WCIRB development factors to the number of indemnity claims observed to date. We then assume that 50 percent of indemnity claims ultimately result in PD.⁴¹

Both these methods yield a much higher number of ultimate PPD claims than was assumed by Seabury and Scherer: between 95,000 and 100,000 claims in recent years.⁴² If these estimates are correct, then the population currently eligible for the RTWSP could be substantially higher than was assumed at the program's inception. Assuming that 40 percent of these workers receive the SJDB, we would view an eligible population of 38,000 to 40,000 workers per injury year as a reasonable upper bound for RTWSP eligibility among PD workers. A reasonable lower bound might be to use the rate of incurred SJDB reported by the WCIRB for 2013 injuries (24 percent). WCIRB estimates may not reflect rates of SJDB issuance among the fully insured sector; we found that the share of PD workers with any SJDB payments was about 50 percent lower at self-insured employers than at fully insured employers, and so we assumed that the rate of SJDB issuance was 12 percent for the approximately 40 percent of PPD claims filed at self-insured employers.⁴³ If we continue to assume that one in four RTWSP-eligible workers does not have paid or settled PD benefits reported to the WCIS, this lower bound works out to 19,200 RTWSP-eligible PD workers per injury year.

SJDB and RTWSP Receipt Among Workers Without PPD Payments

Finally, the data collected from the RTWSP now allow us to revisit the third major assumption made by Seabury and Scherer (2014): that all SJDB voucher recipients and thus all RTWSP-eligible workers would have paid or settled PD. As we discussed in Chapters Five and Six, however, about a quarter of RTWSP recipients to date do not have any paid or settled PD amounts reported to WCIS. Rather than underreporting of SROI, we think that the bulk of these cases represent settlements that are reported to WCIS but not specifically labeled as PPD settlements. In any event, the fact that one in four RTWSP recipients are not identifiable in the

⁴¹ The assumption that half of indemnity claims result in PD is consistent with WCIS estimates from older injury cohorts. This was also suggested as a rule of thumb by WCIRB staff. (personal communications, Tony Milano, vice president and actuary, WCIRB of California, February 6, 2018).

⁴² An alternative method based on combining indemnity claim frequency estimates from the WCIRB with estimates of systemwide covered payroll from NASI yielded an estimate of 240,000 indemnity claims per year, which we believe to be implausibly high since this would imply a much higher proportion of indemnity claims than we estimate with any other method. We note that applying the WCIRB indemnity claim rate to data on covered employment at self-insured employers would overstate the number of indemnity claims if self-insured employers had lower indemnity claim rates than fully insured employers, which appears to be the case in the WCIS.

⁴³ Authors' calculations based on data from WCIS. Self-insured PPD claims have rates of SJDB utilization between 40 to 50 percent of those observed among fully insured PPD claims for injury years 2011–2013.

WCIS as PPD cases suggests that our estimates based on the PPD population should be scaled up by as much as one-third. The lowest possible value of this proportion would be zero if we assume that all issuance of the SJDB to non-PD cases reflects underreporting or incomplete claim development (i.e., that all of the cases not yet identified as PD will eventually be identified as PD). However, we think it is unrealistic to assume that no cases without paid or settled PD would be issued the SJDB. When we examine closed claims for 2013 injuries—the oldest claims eligible for the RTWSP—we still find that 15 percent of RTWSP recipients with closed claims have no paid or settled PPD reported to the WCIS.⁴⁴ To allow for the possibility that SJDB recipients without paid or settled PPD are more likely to apply for the RTWSP, we assume a lower bound of 7.5 percent for the share of RTWSP-eligible workers without paid or settled PPD.

Table 7.1 summarizes the prior assumptions used in Seabury and Scherer (2014) and compares them with the revised estimates we describe above. Based on these revised assumptions, we estimate that the total statewide eligible population for the RTWSP under current program design likely ranges between 19,719 and 58,430 workers per injury year.

Table 7.1. Lower and Upper Bounds for Ultimate RTWSP-Eligible Population per Injury Year, with Comparison to Assumptions Made Prior to Program Inception

	Old Assumptions		New Assumptions	
	Lower Bound	Upper Bound	Lower Bound	Upper Bound
Number of PD workers	60,000	60,000	95,000	100,000
Proportion with SJDB	20%	40%	19.20%	45.40%
Number of PD workers with SJDB	12,000	24,000	18,240	45,400
Proportion of RTWSP-eligible workers without PD	0%	0%	7.50%	22.30%
Total number of RTWSP-eligible workers	12,000	24,000	19,719	58,430
Total program cost at 100% take-up (dollars per injury year)	\$60 million	\$120 million	\$98.6 million	\$292.2 million

NOTES: See text for justification of assumptions. Row 3 = Row 1 × Row 2. Row 5 = Row 3 / (1 – Row 4).

Assuming that the value of the RTW Supplement remains fixed at \$5,000 per worker, these figures allow us to project the cost per injury year of the RTWSP under 100 percent take-up. At the lower bound of 19,719 eligible workers per injury year, up to \$98.6 million of payments would be made each year if take-up reached 100 percent. At the upper bound of 58,430 eligible workers, the total amount of payments that would ultimately be disbursed could be up to three times as high, or \$292.2 million. We stress that this level assumes that all potentially SJDB-eligible workers are issued a voucher, that the ultimate number of PPD injuries is at the higher

⁴⁴ We cannot know that all claims administrators in our sample have perfect reporting of indemnity claims to WCIS. However, we defined alternative analysis samples using different thresholds for inclusion and found that very similar proportions of RTW Supplement recipients have non-PPD claims. When we limit attention to 2013 injuries that were closed at the time of data collection—the claims most likely not to develop further—we find that 15 percent of RTW Supplement recipients have no PPD in all samples examined.

end of the range suggested by WCIS data, and that 100 percent of RTWSP-eligible workers apply for and receive the supplement.

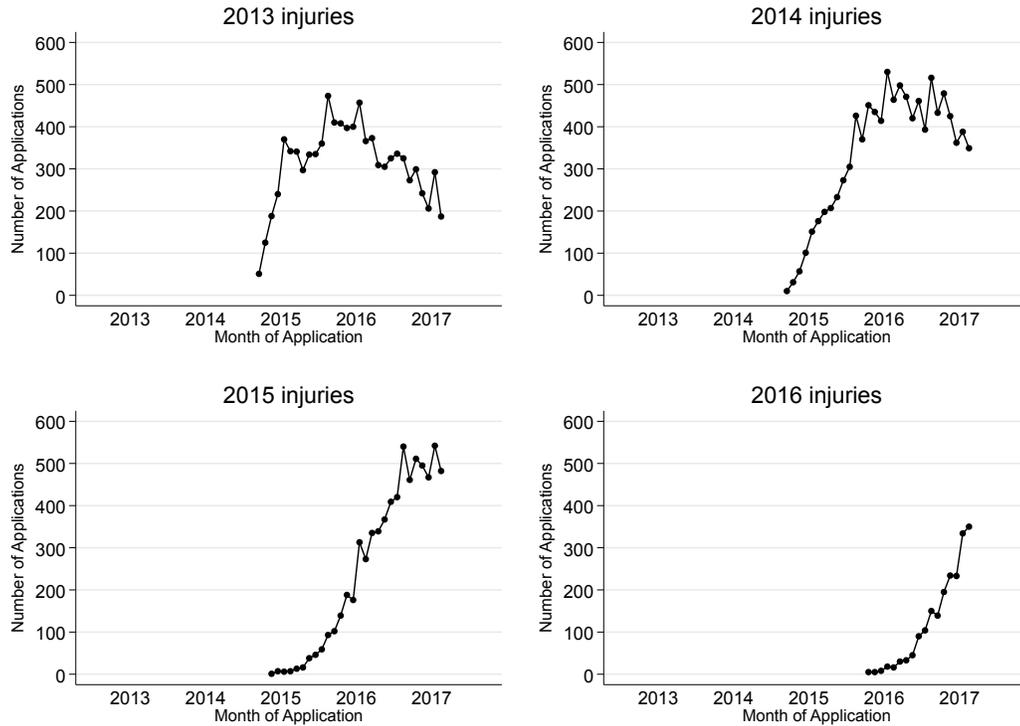
Differences in Application Timing Across Injury Years Suggest That RTWSP Application Volumes Have Not Yet Stabilized

The prior section describes the likely range of the total RTWSP-eligible population in a typical injury year. The estimates are intended to capture ultimate RTWSP eligibility—i.e., the cumulative number of eligible workers after all claims have been resolved. In this section, we consider trends to date in the share of this population that actually applies for the program and receives payment. To predict the yearly volume of payments under the RTWSP's current design, it would be ideal to follow an entire year of injuries that occurred after the program was established until nearly the entire population has either applied or closed their cases. Unfortunately, this direct approach is not yet possible: The first workers injured after the RTWSP was established are just now reaching the end of the third year after their injuries, and many of the permanently disabled cases may have yet to receive SJDB vouchers. Indeed, some of the claims administrators that contributed to our convenience sample are still (as of mid-2017) issuing a steady flow of new SJDB vouchers for injuries that occurred more than four years earlier (in the first quarter of 2013).

Meanwhile, the application behavior of workers injured in earlier years (before the RTWSP was established) may not be a good indication of the application patterns that we should anticipate moving forward. For one thing, SJDB voucher issuance appears to be rising for successive injury years, as evidenced by the WCIRB's data on incurred SJDB trends and SJDB payments. In addition, take-up behavior immediately following the RTWSP's establishment may have been limited by unawareness of the program. DIR has since taken steps to expand awareness by enacting regulations to provide an extended eligibility period of RTWSP eligibility to eligible workers who received a voucher in December 2015 or earlier. Also, Assembly Bill 438 (enacted in October 2015) required DIR to translate crucial workers' compensation forms and notices into additional languages beyond English and Spanish.

Without data on a cohort of injuries that has fully worked its way through the system, we instead provide descriptive evidence on the timing of RTWSP applications to date across successive injury cohorts. Figure 7.2 shows that 2013 injuries are still flowing into the program well into the fourth year post-injury. 2014 injuries appear to have leveled off and may also have begun to decline, while 2015 and 2016 injuries have not yet reached peak application volume.

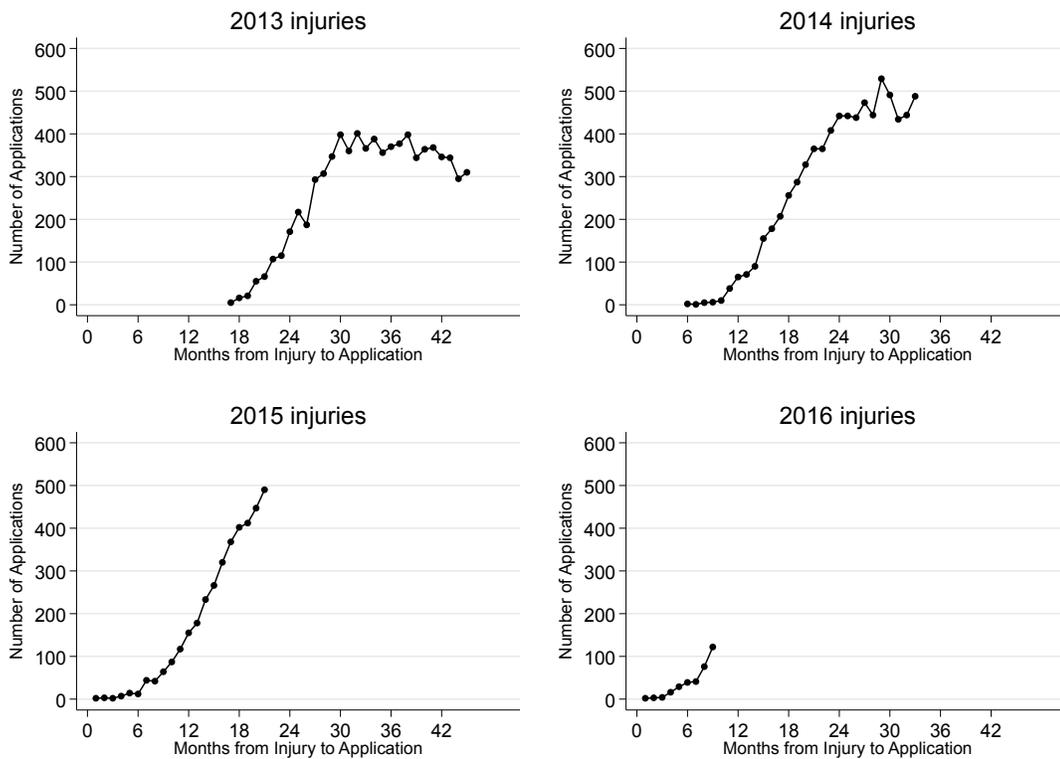
Figure 7.2. RTWSP Application Volumes by Month for 2013–2016 Injury Years



A key question for understanding the ultimate volume of payments under the current program is whether application behavior appears stable for successive cohorts of injured workers. Figure 7.3 shows the number of applications by months since injury for the 2013 to 2016 injury years. Applications from 2013 injuries peaked around 2.5 years after injury and may have begun to decline at three years after injury. 2014 injuries may be peaking around the same time, although at a higher level than 2013 injuries.⁴⁵ Because the RTWSP was available to all workers injured in 2013 and 2014 by 28 months after the injury, the fact that application volumes in both cohorts appear to level off by 30 months post-injury suggests that this may be a reasonable guess as to when application volumes will peak for subsequent cohorts.

⁴⁵ We also note that we were not able to determine with the data currently available how much of the flat tail for 2013 and 2014 injuries reflects the extended eligibility period for vouchers issued before December 2015.

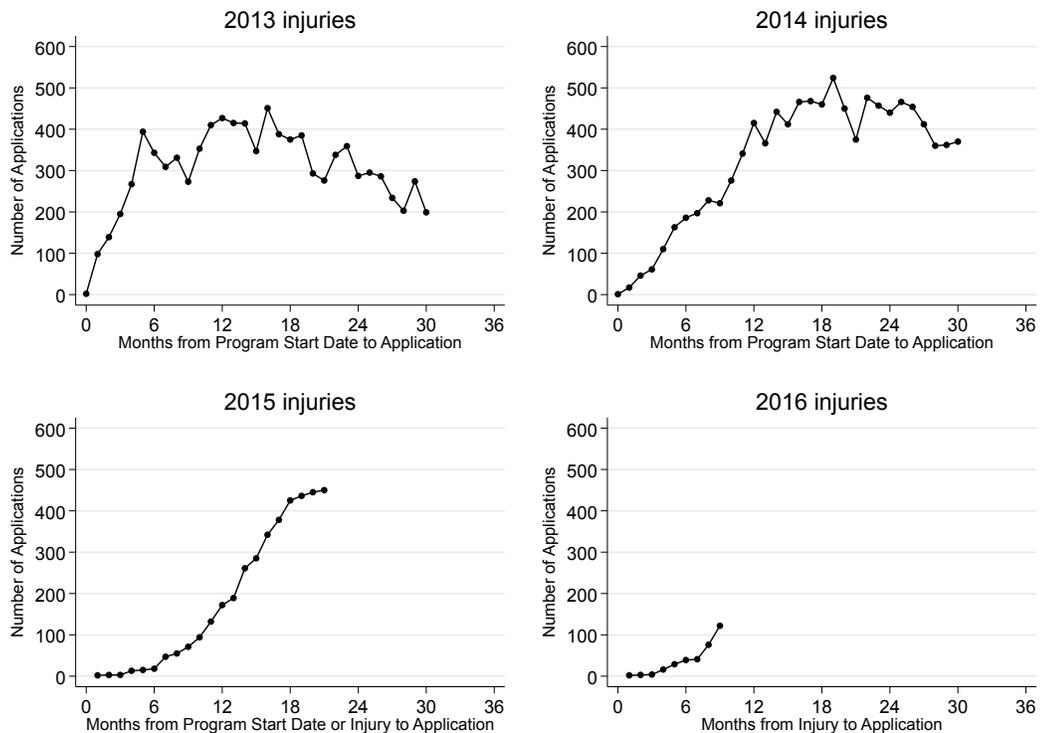
Figure 7.3. RTWSP Applications by Months After Injury for 2013 to 2016 Injury Years



NOTE: The follow-up period was limited to a constant claim maturity for each injury year to avoid right-censoring. For example, the maximum time to application for 2016 injuries was set to nine months to allow nine full months under observation for the last injury dates in 2016.

However, Figure 7.3 also makes clear that the time needed to establish the RTWSP also changed the pattern of applications. To account for the fact that the RTWSP was not immediately available for 2013 and 2014 injuries, we also compared application volumes by month relative to the earliest possible month when a worker could have applied for the RTWSP (Figure 7.4). For workers injured in April 2015 or later, this is the date of injury. For workers injured earlier, this is the program's start date. This comparison shows a peak in application volumes around 18 months after the program start date for both 2013 and 2014 injuries.

Figure 7.4. RTWSP Application Volumes by Months Since Program Inception Compared with Volumes by Months Since Injury



However, Figure 7.4 also highlights the effect of delayed entry on the timing of applications from the 2013 and 2014 injury years in comparison to the 2015 and 2016 injury years. For these injury years, application volumes grow more smoothly over the first year after injury. The timing of applications from workers injured in the 2013 and 2014 injury years is thus unlikely to offer much immediate guidance for the application behavior of newly injured workers moving forward. The 2015 injury year should be monitored closely to identify when application volumes peak relative to injury for a cohort where application timing was not strongly affected by the creation of the RTWSP and other temporary influences.

Finally, comparison of the application volumes between 2015 and 2016 at the same point in the life of the claim suggests that application volumes for the 2016 injury cohort are likely to be higher than observed in previous injury years. Over the first nine months post-injury, workers injured in 2015 submitted 227 applications to the RTWSP. Over the same time frame relative to injury, workers injured in 2016 submitted 332 applications to the RTWSP: a 46 percent increase.

We do not have sufficient data to tell whether the apparent increase in RTWSP application volumes between 2015 and 2016 injury years is due to increasing take-up or increasing eligibility. The WCIRB data discussed above, which showed sustained rapid growth in SJDB payments and the number of PD workers with incurred SJDB, largely reflect SJDB receipt by workers injured before the RTWSP was established. There is no evidence indicating that the

growth of the RTWSP-eligible population indicated by the WCIRB's data has abated, so it is entirely plausible that application volumes from 2016 injuries will continue to be higher than application volumes from 2015 injuries.

How Might the Cost of the RTWSP Change Over the Business Cycle?

Besides uncertainty about the current number of RTWSP-eligible workers and the share of workers applying for RTWSP, DIR should consider how the volume of applicants to the RTWSP might be affected by changing economic conditions. Predicting the cost of the RTWSP under different economic scenarios may be particularly important given the unique approach taken in SB 863 to funding the program: Unlike other indemnity benefits that are financed out of employer premiums, SB 863 instructed DIR to fund the RTWSP at a fixed level of \$120 million annually to be paid out of the Workers' Compensation Administration Revolving Fund (WCARF).

While an initial reading of SB 863 might suggest that the \$120 million annual funding level poses a hard solvency constraint on the annual cost of the RTWSP, it is also possible for DIR to take a more flexible approach to the program's funding level that would avoid the administrative complications of targeting a fixed payment volume in every year. In fact, DIR's actions to date in setting the assessment for the WCARF suggest that the department has *de facto* interpreted SB 863 as specifying a target balance for the RTW Fund rather than a ceiling or a floor on the volume of payments.⁴⁶ This approach is quite reasonable given the inherent variability in the volume of payments, which ultimately depend on the size of the covered workforce, the injury rate, return-to-work outcomes, and the practices of claims administrators and other parties to the system. That said, it is important for DIR to have some understanding of the likely range and potential year-to-year volatility of RTWSP payment volumes for at least two reasons. First, substantial volatility in the volume of RTWSP payments could, in theory, require DIR to set a higher assessment in order to protect against a funding shortfall in the WCARF. Second, some understanding of the likely variation in the RTWSP payments is needed to determine whether the program design results, on average, in a payment volume close to the amount of \$120 million specified in SB 863.

⁴⁶ To date, RTWSP payments have been substantially lower than \$120 million per year. DIR has handled the surplus of funds in the first three years of the program's operation by setting the assessment at the level needed to replenish the RTW Fund each year, a financing approach that is economically equivalent to setting each year's assessment in order to cover the previous calendar year's RTW Supplement payments.

If the RTW Fund can be replenished each year by adjusting the assessment above or below \$120 million annually, solvency would not appear to be a conceptually appropriate benchmark for the RTW Fund in isolation from the solvency of the WCARF as a whole. Over the past four years, the total amount assessed on all payers in the system for the Revolving Fund has held steady at roughly \$440 million to \$450 million per year. Because the broader WCARF is three to four times larger than the target size of the RTWSP, it is likely that DIR would be able to absorb higher RTWSP payment volumes in a given year as long as year-to-year volatility is not too extreme.

The discussion in the preceding subsection indicated that the program had likely not yet reached steady state, making it difficult to assess year-to-year volatility. Furthermore, we found no evidence that economic conditions at the time of injury in a worker's local labor market affected the probability that RTWSP-eligible workers would apply for the RTWSP in Chapter Six. We also failed to detect a statistically relationship between economic conditions and the probability that an SJDB voucher was issued.

It is, however, possible to provide at least some rough bounds on the impact of an economic downturn on payment volumes. We focus our analysis of the business cycle's effect on the program on the size of the eligible population and use other data sources to assess qualitatively whether the volume of RTWSP-eligible workers by injury year is likely to rise or fall with the economy-wide level of employment.

As a framework for analyzing the solvency impact of potential changes to the RTW Supplement, we consider the following definition of the RTWSP-eligible population:

$$\begin{aligned} &\text{Total RTWSP-eligible population by injury year} = \\ &\text{Number of covered workers} \times \text{PD claim incidence rate} \times \text{proportion of PD injuries receiving} \\ &\quad \text{SJDB voucher} \end{aligned}$$

That is, the number of eligible workers fluctuates with the size of the covered workforce, the PD claim incidence rate, the severity of the average claim, and the probability of return-to-work offers and voucher issuance among severe injuries.

To some extent, these quantities move in opposite directions over the business cycle, a fact that may dampen the variability in the eligible population. The covered workforce is, by definition, pro-cyclical, and the injury rate among covered workers is also typically pro-cyclical (Boone and Ours, 2006; Boone et al., 2011; Asfaw, Pana-Cryan, and Rosa, 2011). However, prior work establishes that PD claim incidence rates appear to be less sensitive to the business cycle. Estimates from WCIRB (2016a) indicate that the severity distribution among indemnity claims has been relatively stable since 2008 and that the incidence rate of high-severity claims has been more stable than the rate of low-severity claims. Research by Boone et al. (2011) shows that the pro-cyclicality of workers' compensation claim rates is driven less by changes in safety over the business cycle than by the fact that workers with lower severity injuries are deterred from filing claims when unemployment rates are high.

The rate of SJDB voucher issuance among PD injuries, meanwhile, should be counter-cyclical, since employers may be less willing to offer return to work in an environment where they are laying off workers. During the labor market downturn that followed the Great Recession, the risk that a PD worker would separate from the at-injury employer in the years following the injury rose substantially: Dworsky et al. (2016) reported that from the period before the recession (2005–2007) to the period after the recession, this relative probability of

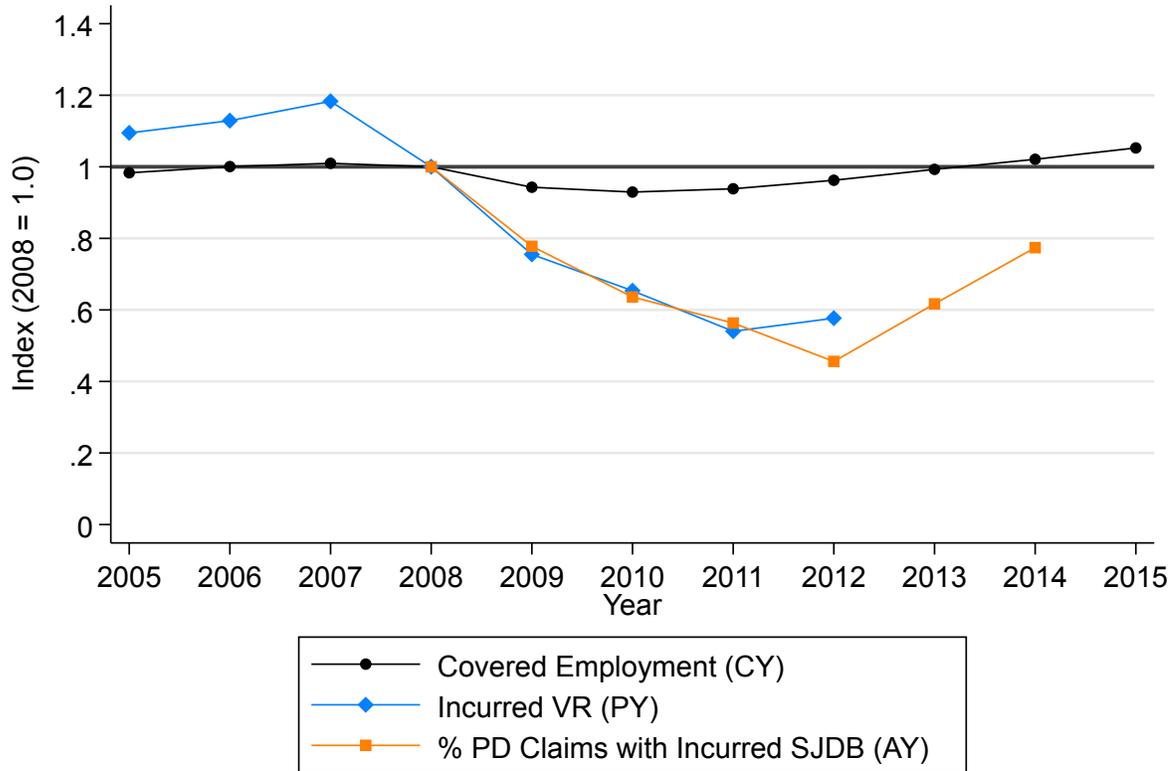
return to work fell by 11 percent at both the two- and three-year post-injury time horizons.⁴⁷ However, workers are far less likely to leave their jobs voluntarily during recessions and are more likely to be laid off. As a result, some PD workers who would have left the at-injury employer voluntarily in a strong labor market (and thus would not qualify for the SJDB voucher) might instead be laid off in a weak economy, thus making them eligible for the SJDB.

Figure 7.5 depicts the size of the proportional change over the business cycle in the workforce covered by workers' compensation overlaid with estimates from the WCIRB that indicate the possible magnitude of the change in SJDB voucher issuance over the business cycle. Published data on the proportion of PD claims with incurred SJDB amounts were available from 2008 onward, while aggregate incurred SJDB amounts at a similar claim maturity (i.e., the total dollar amount that insurers estimated to be needed for SJDB payments) were available for earlier years. We normalized all three series (covered workforce, aggregate incurred SJDB payments, and proportion of PD claims with incurred SJDB) to an index with 2008 as the base year and plotted them in Figure 7.5. Several features of these data stand out.

First, incurred SJDB (either in aggregate terms or as a percentage of PD claims) is far more variable over the business cycle than the covered workforce is. Second, aggregate incurred SJDB and rates of SJDB issuance among PD claims fell steadily between 2008 and 2012: The proportion of PD workers with incurred SJDB at 28 months' maturity was over twice as high in 2008 as in 2012—26.1 percent of PD workers, compared with 11.9 percent of PD workers. Third, the year-on-year percentage change in aggregate incurred SJDB and the percentage change in the proportion of PD claims with SJDB are nearly identical between 2008 and 2011. All of these trends strongly suggest that fluctuations in SJDB issuance rates are a more important driver of RTWSP eligibility over the business cycle than changes in covered employment.

⁴⁷ These estimates are percentages of the employment rate for uninjured workers, which is well below 100 percent. Only seven in ten workers in the uninjured control group remained employed at the same firm two years after the injury, and so the actual increase in post-injury job separations implied by these estimates is closer to 8 percentage points of the PD worker population.

Figure 7.5. Variation in WC-Covered Employment and Incurred SJDB Over the Business Cycle



SOURCES: Covered employment estimates for calendar years 2005–2015 are from NASI, 2011, and NASI, 2016. Incurred SJDB estimates for policy years 2005–2012 are from WCIRB, 2017b, Exhibit 5.1. The percentages of PD claims with incurred SJDB for accident years 2008–2014 are from WCIRB, 2016b, and WCIRB, 2017c.

NOTES: Incurred SJDB is reported at the third-report level (42 months’ maturity post-injury). The percentages of PD claims with incurred SJDB are reported at the second-survey level (40 months) in WCIRB’s survey of PD claims. All three series were rescaled to an index with 2008 = 1.00.

Other trends in the economy and the workers’ compensation system during this time frame may have contributed to the downward trend in incurred SJDB rates independently of the business cycle. One complication is that California’s VR system was undergoing drastic changes immediately prior to the Great Recession. Assembly Bill 227 eliminated California’s old mandatory VR system in favor of the SJDB program for injuries occurring in 2004 and later, leading to significant declines in VR payments as workers eligible under the old system began to exit the workers’ compensation system. Aggregate VR payments by insurers dropped by over 90 percent between calendar year 2003 and calendar year 2010, from \$586 million to \$32 million. With only statewide data on SJDB issuance and VR payments, it is not possible to distinguish the effects of the business cycle on SJDB issuance from systemwide behavioral changes in claims management and, potentially, changes in the supply and demand for VR services that may have reflected one-time effects of the transition from the mandatory VR system to the SJDB.

There is further reason to believe that the variability in SJDB voucher issuance observed in the WCIRB may overstate what we would anticipate in the next business cycle: SJDB issuance is limited by the proportion of PD workers who separate from the at-injury employer. Recall that Dworsky et al. (2016) estimated that 45 percent of PD workers injured between 2005–2012 could have qualified for the SJDB. If this estimate represents a ceiling, the increase in SJDB voucher issuance observed so far under SB 863 would limit how much further the rate of SJDB voucher issuance could potentially increase as economic conditions change.

Given this discussion, we estimate that any cyclicity in the size of the RTWSP-eligible population will likely be driven by the extent to which SJDB participation varies with the business cycle. We demonstrate above that the other potential factors affecting the size of the SJDB population—the size of the covered workforce and the incidence rate of PD injuries—are fairly constant, even during the particularly severe business cycle changes that occurred during the Great Recession. Estimates from the WCIRB show that the SJDB issuance and payments have indeed been quite volatile during the most recent business cycle. Payments and issuance fell by approximately 40 to 50 percent from 2008 to 2012. However, several factors, including significant changes to the California VR program, suggest that this swing is very likely an upper bound on the degree to which SJDB issuance and payments might fluctuate during subsequent business cycle changes.

Discussion

Applications to the RTWSP do not yet appear to have stabilized, while changes in SJDB payments suggest that the eligible population may also be expanding as SJDB voucher issuance behavior adjusts to the new incentives created by the RTWSP. However, the data needed to address these questions rigorously was not available for the present study due in large part to the lack of routine reporting of SJDB voucher issuance to DIR by claims administrators. The fact that the SJDB payment data reported to WCIS are less detailed than either medical claims or SROI data on indemnity benefits and settlements also makes it difficult to assess patterns of SJDB redemption. If DIR had systemwide (or representative) data on SJDB voucher issuance, it would be possible for DIR and other analysts to substantially narrow the bounds provided here on the size of the eligible population. Furthermore, the fact that a quarter of RTWSP recipients do not have paid or settled PPD in the WCIS indicates that just examining the PD worker population may not be enough to give a complete picture of SJDB issuance and RTWSP eligibility.⁴⁸ Until representative data on SJDB voucher issuance are routinely reported to DIR, DIR should continue regular monitoring (at least at a quarterly frequency) of RTWSP application

⁴⁸ We do note that, because the WCIRB PD survey's sampling frame is based on claims administrators' estimates of incurred PD, it is possible that many of the workers who do not have paid or settled PD in the WCIS might be identified as having incurred PD, potentially giving the WCIRB PD survey more-complete coverage of the potentially RTWSP-eligible population. However, we do not know whether this is the case, and comparison of data on voucher issuance with data on incurred PD would be needed to answer this question.

and payment volumes so that the department can rapidly identify the emergence of any major changes in program costs.

Chapter Eight: Policy Options to Improve the RTWSP and Related Processes

In the preceding chapters, we presented evidence on the strengths and weaknesses of the RTWSP as currently designed. Program strengths include efficient and timely administration, targeting of payments to workers with relatively severe disabilities and other indications of economic vulnerability following injury, good program integrity, and provision of payments that are substantial relative to PPD benefits for many workers and thus are likely to help remedy the inadequacy of PPD benefits for workers who cannot return to work. However, we found that program take-up among eligible workers was low, meaning that many eligible workers are not applying for and receiving supplemental payments as intended. Stakeholder concerns about the program's targeting and generosity also warrant discussion.

In this chapter, we consider several policy options that DIR might pursue to build on the existing RTWSP's strengths while addressing shortcomings that were also identified in our study. We consider four potential modifications to the RTWSP:

1. Make the RTWSP automatic.
2. Increase outreach and notification efforts.
3. Increase amount of RTW Supplement.
4. Target RTWSP eligibility more narrowly.

In the course of evaluating the RTWSP, we also learned a good deal about the performance of adjacent processes, specifically those surrounding physician reporting and SJDB issuance. After discussing potential changes to the RTWSP, we also offer some suggestions for improving physician reporting and discuss the range of stakeholder concerns that were raised about the SJDB. A thorough evaluation of the SJDB was out of scope for this study, but we think there is a strong case for DIR to consider such an evaluation in the future, and we sketch several directions that a future study might take.

Policy Options to Improve the RTWSP

Policy Options to Increase RTWSP Take-Up

The clearest shortcoming of the existing program is the low take-up rate among eligible workers in receipt of an SJDB voucher. Although the RTWSP application process was designed to be accessible to all eligible workers, including those without legal representation, the limited overall take-up of the RTWSP and the substantial difference in take-up rates between represented and unrepresented workers indicate that many workers who are targeted by the current program are not taking advantage of the benefit.

The analysis presented in Chapter Six indicated that legal representation was the most important factor predicting take-up of the RTW Supplement among eligible workers. This was also supported in the experiences of the stakeholders that were presented in Chapter Four. We did not find strong evidence that low take-up was associated with indicators of socioeconomic vulnerability, such as low wages, or hypothesized barriers to access, such as language ability, internet access, or distance from DWC field offices. Yet the sharp divide in RTWSP take-up between represented and unrepresented workers might raise concerns about workers' ability to navigate the application process on their own. Simply put, eligible workers without legal representation who do not receive the RTW Supplement are leaving \$5,000 on the table, which appears to indicate either unawareness of the benefit or other difficulties in navigating the application process.

DIR might consider two policy options for modifying the RTWSP so that more eligible workers receive the supplement. First, DIR could develop a system to make disbursement of the RTW Supplement automatic as soon as DIR learns that a worker has received an SJDB voucher. Second, if the RTW Supplement is not made automatic, DIR could make several changes to outreach and notification that might also increase take-up of the RTWSP by eligible workers.

Option 1: Make the RTWSP Automatic

To ensure that the RTWSP reaches the full population of eligible workers, DIR might consider amending the regulations governing the program to make issuance of the RTW Supplement automatic for workers who receive the SJDB voucher. Automatic issuance of the RTW Supplement would guarantee that all eligible workers receive the benefit without preparing and submitting an application, regardless of legal representation or other access or awareness issues.

There are two major obstacles to adopting automatic issuance of the RTW Supplement. First, DIR is not currently notified when SJDB vouchers are issued; additional reporting requirements for claim administrators would need to be established in order to automate issuance of the RTW Supplement. Second, payment of the \$5,000 RTW Supplement to all eligible workers might increase program costs above the \$120 million funding level. To date, incomplete take-up of the RTWSP has helped to keep the cost of the RTWSP below the \$120 million funding level specified in SB 863. Neither of these obstacles should be taken to rule out automatic issuance as a policy option for DIR, but careful consideration of both issues will be necessary to develop good policy moving forward.

At present, claims administrators generally do not share information with DIR about SJDB voucher issuance. For payment of the RTW Supplement to be triggered automatically when the SJDB voucher is issued, DIR would need to change claim administrator reporting practices so that DIR receives notice whenever an SJDB voucher is issued. The most obvious mechanism for DIR to receive notice of SJDB voucher issuance would be for DIR to amend the regulations governing the WCIS so that SJDB voucher issuance is treated as a "change in benefit status"

warranting mandatory reporting. At present, claims administrators are required to transmit an SROI to WCIS within 15 days of the initial payment of any type of indemnity benefit. However, there is currently no data element in the WCIS that captures issuance of the SJDB voucher; while the WCIS does capture payments for VR services, they are distinct from indemnity benefits, so reporting is not subject to the 15-day requirement. Thus, even the subset of SJDB voucher recipients who redeem the voucher are generally not identified in a timely manner.

Claims administrators who participated in the TAG indicated that the WCIS would be a sensible way to allow reporting of SJDB voucher issuance, although they did note that claims administrators currently use widely varying systems for tracking SJDB vouchers and benefit notices, so that some effort would be necessary to integrate SJDB voucher information with the WCIS. These claims administrators also indicated that the information on notifications concerning a claim are kept in a separate system not integrated with the FROI and SROI data. DIR also has other databases (such as EAMS) that might be used for the purpose of reporting SJDB issuance if the WCIS is determined not to be the best option.

As an alternative to requiring claims administrators to notify DIR when the SJDB voucher is issued, we asked the TAG whether DIR should require claims administrators to pay the RTW Supplement on behalf of DIR and then seek reimbursement. Claims administrators and other stakeholders indicated that a key part of the political bargain underlying the RTW Fund was that the program financed by the fund would be structured to avoid creating new responsibilities for claims administrators and that claims administrator involvement in the RTWSP's operation should be minimized because the program is financed through an assessment rather than through premiums. In short, stakeholder opinion was firmly against any proposal that would require claims administrators to disburse the RTW Supplement. It would thus seem more consistent with the perceived intent of SB 863 for DIR to continue in its role as the administrator of the program.

DIR should also take into account other potential drawbacks to relying on WCIS or other notification of SJDB voucher issuance to trigger RTWSP payments as a substitute for the current application process. One issue is that, without the active submission of an application by the injured worker, DIR will be reliant on the claims administrator for accurate and current name and address information. Claims administrators need accurate address information to communicate with and provide benefits to injured workers, so it would seem reasonable to rely on claims administrators to provide accurate contact information. If DIR is not notified of SJDB voucher issuance quickly, however, then the number of workers who might change address before receiving the RTW Supplement check will tend to increase over time. This is likely a minor concern given DIR's demonstrated ability to process applications, verify recipients (and their contact information), and issue payments quickly (almost always under one month) under the current RTWSP design.

Even if claims administrators are able to notify DIR when vouchers are issued, the WCIS continues to suffer from incomplete reporting from a minority of claim administrators. For the 2016 injury year, WCIS FROIs were estimated to be about 91–92 percent complete, while SROIs

were estimated to be about 64 percent complete. At present, this underreporting hampers the ability of DIR regulators and researchers to monitor the system, but incomplete reporting does not directly threaten workers' access to benefits that they are owed by law. Reforms that would condition payment of the RTW Supplement on claim administrators' notifying DIR of SJDB voucher issuance would raise the consequences of WCIS underreporting and introduce the possibility of inequitable provision of benefits between similar injured workers served by different claim administrators. The most recently available data from DIR on reporting quality indicate that fully insured employers had the highest SROI completeness (70 percent), followed by self-insured employers (50 percent) and public employers (33 percent) (California Department of Industrial Relations, 2017).

The critical policy question is not whether reporting of the SJDB voucher to the WCIS would be 100 percent complete, but whether reporting of the voucher, even if incomplete, would reach sufficient numbers of the intended recipient population so as to justify the costs associated with increased reporting. The answer to this question will depend on DIR's ability to improve claims administrators' compliance with WCIS reporting requirements. We are hopeful that the recent implementation of major updates to reporting standards for WCIS (effective March 27, 2018) will encourage improvements in SROI reporting by simplifying some error-prone parts of the submission process. In addition, it is unclear whether claims administrators with poor SROI reporting are also less likely to issue SJDB vouchers. We reported in Chapter Seven that public-sector employees are less likely to receive the RTW Supplement as compared with other PPD workers. While the most likely explanation for this appears to be public-sector employers' lower job turnover and greater scope for providing alternative or modified work to injured workers, it is also plausible that differences in SJDB voucher issuance between public-sector and other employers might contribute to these differences in rates of supplement receipt. It is difficult to examine this question directly without better data from these claims administrators on SJDB voucher issuance.

DIR would also need to think through the program integrity implications of making the RTW Supplement an automatic payment triggered by notification from the claims administrator. The current application procedures requiring the injured worker's signature as proof of service of the SJDB voucher would not be feasible under an automatic application system. The core argument for an automatic system is that payments would be issued without any action being required of the worker. However, this also means that DIR would issue payments without any opportunity to verify that an SJDB voucher was actually provided to the injured worker. To the extent that the worker's signature is an important safeguard against fraud, DIR should ensure that other mechanisms are in place to prevent the RTW Supplement from being issued to workers who did not actually receive the SJDB voucher. An option would be to require that, along with reporting the injured worker's name, the claims administrator should also include information on the injured worker that they have readily available (name, address, date of birth, Social Security number, email address, phone number, date of injury, claim number, SJDB service date, and

ADJ number) and which are currently variables that are part of the current application, so that DIR can verify the injured worker's identity as it does now as part of the application process.

One approach to deterring abuse of an automatic payment system would be for DIR to leverage the fact that workers have an incentive to report when the SJDB voucher is not received. Essentially, DIR could deputize injured workers (and their representatives) to identify cases where the SJDB voucher was not issued. For instance, the RTW Supplement could be issued with a notice directly from DIR informing workers that they should have received the SJDB voucher and providing instructions to notify DIR immediately for additional compensation if they receive the supplement without having received the SJDB voucher.

To be clear, the possibility of abuse under an automatic system would arise only if unscrupulous claims administrators falsified reports to DIR of SJDB vouchers being issued. However, employers and insurers have an incentive to obtain RTW Supplement payments for injured workers if they can do so without actually making SJDB payments because the cost of the RTW Fund is spread broadly across the statewide economy.⁴⁹ The current program design discourages this form of abuse because the insurer and (at experience-rated firms) the employer have skin in the game whenever an SJDB voucher is issued. By requiring proof of service—including the worker's signature—the current system makes it essentially impossible to collect the RTW Supplement if a voucher is not actually received by the worker.

Regardless of how exactly DIR chooses to implement automatic payment of the RTW Supplement, we strongly recommend that DIR develop a strategy for monitoring SJDB voucher issuance and verifying that SJDB vouchers are being properly issued to all workers who receive the RTW Supplement. DIR's current lack of systemwide data on SJDB voucher issuance poses a barrier to such monitoring. We will return to the issue of monitoring SJDB vouchers and the VR system below, after discussing the implications of stakeholder concerns about the effectiveness and program integrity of the SJDB.

Option 2: Increase Outreach and Notification Efforts

If DIR does not make the RTWSP automatic, other steps might be taken to increase take-up among workers who are eligible under current law. Relatively minor changes to the content and formatting of the SJDB voucher notification might improve workers' awareness of the RTWSP and their understanding that the RTW Supplement is a \$5,000 cash payment available with relatively limited effort. Efforts to educate other injured worker advocates about the RTWSP could also increase take-up. However, a strategy that relies on improved awareness of the

⁴⁹ The concern here is that a claims administrator might use the \$5,000 supplement payment to incentivize an injured worker to settle a claim for a lower amount. For example, a worker who is willing to settle for \$22,500 without the RTW Supplement might accept a \$20,000 settlement plus a \$5,000 payment. The worker and the claims administrator each come out \$2,500 ahead, but only because of a zero-sum transfer from the Return-to-Work Fund (which then must be replenished with a higher assessment).

RTWSP among attorneys or other workers' advocates would not directly address low take-up among unrepresented workers, and so there may be a ceiling on such a strategy's effectiveness.

Outreach to treating physicians might be a more promising avenue for raising awareness and take-up of the program. Because physicians complete the RTW & Voucher form that is a necessary condition for the SJDB voucher to be issued, physicians necessarily have contact with all workers who are eligible for the RTWSP before the voucher is issued. Such outreach might be targeted to physicians who submit a low number of RTW & Voucher forms relative to the number of MMI reports they complete or who practice in regions with relatively lower rates of RTW Supplement take-up.

Other suggestions from our discussions with stakeholders include making the DIR website easier for injured workers to navigate and including the web address of the DIR webpage explaining the RTWSP on the SJDB voucher notification. Some stakeholders suggested that claims administrators should make more extensive use of email notifications when possible. It was pointed out that existing regulations allow electronic notifications for most aspects of the claims administration process, but stakeholders felt that email and other electronic communication methods are underutilized by claims administrators. While we did not find that internet access was associated with take-up of the RTW Supplement by eligible workers, we did not have individual-level data on internet access and so we had to rely on a proxy variable (the internet connection rate in the worker's zip code of residence). Similarly, some stakeholders indicated that the state needs to translate the SJDB notice and other forms into additional languages, but we did not find evidence that eligible workers living in areas where many adults do not speak English well were any more or less likely to take up the RTW Supplement.

Another option that was presented at the TAG would be to require claims administrators to send reminders about the RTW Supplement and SJDB to recipients of the SJDB voucher. Because both the SJDB and the RTW Supplement are somewhat underutilized by eligible workers, this approach could have the benefit of increasing take-up for both benefits. However, claims administrators expressed reluctance to take on responsibility for notifying workers about the RTW Supplement. In addition, claims administrators have no way to track which workers have applied for the RTW Supplement, and so many of these reminders could be targeted to workers who do not need to be reminded of their eligibility.

These types of information provision policies are low-cost options for increasing take-up if DIR does not make the program automatic. However, we caution that it may be difficult to reach all eligible workers with outreach efforts based on provision of information alone. Take-up of many social programs is limited, and so the RTWSP would not be the first example of individuals who could benefit from a program leaving money on the table. One stakeholder who works extensively with injured workers voiced the opinion that some injured workers find the workers' compensation system confusing enough that they give up on reading forms from the claims administrator and simply bring everything to their attorney for interpretation. In this view,

changes to the notification process may not reach a large proportion of the workers who are not already applying for the RTWSP.

Policy Options to Modify RTWSP Targeting

A number of stakeholders also raised concerns about the targeting and level of the RTW Supplement. Some felt that the benefit was too small to make a real difference for workers' finances. In addition, many stakeholders felt that the program was not targeted narrowly enough to workers with disproportionate earnings loss, sometimes citing counterexamples of workers or groups of workers for whom receipt of the SJDB voucher might not indicate either serious economic distress or inadequate compensation for their PD.

Addressing stakeholder concerns about targeting and adequacy of the benefit might involve raising the value of the supplement (either for all workers or for those more likely to experience disproportionate earnings losses), restricting eligibility to a smaller group of workers without successful return to work, or changing the supplement's value and its eligibility criteria simultaneously.

We do not recommend that DIR seek to dramatically modify the size of the benefit or attempt to overhaul the eligibility criteria. In light of the current program's low take-up and the degree of uncertainty about the size of the eligible population, a clearer understanding of the population that will ultimately be eligible under the current design is needed before DIR considers raising benefits. Efforts to increase take-up of the RTWSP as currently designed are likely a more appropriate way forward for DIR than fundamental changes to the program's eligibility criteria are. We elaborate on these positions below.

Increase the Amount of the RTW Supplement

Some stakeholders indicated that \$5,000 is simply not enough money to make a real difference for injured workers. However, while \$5,000 is only about 28 percent of the median indemnity benefits for workers in receipt of the supplement, we also found that the \$5,000 payment is 50 percent of median PPD benefits for workers in receipt of the supplement.

A suggestion that was also made by multiple stakeholders was that the RTWSP should be redesigned to pay out exactly \$120 million each year. Some stakeholders argued that adding \$120 million in benefit payments was the intent of the legislature when SB 863 was enacted, and so lower levels of payments indicate that the program is not fulfilling its purpose. Stakeholders also acknowledged, however, that it would be logistically challenging to adjust the level of payments to hit the \$120 million payment level accurately. Furthermore, the uncertainty that we identified over the size of the eligible population suggests that it might be premature to raise the benefit until it is clearer that the program has reached a steady state.

A more urgent argument against increasing the RTW Supplement amount is that the current program may face solvency pressure if take-up among currently eligible workers increases dramatically. Stakeholder attendees at the TAG generally agreed that it would be prudent to take

steps (such as automatic payment or other outreach efforts) to increase take-up before raising the benefit level.

Target RTWSP Eligibility More Narrowly

When work began on the design of the RTWSP, several inherent difficulties in targeting workers with disproportionate earnings loss became apparent. Some of the most important constraints had to do with timeliness and work incentives. Timeliness is a concern because earnings losses due to PD may take several years to emerge and stabilize. Seabury and Scherer (2014) pointed out that earnings losses observed in the first several years of a claim are likely to result from temporary disability, and they recommended using data from the fourth full year after injury to measure long-term earnings losses. In contrast, we found that some workers who reached MMI quickly began to receive the RTW Supplement within the first year after injury, with application volumes climbing steadily over the second year after injury. A targeting strategy based on individual workers' actual earnings would substantially delay the receipt of RTW Supplement payments for a large share of workers currently served by the program.

Furthermore, we are concerned that an eligibility criterion based directly on earnings or employment outcomes would create adverse work incentives for injured workers, since employment outcomes or earnings losses observed while a claim is still ongoing reflect in part the level of effort the worker exerts to achieve return to work or find new employment. Seabury and Scherer (2014) argued against using the drop in individual earnings while the workers' compensation claim is still open as a criterion for RTWSP eligibility precisely because such a program would effectively penalize workers who exert additional effort to find new employment following the injury. The choice to tie benefit levels and eligibility to return-to-work offers was made in part because receipt of a qualifying return-to-work offer is a strong signal that a worker's post-injury employment prospects are better than those of a similar worker without a return-to-work offer.

Some stakeholders voiced the concern that the RTWSP failed to address the problem for which it was originally devised: the failure of the PDRS to provide fair compensation to some combinations of occupation and impairment. However, it is important to note that the impairment-based rating system in place since SB 899 does, in fact, offer a framework to address at least some of the inequities in the system—namely, through the use of age and occupation adjustments. Systematic inadequacies or inequities for groups of workers that can be identified using the factors currently used in the PDRS should first be remedied through changes to the disability rating system or the PPD benefits schedule rather than through adjustments to the RTWSP.

Targeting PPD benefits more accurately would free policymakers to use the RTWSP to target inequities in outcomes between workers who might have the same PPD benefits. This is possible only if the RTWSP is targeted based on information not included in the PDRS. By incorporating information about return to work, the current RTWSP design succeeds in capturing information

about workers' risk of disproportionately large earnings losses that otherwise would not be factored into PPD benefits.

We did not find clear evidence that the RTWSP was inappropriately targeted. In particular, our examination of DEU disability ratings did not support stakeholder concerns that workers with minimal impairment were likely to receive the RTWSP. However, we were not able to directly examine wage loss or PPD wage replacement rates for workers who received the RTW Supplement. Such an evaluation would require data on post-injury earnings and employment outcomes for permanently disabled workers who were injured in 2013 and later and thus had the opportunity to apply for the RTWSP. While empirical analysis of earnings losses was beyond the scope of the current study, it may be possible for DIR to address these questions as part of a longer-term program of wage loss monitoring that DIR has recently initiated.

Related Processes

So far, we have discussed potential changes to the RTWSP. Our investigation also uncovered some shortcomings of related processes that affect worker access to the RTWSP—namely, physician reporting and SJDB voucher issuance. Chapter Three provides a detailed overview of these related processes and the context of issuing an RTW Supplement. For more specific detailed information about the physician reporting requirements, refer to Denise D. Quigley, Madeline B. Doyle, and Barbara O. Wynn, *Physician Reporting Requirements for Injured Workers in California: A Review of Reporting Processes and Payment Policies*, Santa Monica, Calif.: RAND Corporation, RR-1406-DIR, 2017 (www.rand.org/t/RR1406).

Physician Reporting

Stakeholder interviews indicated that the RTW & Voucher Report is not always submitted by physicians. There is substantial duplication of content between the RTW & Voucher Report and the MMI Report (which is submitted when an injured worker reaches MMI and was previously known as the P&S Report). For sophisticated providers with a high-quality electronic medical record system, it might be fairly easy to automatically fill out the RTW & Voucher Report with information that is included in the MMI Report, but some stakeholders indicated that many providers do not have such a system in place and thus find the duplication of information on both forms burdensome.

One policy option might be to consolidate the two forms, so that information about work restrictions and accommodations would be added to the MMI Report. This information would still need to be extracted from the MMI Report when communicated to employers because the MMI Report contains confidential information that should not be shared with employers. However, the revised MMI Report could be designed to have the pertinent information currently in the RTW & Voucher Report as the cover page or the last page to allow for an easy way to pass this portion of the information onto the employer. Stakeholders and those at the TAG meeting did agree that the information on work restrictions and accommodations in the RTW & Voucher

Report was valuable and needed to be communicated to employers in writing. The claims administrators and physicians at the TAG meeting supported the idea of a consolidated report.

Another issue raised by some stakeholders was that the RTW & Voucher Form was not being completed by physicians because time spent completing the form was not reimbursed. However, one stakeholder at the TAG cautioned that paying physicians for the RTW & Voucher Report may not be sufficient to guarantee that physicians who do not currently complete the form would be thorough about filling out the most important information about work restrictions. This stakeholder pointed out that physicians often leave important information off of the MMI Report, which is reimbursed, and he worried that making the form longer may simply lead to more blank fields on the MMI Report. The redesign of such a condensed MMI and RTW & Voucher report would benefit from the input and review of several options by physicians, claims administrators, and other key stakeholders to ensure that the burden of the report redesign is minimized.

Program Integrity, Take-Up, and Effectiveness of the SJDB

To understand the performance of the RTWSP, it was necessary to consider the functioning of the SJDB. As recounted in Chapter Four, a number of serious concerns about fraud and abuse of the SJDB were raised by stakeholders. More broadly, stakeholders voiced interest in evaluating the effectiveness of the SJDB and the current VR system in promoting return to work, since rehabilitation is such a central objective of the workers' compensation system.

A bigger question about the future of the SJDB is whether it should be converted from an in-kind educational benefit into a cash payment. One argument for this change is that formal retraining may not be as effective for less educated workers. Some system observers suggested that the very low proportion of vouchers that are actually redeemed might reflect this limitation.

Many of the questions raised about the SJDB were not possible to examine quantitatively with the data that were available for this study. Allegations related to overbilling or provision of inappropriate or low-effectiveness rehabilitation services need to be investigated using VR billing data, which are not routinely reported to DIR. However, we were able to analyze SJDB voucher redemption rates among the sample of workers for whom we observed SJDB voucher issuance. The characteristics of SJDB voucher recipients mirror the trends we observed for RTW Supplement recipients: SJDB voucher recipients are older, less likely to be female, and earn a lower weekly wage. They are also more likely to live in an area with relatively fewer people who speak English well and are more likely to live in an area with low internet connectivity. On average, they live closer to a field office and are more likely to live in Southern California. Based on our convenience sample of voucher recipients, we estimate that 47 percent of workers who received a voucher for injuries in 2013–2014 had redeemed the voucher and received the SJDB by 2017. Voucher redemption rates were higher for lower-wage workers: We estimate a redemption rate of 50 percent for workers with an SJDB voucher in the lowest wage quartile, compared with 39 percent for workers with an SJDB voucher in the highest wage quartile.

As with other estimates from our voucher RTW sample, we caution that these estimates are not representative of the full injured worker population. It is not currently possible to examine SJDB take-up for a representative sample of workers because we observed voucher issuance for a convenience sample only. However, we examined some additional descriptive statistics on the characteristics of workers with paid SJDB in order to provide as full a characterization as possible of current patterns of SJDB utilization. Estimates are reported in Appendix Tables B.13–B.18.

In general, we found that demographic and industry patterns of SJDB utilization are qualitatively similar to the patterns we observed for RTWSP receipt and SJDB take-up conditional on voucher issuance. We found higher rates of SJDB utilization in high-turnover industries, such as construction, agriculture, and administrative support services. Compared with other permanently disabled workers, workers with paid SJDB are also younger and lower-wage and are more likely to live in areas with low English language prevalence and lower rates of internet connectivity.

We also identified classification codes with higher-than-average rates of paid SJDB as a way to characterize what types of workers are most likely to receive the SJDB. As a very rough proxy for the level of safety risk and physical job demand in each class code, we merged pure premium rates for 2013 onto the WCIS data according to the classification code reported on the FROI.⁵⁰ We found that SJDB receipt was sharply skewed toward higher-risk classifications (in the sense of those with higher-than-average pure premium rates). The classifications with the highest rates of paid SJDB are overwhelmingly in the highest quartile of pure premium rates and belong to physically demanding construction jobs, such as roofing, carpentry, or sheet metal work. Agricultural classifications, such as tree trimming, strawberry crops, and nut crops, are also found to have quite high rates of SJDB utilization, although we note high rates of SJDB utilization in a wide range of classifications, spanning light manufacturing, nursing homes and other personal services, janitorial work, and landscape gardening. These trends highlight SJDB recipients' vulnerability along another dimension and perhaps provide support for using the SJDB as a way to target the RTWSP-eligible population. However, these facts only scratch the surface on understanding patterns of SJDB use and assessing the effectiveness of the SJDB in enabling return to work.

Changes in SJDB utilization following SB 863's enactment cannot be fully attributed to the incentive effects of the RTW Supplement without further analysis. However, when we compare permanently disabled workers with paid SJDB who were injured after SB 863 (2013–2014 injury years) with those who were injured just before SB 863 (2011–2012 injury years), we find two notable compositional shifts. Workers with paid SJDB after SB 863 had much lower weekly

⁵⁰ Pure premium rates reflect expected loss costs per \$100 of covered payroll. While accident frequency and severity are important drivers of loss costs, the cost of benefit payments is an imperfect proxy for the physical demands and safety risks faced by workers.

wages before injury (\$634 for 2013–2014 injuries versus \$722 for 2011–2012 injuries), and they were more likely to have been injured in jobs insured under high-risk classifications (34.4 percent of workers with paid SJDB for 2013–2014 injuries were injured in a risk classification in the top quartile of pure premium rates, versus 29.8 percent for 2011–2012 injuries).

SJDB Recommendations

Based on the findings in this report, we propose several recommendations to assess related concerns with the SJDB. First and foremost, DIR should work with claims administrators to assemble better data on voucher issuance. The authors would also recommend that, at a minimum, DIR or WCIRB establish a more representative baseline for claims administrators' patterns of SJDB voucher issuance in order to understand which workers use and benefit from VR services under the current system and whether key groups of workers are underutilizing VR services. These data would also enable more-reliable estimates of the percentage of workers with vouchers who obtain an RTW Supplement. DIR could build on the data collection efforts undertaken in this study and field a data call to a broader sample of claims administrators to obtain historical data on voucher issuance. Such data would help DIR validate any new voucher notification system and enable monitoring of changes in voucher issuance as the new program is rolled out. At present, DIR does not, to our knowledge, possess data from a sufficiently diverse and representative sample of claims administrators to assess the true degree of variability in SJDB voucher issuance rates. Such information could be used to develop a benchmark that could help DIR direct enforcement resources if certain claims administrators are disproportionately likely to issue vouchers and trigger RTW Supplement payments without a corresponding increase in SJDB payments.

Once a more comprehensive database of SJDB utilization has been established, it would be beneficial to gather more detail about voucher redemption patterns and provider prices. Such a study would yield several benefits. First, studying how vouchers are used (e.g., for purchasing computer equipment versus retraining) will provide insight into the VR services that workers have determined to be most important in assisting their return to work. This information could be used to better match the menu of provided VR services to workers' needs. A comparison of VR service mix by industry and occupation would be particularly valuable for understanding how the effectiveness of VR services interacts with job characteristics, especially because the descriptive findings presented above show that SJDB utilization has risen among lower-wage workers likely to have been injured in higher-hazard jobs with significant physical demands, many of which may be held by less-educated workers.

Analyzing provider prices would also inform whether the value of the SJDB is sufficient to allow workers to obtain services they need. If workers are not taking advantage of the full value of the voucher, this might suggest that the SJDB would provide more value as a direct cash payment, rather than an in-kind benefit. An analysis of redeemed services and prices will also help to provide more details on potential misuse of the SJDB voucher. While we found little

evidence of widespread misuse of the RTWSP, several stakeholders raised concerns about misuse of the SJDB. For example, a voucher could be redeemed for a computer or training service that reportedly cost the full \$6,000 when the actual cost was substantially less. In this case, the vendor would typically end up pocketing the difference between the voucher value and the actual cost of services provided. More systematic collection of voucher usage patterns and prices would help to identify outlying cases that could be signs of fraud and to discourage providers from engaging in misuse.

Finally, to fully understand the effectiveness of the SJDB program, the authors recommend that DIR consider an evaluation of the program's effectiveness at facilitating return to work and promoting better outcomes for injured workers. Such an evaluation could readily be conducted using outcomes data already in use by DIR; the only piece missing is SJDB issuance and utilization information for a representative sample of injured workers.

Such an evaluation could build on the findings from the first two recommendations outlined here and take advantage of policy changes in introduction of the SJDB and changes in the value of the SJDB. For example, with sufficient data on voucher issuance and redemption, one could compare post-injury employment and wage outcomes between workers who utilized an SJDB voucher and observationally similar workers who were injured prior to the introduction of the SJDB or prior to the increase in value of the SJDB. DIR could leverage its ongoing relationship with EDD to use wage data to monitor injured worker outcomes. While this current effort is studying trends in post-injury outcomes for broad groups of injured workers, an evaluation of the SJDB could draw upon some of the methodological approaches and utilize similar data to analyze trends for this relatively vulnerable group of injured workers.

Chapter Nine: Conclusions and Policy Recommendations

The RTWSP was designed to provide injured workers who experience disproportionate earnings loss with a supplemental payment to help offset this hardship. In this study, we assessed the program's success at achieving this goal in the first few years of program implementation. Using a mixed-methods approach, we evaluated the RTWSP's performance to date by reviewing current regulations and practices, collecting varied stakeholder perspectives on the program's strengths and weaknesses, analyzing program take-up and targeting with administrative data, and estimating the potential size of the eligible population. Our interim findings were discussed during a TAG meeting, and the refined conclusions are presented in this report.

We found that the RTWSP has been successfully targeted to workers with more-severe disabilities and that the program has been administered efficiently, with little evidence of fraud or abuse. RTW Supplement recipients tend to come from lower-wage jobs with a higher risk of turnover, live in communities where they could face higher barriers to accessing support, and tend to experience more-severe injuries with longer durations. However, despite these successes, the available data suggest that as many as half of eligible workers are not applying for the RTWSP. Traditional barriers to access, such as language ability or geographic factors, do not appear to be important factors in this low take-up rate. However, we found that workers who had access to legal representation were significantly more likely to apply and receive the RTW Supplement. While RTWSP take-up has remained steady in recent months at around 50 percent, SJDB voucher issuance and redemption has continued to rise steadily over the life of the RTWSP. Given the low current take-up rate and this continued growth in voucher issuance, we expect that there is potential for the number of RTWSP payments to increase substantially in the coming years, particularly if efforts are undertaken to improve take-up. Although the current volume of participation has kept annual payments below the \$120 million funding level to date, continued program growth may require DIR to increase the premium assessment used to sustain the RTW Fund.

Based on these findings, the authors developed the following policy recommendations to further improve the RTWSP going forward. First, DIR should consider automatic issuance of the RTWSP to improve program take-up. Under the current program design, injured workers must apply themselves after being issued an SJDB voucher. However, our findings suggest that a lack of awareness and/or some confusion about the program, particularly among workers who do not have legal representation, may be preventing many eligible workers from applying. While this option would achieve full-take up, it would eliminate some of the intermediate verification steps that have been designed to prevent misuse of the system. Automatic issuance of the supplement would likely require DIR to establish new reporting procedures that could introduce a greater administrative burden on claims administrators, though this may be an acceptable cost for a

policy that would simultaneously reduce the administrative burden on permanently disabled workers. As an alternative to an automatic issuance of the RTW Supplement, DIR could invest in increased outreach and notification efforts to increase awareness and take-up of the program. While this alternative would not increase take-up as much as automatic issuance, it would incur a lower administrative cost.

While the SJDB program was not the primary focus of this study, receipt of an SJDB voucher is a necessary first step to receiving the RTW Supplement. Our discussions with stakeholders about the SJDB and related processes revealed concern about the potential for fraud and misuse of SJDB vouchers. Furthermore, we discovered that there currently is not a comprehensive database of voucher issuance across the system, limiting the ability for DIR and researchers to study such areas as overall trends in voucher redemption, identification of claims administrators or groups of workers who may be underutilizing SJDB, and a deeper analysis of patterns of SJDB voucher use. We strongly encourage DIR to work with claims administrators to establish a standard reporting procedure for voucher issuance, either as part of the WCIS reporting procedures or in a separate database, such as the EAMS. The establishment of such a database could then be used to more accurately identify cases of fraud and could be used in larger evaluations of the impact of the SJDB program on injured worker post-injury work outcomes. We also note that the increases in SJDB utilization observed since SB 863 might indicate that the RTWSP has incentivized more workers to obtain SJDB vouchers and then redeem them to obtain VR services and related equipment.

If the RTWSP (as opposed to other post-SB 863 changes) is in fact responsible for boosting SJDB utilization, then it is at least possible that the RTWSP has contributed to improved employment outcomes for injured workers. However, such a conclusion would be premature until the effectiveness of the SJDB has been evaluated. One could also imagine that funds spent on the SJDB might be more valuable to workers in the form of cash benefits (similar to the RTWSP). Better data on SJDB utilization and worker outcomes should be collected and examined to provide an evidence base for future changes to the RTW Supplement and, potentially, the SJDB. Whether the SJDB is effective at helping displaced workers with PD find new employment is a question that bears directly on whether the RTW Supplement might have any beneficial effects on workers' post-injury career outcomes, in addition to providing financial resources. To evaluate whether any such benefits are actually present, however, further research will be needed.

Our study also raised broader questions about the best way to provide adequate and equitable compensation to permanently disabled workers. The ability of the PDRS to assign PPD benefits in proportion to workers' earnings losses is ultimately limited by the range of information that can be used in disability rating under the Labor Code. As discussed in Chapter Two, a serious drawback of California's reliance on impairment ratings as the foundation of the state's disability rating system is that impairment ratings are not designed to directly measure the degree of work disability and earnings loss experienced by disabled workers. The relevant questions for policy

evaluation are whether California has done all it can under the statutorily prescribed approach to disability rating to eliminate systematic inaccuracies in disability compensation and what degree of inaccuracy would remain under such an optimally designed system.

To some extent, California could improve the targeting of PPD benefits by using empirical evidence from the *AMA Guides* era to adjust the age and occupation modifiers in the PDRS. While the PDRS was not a focus of this study, empirically grounded age and occupation modifiers would represent a concrete step that DIR could take to improve benefit targeting through the regulatory process. A drawback of pursuing such a reform in isolation from reforms to the statute law governing PPD benefits is that any such adjustment is bound to be politically contentious. Changes to the age and occupation modifiers present an inherent dilemma: A cost-neutral reform would pit workers in different occupations against one another by creating winners and losers, while a reform that held all workers harmless at the current benefit levels while increasing compensation for some occupation and age groups would lead directly to higher premiums. DIR may nonetheless find it prudent to study an optimal set of age and occupation modifiers in anticipation of the next time the legislature revisits the PPD benefit system.⁵¹

However, some degree of mismatch between disability compensation and the losses experienced by individual workers is inherent in any compensation system based on disability ratings. The RTW Supplement, by incorporating information that is highly correlated with workers' employment outcomes while being out of the worker's direct control, introduces a form of disability compensation into California's system that resembles some of the advantages of a wage loss system while avoiding the potential for work disincentives inherent in a pure wage loss approach.

California has experimented with such a hybrid approach in the past. For the eight years between SB 899 and SB 863, the Labor Code also specified that PPD benefits should be adjusted upward or downward based on a worker's success or failure to return to work. The "bump-up/bump-down" provision of SB 899 set PPD benefits at 15 percent higher than the base statutory benefit for workers without a qualifying return-to-work offer and 15 percent lower than the base statutory benefit for workers who received such an offer.

In principle, the bump-up/bump-down approach represented an elegant way to simultaneously promote two aims (Reville et al., 2005). By providing higher benefits to workers with disproportionate earnings loss, bump-up/bump-down improved the targeting of PPD benefits in a manner directly analogous to the RTW Supplement. Meanwhile, by reducing benefit costs for employers who offered qualifying return to work and raising benefit costs for those who did not, bump-up/bump-down strengthened incentives for experience-rated employers to invest in worker retention through job modifications, assistive technology, or other means.

⁵¹ Because the maximum PD benefit is specified in nominal terms by the statute law and is not adjusted for inflation, periodic reform legislation is necessary for the system to maintain benefit adequacy.

In practice, system observers report that bump-up/bump-down was rarely used and thus failed to promote either of these goals (Dworsky et al., 2016). Among other challenges, the adjustment was typically applied at a point in the claim when advance PPD benefits were likely already being paid and may even have been paid in full or settled. The fact that bump-up/bump-down was doomed by timing and complexity suggests that the flat benefit structure of the RTW Supplement may offer a more practically appealing method for directing supplemental compensation to workers with disproportionate earnings losses.

In contrast to the bump-up/bump-down provision, however, the RTWSP does not create any incentive for employers to offer return to work because it is financed out of a systemwide assessment. The comparison with bump-up/bump-down thus raises the larger question of whether the RTWSP should at some point be integrated into PPD benefits and financed out of premiums. In theory, this could incentivize employers to retain workers with the firm and to provide the necessary accommodations to facilitate return to work. However, such a policy should be designed with care to ensure that the burden does not fall inequitably on certain industries or firm sizes where accommodation options are not readily available. We also note that such a change in the financing of the RTWSP would require action by the legislature.

In the near term, then, DIR should focus on increasing take-up of the RTWSP and on enabling more accurate monitoring of SJDB voucher issuance. The inherent limits of California's impairment-based approach to disability compensation present a strong theoretical case for a hybrid PPD benefit with both a disability-rating component and a wage loss component. From a worker's point of view, the RTWSP achieves the targeting benefits of such a system, and so has considerable potential to improve the equity of benefits between workers with and without successful return to work. In the coming years, as more-complete data on PD ratings, benefits, and wage loss for workers injured in the post-SB 863 era become available, California should directly examine the extent to which the RTWSP remedies the inequities that justified its creation.

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Appendix A: Qualitative Information

Qualitative Methods

First, we reviewed the rules and regulations pertaining to the RTWSP along several dimensions: intended purpose, reporting requirements (by whom, when, and to whom), SJDB voucher issuance, and RTW Supplement application process requirements. We then examined the specific data elements, fee schedule policy, estimated volume, and allowances for these required reports in 2014. To further our understanding of the operation and design of the RTWSP in California, we reviewed information available online about the RTWSP and the SJDB voucher issuance processes and held focused discussions with DIR staff about the context of the RTWSP in light of other workers' compensation benefits and details of the program's operation (application, verification, documentation, payment issuance, denials, and appeals).

To inform our assessment of the design and operation of the RTWSP, we conducted exploratory semistructured interviews with key stakeholders in the workers' compensation system. The interviews were conducted over a three-week period during late October and early November 2017. We invited 20 stakeholders in workers' compensation, including employers, labor representatives, insurance carriers, primary treating physicians, AME and QME physicians, claims administrators, and attorneys, to participate in a 45- to 60-minute phone interview with RAND researchers. Throughout these interviews, we sought to learn about the strengths and weaknesses of the RTWSP and the process of receiving the RTW Supplement (starting with the physician completing and submitting the RTW & Voucher report through when an injured worker receives the RTW Supplement or appeals the decision). The aim of the interviews was to learn about the RTWSP and the RTW Supplement process from the different vantage points of various stakeholder groups.

Interview guides were developed based on an environmental scan of the rules and regulations of the RTWSP program and the content from several discussions with DIR staff about the operation and implementation of the program. Five standardized interview protocols were developed for physicians (PTPs, AMEs, and QMEs), employers and labor representatives, claims administrators and managers, defense attorneys, and applicant attorneys. Interview content was similar across all five guides; it consisted of a set of core questions and a set of tailored questions specific to each stakeholder group and their particular vantage point in the system. To frame the context of the interview, participants were initially asked to describe their understanding of the intent and purpose of the RTW Supplement and the SJDB voucher, their perspective on successful characteristics of the RTWSP, the main challenges or weaknesses of the RTWSP, and any evidence or data indicating possible misuse of the RTWSP processes. Participating stakeholders were then guided through a semistructured interview regarding their experiences

with the details of workers' compensation reporting, the SJDB voucher issuance, and the RTW Supplement issuance process, guided by three slides that were sent as background material for the interview. Slide 1 depicted the RTW & Voucher report process, Slide 2 depicted the SJDB Voucher Issuance Process, and Slide 3 depicted the RTW Supplement issuance process. Questions were then asked about the respondent's experience, knowledge, and understanding of the aspects of these processes, including their perspective on the purpose and intent of the RTW Fund and RTW Supplement; program implementation and program integrity (e.g., application, verification, issuance) that facilitate the issuance of the RTW Supplement; strengths and weaknesses of the RTWSP; any evidence of misuse or possible fraud within the RTWSP; any evidence of injured workers having difficulty claiming the RTW Supplement; and perspectives on policy issues related to the RTWSP program and application process, motivations of stakeholders, and any possible modifications.

All interviews were conducted by phone, and we acquired participant consent at the onset of each interview. All interviews were audio recorded, and field notes were transcribed. We completed 15 out of 20 stakeholder interviews, for a response rate of 75 percent (four refusals and one no-show). The completed interviews were with two employers, two labor representatives, two primary treating and AME/QME physicians, two applicant attorneys, two defense attorneys, and five claims administrators and managers at insurance carriers. Transcripts were reviewed, aligned with the protocol questions, and finalized.

We used a variation of content analysis to develop a coding scheme for performing a qualitative description of the themes discussed by the workers' compensation stakeholders. In this approach, we first developed an initial codebook based on the items in the interview protocol. Two evaluation team members, led by Denise Quigley, independently test coded the same two transcripts (conducted by separate interviewers) for all major themes in the codebook. Discrepancies were resolved by consensus in discussion among the two coders, which also resulted in additions or modifications a number of codes, as expected. The interviews were then coded from scratch in a two-stage process: first, coding text to all major themes in the revised codebook (e.g., 16 main themes); then, coding these categories for subthemes (e.g., identifying types of challenges and improvements to the RTW program and its associated processes). Team members worked together identifying themes and subthemes and writing summaries of the qualitative findings.

Key Stakeholder Groups

As noted above, we conducted semistructured qualitative interviews with 15 individuals representing key stakeholder groups. Individuals were selected to represent these stakeholder groups because each plays an important role throughout the life cycle of a workers' compensation claim, and perspectives from these groups can provide important context and nuances about the current practices and processes surrounding the RTWSP and the workers'

compensation system at large. Table A.1 presents the number of interviews conducted within each of these stakeholder groups.

Table A.1. Stakeholder Interviews

Stakeholder Group	Quantity
Physician (PTP, AME, or QME)	2
Claims administrator or manager	5
Applicant attorney	2
Defense attorney	2
Employer	2
Labor representative	2

Interview Protocol Guide for Stakeholder Interviews

The following is a complete interview protocol guide that was used to conduct interviews with key stakeholders. For each interview, we provided an introduction to the study, shared an overview of the purpose and format of the interview, and described RAND’s role in this research effort. In addition, we obtained consent for each interviewee’s voluntary participation and acquired background information for each participant. Next, we asked a few brief overarching questions about the administration, operation, and processes of the RTWSP to establish a baseline of knowledge and familiarity with the RTWSP for each interview. Questions were drawn from Section D below to craft interview protocols appropriate for each stakeholder group in order to cover the wide selection of topics and to yield responses most applicable to each stakeholder group. At the conclusion of each interview, we reviewed lessons learned from the discussion and asked about any final suggestions on refinement of the RTWSP or other aspects of the workers’ compensation system that affect the RTWSP. When consent was provided to record the interview, transcript documents were created from the audio recording following each interview.

A. Introduction

Thank you for your time today. I am (say first name and last name and introduce any other study staff present [e.g., note taker or other team member]).

Review the purpose of the study. Explain the general purpose and format of the interview and RAND’s role in this effort.

- We are researchers from the RAND Corporation, an independent, nonprofit research institution.
- We are doing a research project funded by California Department of Industrial Relations.
- The goal of this interview is to learn about your experiences with the WC P&S Reports and the RTW Voucher report and the process for injured workers obtaining the RTW Supplement. (This is the new benefit for permanently disabled workers that was created as part of SB 863.)
- We want to learn from you and your experiences in order to evaluate and improve the current administration and operation of California’s Return-to-Work Benefit program.
- The discussion should take about 30 to 40 minutes. If you need to take a break at any time, please let us know.
- Data will be reported so that you cannot be identified. Comments and perspectives voiced in this interview will be reported only without attribution.
- Your participation is voluntary, and you can decline to discuss any topic that we raise. Your participation is confidential and will not be reported to anyone outside of the research team.
- We would like to record this discussion for note-taking purposes only. We will destroy the tape as soon as the notes have been completed. You do not have to agree to be taped; you can still participate in this conversation if you do not want to be taped.

May we record this discussion? (Circle: YES NO)

→ *Turn on recorder.*

B. Background of Interviewee

1. For the record, can you please state your name and that you have consented to the interview?
2. What is your job within [*name of practice*] and what role, if any, do you play at DIR in workers’ compensation?

C. Overview of Return-to-Work Supplement Program

We want to learn about the administration, operation, and processes of the Return-to-Work Supplement Program.

3. To start off, please describe in your own words for me the purpose and intent of the RTW Fund.

4. What was the specific intent behind the rules and regulations for obtaining the SJDB voucher? Probe: What is the rationale behind the law and the need for the RTW program and RTW Fund?
5. What would make you describe the RTW program as a successful program?
Probe on: What up-take, What specific IW outcomes of RTW, etc. Any specific disparities or IW subgroups that are important to track?

[Pay attention to any mentions of: affordability or sustainability of the program at the state level (for DIR), injured workers getting an adequate amount from the payment to assist in RTW, equitable disbursement of benefits, transparency or ease of understanding of how to access the fund, clarity of roles in the process, promoting return to work, other key aspects?]

6. What would you say from your vantage point as the [insert job title] are the main weaknesses? Or areas of concerns? Goals not being met?

[Pay attention to any mentions of: affordability or sustainability of the program at the state level (for DIR), injured workers getting an adequate amount from the payment to assist in RTW, equitable disbursement of benefits, transparency or ease of understanding of how to access the fund, clarity of roles in the process, promoting return to work, other key aspects?]

7. Have you any evidence or data that indicates possible misuse of the system by any of the stakeholders?
 - a. Probe: Are these related to a specific scenario? Stakeholder group? Part of the process?

D. Details of Reporting, SJDB Voucher, and RTW Supplement Issuance Process

One of our aims today is to ensure that we have documented and understand the actual processes for obtaining the RTW benefit according to the established rules and regulations. We have developed the slides to review with you to go over each part of the process.

[Show or refer to the slides on the processes.]

In addition to understanding the actual workings of the RTW Supplemental benefit program, we would like your perspective on strengths in the current system and where there are areas of weaknesses or loopholes in the current rules and regulations that may in practice not be operating as was intended.

RTW & Voucher Report Process

I would like to talk with you first about the Permanent and Stationary Report that includes the RTW & Voucher report.

Slide 1: RTW & Voucher Report Process

8. We know from the rules and regulations that the physician **prepares, processes, and submits** the *Final Report, the Permanent and Stationary Report that includes the RTW & Voucher Report*. What do you see as the strengths and weaknesses with this specific aspect of the workers' compensation reporting process?
9. Who submits the Permanent and Stationary Report that includes the RTW & Voucher Report?
 - b. Is there confusion on who submits? If so, why?
 - c. Are there any differences in the process if it is submitted by a PTP versus an AME or QME? If so, why is that?
 - a. Are there any differences in how you prepare, process, or submit the P&S including the RTW & Voucher report across other factors, such as the injured body part(s) and type or severity of injury? If so, why is that?
10. Is the 20-day deadline after last examination for the submission of the Permanent and Stationary Report that includes the RTW & Voucher Report too long, too short, about right? Are there cases that you can think of for which you think this is not right?
11. What was the thinking behind the "20-day period"?
 - a. Are these business days or calendar days?
12. Are there specific issues that you see from your vantage point that make it difficult to comply with the 20-day submission deadline for the P&S Report?
13. Under what circumstances should the physician include the RTW & Voucher report with the P&S Report?
14. What was the rationale for including the RTW & Voucher Report with the P&S Report?
15. Some of the information on the P&S Report is redundant to information on the RTW & Voucher Report. What was the thinking behind having a separate RTW & Voucher Report?
 - a. Are there specific reasons to have two reports?

16. Is the 20-day deadline after last examination for the submission of the RTW & Voucher Report too long, too short, about right? Are there cases that you can think of for which you think this is not right?
17. What was the thinking behind the “20-day period”? Is the rationale different in any way than for the P&S Report?
18. Are there specific issues that make it difficult to comply with the 20-day submission deadline for the RTW & Voucher Report?
19. What about the content of the RTW & Voucher Report?
 - a. Information that “you” see needs to be included?
 - i. What about adding last date of exam?
 - ii. Any need for documenting body part? Or industry?
 - iii. What about job title at injury, if there is no job description?
20. Please describe for me why it is that the evaluating physician is tasked with documenting work restrictions, rather than someone who knows the job better?
21. Who would you say is able to best assess work restrictions? What about function? Or what about physical impairment?
22. In thinking about the RTW & Voucher Report, are there critical areas that are missing on that specific report?
 - i. Such as typing?
23. Under what conditions does an injured worker typically seek out a QME/AME in the process PRIOR to being declared permanent and stationary?
24. Under what conditions does an injured worker typically seek out representation PRIOR to being declared permanent and stationary?
25. Who is the recipient of the P&S Report including the RTW & Voucher Report?
 - a. Is there confusion on who receives these? If so, why?
 - b. Is there a time frame within which the [*Claims administrator/recipient of these reports*] has to forward them to the employer, the IW, and the IW representative?
 - c. Is it possible that the report could “sit” with the claims administrator?

26. Does the recipient of these reports have any incentives, in your opinion, to NOT be swift in forwarding copies of the reports to the employer or injured worker?
27. How would you describe the motivations and incentives, in your opinion, of the **claims administrators** in forwarding copies of the reports to the employer or injured worker?
28. What about the motivations and incentives, in your opinion, of the **employers** once they have received the copies of the P&S and RTW & Voucher reports?
29. What about the motivations and incentives, in your opinion, of the **injured worker** once they have received the copies of the P&S and RTW & Voucher reports?
30. How about the physicians?
 - a. Is there any kind of a possibility that a doctor who wanted to game the system on behalf of the injured worker could exaggerate disability on the RTW & Voucher Report?
31. As a legal issue or question, if an IW has a permanent partial disability (a PPD) documented on the P&S Report but is ultimately given a zero PPD rating, then could the IW still have had the check box on the RTW & Voucher Report that declares them P&S?
32. Is there any mechanism to ensure that someone who is “rated” as having PPD on an RTW & Voucher Report actually receives a nonzero PPD rating on the P&S Report?
33. Is there a mechanism in place to cancel their SJDB eligibility and RTWSP eligibility, if an IW has a zero PPD rating?
34. Are there any modifications or improvements you would suggest to this reporting process?

RTW & Voucher Process

Now, I would like to talk with you about the *RTW Voucher Process*.

Slide 2: RTW & Voucher Process

35. Can you please tell me what the rules and regulations say about the typical process for determining the need for and the issuing of the SJDB voucher?

36. What specific date by law starts the 60 days in which an employer needs to make a work offer?
- Probe: Date of P& S determination? Date on RTW & Voucher Report? Date of last exam? Date of receipt of the RTW & Voucher Report with the employer? Or date the claims administrator **sends** the RTW & Voucher Report?
 - What if that date is missing?
 - Who documents that date?
 - How does the employer know this date? How does the claims administrator know this date? What about the injured worker?
 - Are these business days or calendar days?
37. In your opinion, what do you think the incentives are for the claims administrator given the confusion around this date? Any incentives for injured workers? What about applicant attorneys? Any incentive for the defense attorneys?
38. What are your thoughts about clarifying this start date?
39. How would you describe the motivations and incentives, in your opinion, of the **claims administrators** in issuing an SJDB voucher?
- Does this differ by type of insurance?
40. What about the motivations and incentives, in your opinion, of **the employers** in issuing an SJDB Voucher?
- Does this differ by whether employer is self-insured? Industry? Location in California?
41. What about the motivations and incentives, in your opinion, of **the injured worker** once they have received the determination of P&S and the copies of the P&S and RTW & Voucher reports and are in the process of gaining a work offer or having an SJDB Voucher issued?
42. Are there any modifications that you suggest?

Work Offer

Now, can we turn to discussing the actual offer of work?

43. What are the official guidelines around what constitutes an “offer of work”?
44. How is the offer of modified or alternative work documented and filed?

- a. Are there rules and regulations for this?
 - b. Or other guidelines?
45. WCIRB data estimates that only 15 to 20 percent of employers formally report a qualifying RTW offer. In your opinion, what could be the reasons for this?
46. What is the process for documenting a “qualifying RTW offer”? Who is responsible? How is it done?
47. Who is responsible for making sure that the claims administrator receives a copy of the work offer, if one is made?
48. Is it possible that employers may not bother with reporting the RTW offer to the claims administrator when the worker has already successfully returned to work (modified or alternative or otherwise), with the understanding that the claims administrator is not going to issue the SJDB if the worker returned?
49. Who reviews and determines that it is an “officially eligible” offer of work that would not allow the issuance of the SJDB voucher?
50. Are there specific guidelines for the claims administrator to determine whether a work offer is valid and meets the criteria? Does anyone vet the claims administrator’s determination?
51. What if there is a work offer made by the employer that is 10 months instead of 12 months?
52. Or what if the offer of work is made at 61 days? What about at 81 days?
53. Is there any type of check or verification conducted AT THIS POINT IN THE PROCESS that could indicate if the IW is working? Is working at the at-injury employer? Or at another type of employment?
- a. During any part of the process?
54. If a work offer fails to meet the necessary qualifications, whose responsibility is it to request that the SJDB be issued? The worker?
55. If the claims administrator deems a submitted work offer as not valid, what is the process for informing the employer or injured worker of this decision?
- a. Can it be appeal or reviewed?
 - b. Is there an opportunity for the employer to CHANGE or MODIFY the work offer?

56. Is the SJDB voucher only issued after the 60-day window (during the 20 days after the expiration of the “no work offer”)?
57. What are the reasons that this could be delayed?
 - a. Can the voucher be issued on day 81?
58. Is anyone notified when the claims administrator deems the condition of “no offer of work” and begins to process the signing and issuance of the SJDB voucher?
59. Does the claims administrator move ahead with the signing and issuance of the SJDB voucher within their own authority? Do they need to notify anyone—injured worker, at-injury employer, etc.?
60. Can the process of the signing and issuance of the SJDB voucher be stopped? If so, under what conditions?
61. Are there scenarios within which the injured worker (or the IW representative) could have an offer of work from the at-injury employer and be issued an SJDB voucher?
62. What about if the IW is working for a *different* employer? If that is the case, is it then OK for the IW to be issued a SJDB voucher? If not, how is this identified, determined, and documented in the process?
63. Are there any differences in this part of the voucher process if the injured worker is working, is off work, or has separated and moved to a different job at the P&S date?
64. Are there any modifications or improvements you would suggest to the process of issuing the SJDB voucher?
65. How would you describe the motivations and incentives, in your opinion, of the **claims administrators** during the period after the expiration of the work offer and during the time of issuing the voucher?
66. What about the motivations and incentives, in your opinion, of **the employers** during the period after the expiration of the work offer and during the time of issuing the voucher?
67. What about the motivations and incentives, in your opinion, of **the injured worker** during the period after the expiration of the work offer and during the time of issuing the voucher?

RTW Supplement Process

Now, I would like to talk with you about the *RTW Supplement Process*.

Slide 3: RTW Supplement Process

68. Can you please tell me what the rules and regulations say about the typical process for *receiving the RTW Supplemental benefit once an SJDB voucher is issued?*
69. What specific date by law starts the 365-day counter in which the IW (or IW representative) needs to apply for the RTW Supplemental benefit?
 - a. Voucher date, correct?
 - b. What if that date is missing?
 - c. Who documents that date—is it the claims administrator? Where is that date kept?
 - d. How does the employer know this date?
 - e. Are these 365 business days or calendar days?
70. In your opinion, is there any confusion surrounding the date of the SJDB voucher?
71. How would you describe the motivations and incentives, in your opinion, of **the at-injury employers** with workers who have been issued an SJDB voucher?
 - a. Does this differ by whether employer is self-insured? Industry? Location in California?
72. What about the motivations and incentives, in your opinion, of **the injured worker** once they have received the SJDB voucher?
73. What about the motivations of the IW representative?
74. Whose responsibility is it to apply for the RTW Supplemental benefit once the SJDB voucher is issued?
75. What was the thinking that went into having the online application process that submits the application to DIR?
76. How do people apply if they don't have regular access to the internet?
77. Are there any modifications that you would suggest to the application process?

78. Could you describe the purpose for the variables that are included on the online application?
79. Can you explain why the RTW Supplement application does not require any type of validation of “no work offer”?
80. What is the main purpose for verifying California residency?
- Is this only for tax purposes?
 - Can you receive the benefit if the IW lives out of state?
 - Can you gain the voucher and or the benefit if you live outside of California?
81. Once the application for the RTW benefit is received at DIR, could you describe the process?
- Who reviews the application within DIR?
 - How much time does each application take?
 - How is the 60-day window managed?
 - Is this calendar or business days?
 - Is there ever a need to reach out for additional information? Is that even possible?
82. What are the eligibility criteria for the RTW Supplemental benefit?
- What are the ideal eligibility criteria?
83. What are the main reasons for a denial of benefit?
- How many denials are there typically in a month? A quarter?
 - Does this vary by industry? IW characteristic?
 - Is the uploading of the signed SJDB voucher a hurdle?
84. How is the notification date of the decision of eligibility documented?
- Is it the date on the mailed notification or the sent email?
 - Is it the date sent?
85. What if the notification that is mailed is lost in the mail or returned? Does that change the date of notification?
86. What if the email bounces back as a bad email address?
- Are there any guidelines on due diligence on the part of DIR to notify the IW?
87. Would any notification issues change the “60-day window” within which the application is reviewed?
- Who within DIR is responsible for this notification process?
 - How is this managed?

88. Does DIR move ahead with the issuance of the benefit **simultaneously** on the date of the decision? Or on the date of notification?
- What starts the official counter of receiving the benefit within 25 days?
 - Are these 25 business days or calendar days?
89. Who within DIR is responsible for the issue of the RTW benefit?
90. Who is notified about the decision to issue the RTW benefit, besides the worker?
- Is the claims administrator notified? The at-injury employer?
91. Once DIR notifies the IW of the decision, what are the main reasons for an appeal of the decision?
- What is your impression on why they vary? E.g., by IW characteristic (Does type of injury, industry of at-injury work, representation, etc., any of these matter?)?
92. How often are RTWSP eligibility decisions overturned by the appeal process?
- What are the main reason for the decisions to be overturned?
 - How does this influence the time lines?
93. Once an appeal decision is made does the benefit need to be issued within 25 days, or still within the original 25 days? Or is this captured in the “further action within 30 days”?
- Do you know of any evidence of confusion around this timeline for IW or IW representatives?
94. What are the most common actions that take place after the appeal?
95. Once it is determined that an IW will receive the RTW Supplemental benefit, how does this fit into the timing of the PPD benefit payment process?
96. California has a reverse offset plan in place such that workers’ compensation benefits are reduced by the amount of concurrent SSDI [Social Security Disability Insurance] payments. However, our understanding is that the RTW Supplement may not be covered by California’s reverse offset plan. Is this consistent with your understanding? In that case, do you know if SSDI benefits are offset by the amount of the RTW Supplement?
97. Does receipt of the RTW Supplemental benefit lead to an offset with any other public benefits the worker might receive—e.g., a subsequent SSDI claim?

98. Does receiving the RTW Supplement affect eligibility for unemployment insurance (UI)? (Background: UI eligibility and payment levels are reduced while workers are currently receiving TTD benefits, but we anticipate that RTW Supplement payments would largely occur later in the course of the injury, at a time when the worker is potentially eligible for UI benefits.)
99. Does the receiving of the RTW Supplemental benefit offset any other benefits, such as SSDI or unemployment insurance or other monies that the IW receives?
100. Who knows whether and if the IW receives the RTW Supplemental benefit to even attempt to offset what an IW is receiving?
101. What are the incentives at this point for the claims administrators or for DIR in starting the supplemental benefit in a timely way?
- a. How often are the benefits issued within the 25 days?
 - b. What was the thinking behind the 25 days?
 - c. Is there any recourse that the IW can take if the RTW benefit is NOT issued with 25 days?
102. At any point after an application is sent in by an IW, does DIR check that the IW is working and, if so, where?
- a. Would this matter legally?

E. Lessons and Advice

103. Based on all we have talked about today, are there aspects of the reporting, SJDB voucher issuance, or RTW benefit process that you would prefer to be different (or changed) to facilitate the flow of information or use of the information?
104. Does the RTWSP promote better outcomes for workers—e.g., improved return to work? Or do you think of the program as providing compensation without necessarily improving vocational outcomes?
105. What advice would you give to another state about the process of requiring and submitting an application by injured workers to obtain an RTW benefit?
- a. What lessons have you learned so far that could be useful for others?

106. Knowing what you know about the legal environment, the motivations of key players, and privacy issues surrounding injured workers, how would you recommend any additional changes to how information is reported or structured for the future?
107. What benefits and drawbacks might these changes have?

F. Conclusion/Follow-Up

108. Thinking back about all the things you've told us today, are there any areas that we failed to cover or important questions that we should have asked?
109. If you were going to summarize the most important points of our discussion today that relate to the efficiency or utility of reporting on injured workers, what would they be?

Thank you for your time.

Appendix B. Data Sources, Methods, and Supplementary Results for Quantitative Analysis

This appendix contains a range of supplementary information and additional estimates in support of the quantitative analysis presented in the report.

Data Set Construction

To construct the analytic data set, we linked several data sources using various unique identifiers. The base file for the majority of analysis is the WCIS, which uses the JCN to uniquely identify claims. We linked the other sources onto the WCIS as follows.

RTWSP

To link the RTWSP program data, we obtained a crosswalk of ADJ number to JCN from DIR. Approximately 4,700 claims did not have a JCN corresponding to the ADJ and, thus, are not included in the analysis in which we compare worker characteristics and benefit characteristics. Approximately 26,000 RTWSP claims match to the WCIS based on JCN. Additionally, we calculated overall statistics on trends and use of RTWSP based on the number of unique ADJs, regardless of whether we observed a matching JCN.

EAMS

Data on representation status reported to the WCIS appear to be incomplete in a large proportion of cases. To measure legal representation, we instead used records from EAMS, which is the case management system used by DIR. EAMS handles many functions, including electronic submission of legal documents, recording disability ratings performed at the DEU, outgoing correspondence from DIR, and scheduling proceedings at the WCAB. In order to access a case in EAMS, attorneys must file a Notice of Representation linking themselves to the worker's case. While attorneys may still use paper forms in lieu of EAMS—especially those whose practice is not focused on workers' compensation—EAMS is our most complete source of individual-level data on representation status. We similarly used an ADJ-JCN crosswalk to match the data from EAMS to the WCIS. Nearly 700,000 records with ADJ-JCN pairs from EAMS matched to the WCIS for injury cohorts from 2011 to 2017. After selecting the most probable JCN match out of all candidate ADJ-JCN matches, we had approximately 637,000 unique matches between EAMS and the WCIS. Out of these cases, approximately 130,000 were observed to have reported representation.

DEU

We again used an ADJ-JCN crosswalk to match the DEU data to the WCIS. We eliminated duplicate matches using a similar procedure as was used with the EAMS data. First, we kept cases with a unique match based on date of injury, and then we kept cases with a non-missing value for the DEU rating. This yielded approximately 81,000 records from the DEU that matched the WCIS.

Voucher Data

We conducted some analyses based on the entire universe of records observed in the WCIS between 2011 and 2017 or some subset of years, depending on the needs of the analysis. However, to study trends in voucher issuance, we limited our analysis sample to cases where we were able to match data from select claims administrators on SJDB voucher issuance. We were able to obtain data on SJDB voucher issuance from several claims administrators representing all sectors of the state workers' compensation system. Each of these claims administrators provided data on claims where vouchers were received for some subset of the time period, and some claims administrators provided data on all claims within the given years of the analysis. Each of these databases contained the claim JCN, allowing for direct linkage to the WCIS. In total, the convenience sample of claims with SJDB vouchers reported contained approximately 371,000 WCIS records that were submitted by participating claims administrators in years for which voucher issuance was reported. As described in Chapter Five, subsets of this convenience sample constitute the voucher PPD sample and voucher RTW sample used to analyze SJDB voucher issuance and RTWSP take-up.

Public-Use Data

We also utilized various public-use data sets to gather background statistics on other relevant characteristics, including internet connectivity, distance to field office, prevalence of English speakers, and local economic conditions. In an ideal world, we would observe this information directly about each WCIS claimant. However, this type of information is not collected directly at the individual level in the administrative data records used in this analysis. As a result, we used information about the characteristics in the locality where a claimant lives as a proxy for the individual level characteristics.

We used ACS five-year estimates from 2011 to 2015 to calculate average English-language ability at the five-digit zip code level. The ACS contains a question asking what language each household member speaks at home and, if a language other than English is spoken at home, whether the person speaks English "very well," "well," "not well," or "not at all." We aggregated the five-year estimates across all foreign languages to calculate the number of persons in each zip code who use a foreign language at home and speak English less than "very well." We then divided these population counts by the total zip code population to obtain the proportion of zip code residents who speak English less than "very well." If more than 25 percent of the population in a zip code spoke English less than "very well," we coded the zip code as having

low English-language prevalence. Zip codes meeting this definition of low English-language prevalence contain 26.7 percent of the population of California, so readers should interpret the low English variable used in our analysis as selecting people who live in areas in roughly the bottom quartile of English-language prevalence.

To obtain a measure of internet connectivity, we utilized data on the average number of high-speed residential internet connections in 2015 from FCC Form 477. These data are reported by the FCC at the census-tract level as an interval-censored connection rate. We recoded these interval variables to the midpoint of each range and then aggregated the tract-level data to the zip code level. We used a crosswalk provided by the U.S. Department of Housing and Urban Development to calculate a weighted average connection rate for each zip code, using the number of housing units to define weights. Zip codes with high-speed connection rates in the bottom quartile (weighted by the number of WCIS claims) were flagged as low internet connectivity zip codes.

We estimated the average distance to a field office at the zip-code level by calculating the straight-line distance from the center of the zip code of residence reported in the WCIS to the center of the zip code of the nearest DIR field office. We obtained data on the center of zip codes from the U.S. Census Bureau.

Finally, we obtained data on local economic conditions using data from the Quarterly Census of Employment and Wages, which provides information on quarterly employment at the county level. We normalized employment relative to the industry-specific employment level in 2011 in the same quarter and matched this to the county of residence and industry of the at-injury employer as reported in the WCIS.

Linking ADJ Number to JCN

As noted above, the EAMS, DEU, and RTWSP data use the ADJ number to uniquely identify workers' compensation claims, while the WCIS uses JCN. DIR used direct identifiers that were not transferred to RAND (including name and Social Security number) to construct a crosswalk identifying possible ADJ-JCN linkages, which was then transferred to RAND. Some ADJ numbers linked to more than one JCN, and some JCNs linked to multiple ADJ numbers. These duplicate matches largely reflect cases where exact matches on unique direct identifiers were not available, in which case DIR used looser linkage methods (such as name combined with date of birth or date of birth combined with date of injury).

In cases with duplicate ADJ-JCN linkages, RAND used a combination of logical edits and fuzzy matching of the claim administrator-specific Claim Administrator Number to assign a unique linkage. For DEU ratings and RTWSP data, it was possible to compare additional variables between these data sets and the WCIS to select the most plausible ADJ-JCN linkage. If the set of candidate ADJ-JCN linkages contained only one linkage for which non-WCIS and WCIS data matched on date of birth, date of injury, or gender, we treated that unique match as the true linkage and discarded other linkages. We also used fuzzy matching between claim administrator claim numbers reported on the SROI and the DEU ratings to prioritize matches.

These rules provided a unique JCN match for approximately 40 percent of ADJ numbers with duplicate matches. For cases that still matched to multiple JCNs after these restrictions, we then kept the case with the highest paid indemnity benefits reported in the WCIS. For ADJ-JCN matches where no JCNs had any indemnity benefits reported, we randomly selected a JCN from among the candidate matches. Under 12 percent of ADJ records linked to more than one JCN, and under 3 percent of all ADJ records were linked at random among the candidate matches. We view these proportions as acceptably small in that too few records are affected to have a meaningful impact on our analysis.

Population Totals and Weighting

As mentioned in Chapter Six, several key criteria in determining the eligible population are based on information about benefit receipt (in particular, PPD receipt) that is contained in the SROI. Because the RTWSP is targeted on a small minority of injured workers, reliable data on receipt of benefits and other milestones in the history of the claim are necessary to define sensible comparison groups for recipients of the RTW Supplement. If data with incomplete SROI reporting were used, then one might reach misleading conclusions about the RTWSP's success in targeting the intended population of workers with disproportionate earnings loss. To avoid concerns of incomplete reporting on the SROI, we first selected a subset of claims administrators that was determined to have complete and timely reporting of benefit payments to the SROI and constructed weights so that the cases with complete information could be adjusted to reflect the overall distribution of claims with a FROI in the WCIS.

Between 2011 and 2017, 480 unique claims administrators were identified in the WCIS extracts we received from DWC. The premise of our strategy for identifying claims with reliable reporting of indemnity information was that underreporting of SROI is driven by a claims administrator's practices and not by individual characteristics of injured workers within a claims administrator. We accordingly sought to identify a subset of reliable claims administrators for our main analysis sample.

We explored several alternative approaches to determining which claims administrators had timely and complete reporting of the SROI. To measure completeness, we constructed a file with one record per JCN summarizing all the SROI information provided by DWC, including indemnity benefit receipt. We then merged this file onto the FROI file by JCN and calculated, for each claims administrator, the proportion of FROI records with a SROI linkage and the proportion with indemnity benefits reported (including any temporary or permanent benefits or settled amounts for temporary or permanent benefits). Very small claims administrators with fewer than 20 claims per year were excluded from our analysis: These accounted for a trivial number of claims. After examining the share of indemnity claims and claims with SROI reported across claims administrators, we chose 15 percent indemnity claims (averaged over 2011–2017 claims) as the minimum threshold for a claims administrator to be considered a reliable reporter of SROIs. We also defined alternative samples with the threshold for inclusion set at 10 percent indemnity claims, 20 percent indemnity claims, or 40 percent or more of FROI with a SROI

reported. We also examined the stability of indemnity shares and SROI reporting rates across successive years (defined by the date reported to the claims administrator). Reporting quality was highly stable within claims administrators during the period we examined. We accordingly used the long-run average reporting rate to select good claims administrators. Besides simplicity, using the long-run average has the advantage of keeping the mix of claims administrators constant across years.

While these thresholds are considerably lower than the level of indemnity claim occurrence and SROI reporting we might expect to see under perfect conditions, the composition of claimants and injuries varies by the employers served by each claim administrator, and so thresholds for inclusion need to be set well below the systemwide rate of indemnity claims. However, too low a frequency could reflect lags or incomplete reporting that could lead to bias in our estimates.

Once the relevant sample had been defined, we constructed sampling weights designed to match the joint distribution of several variables observed in the FROI. By weighting only on factors observed in the FROI, we were able to reweight the sample of claims administrators with reliable SROIs reporting to obtain estimates that are representative for the population of all records observed in the FROI. These criteria include injury year, geographic region, gender, age, pre-injury weekly wage, and self-insured status. We further restricted the relevant sample by casewise deleting any observation where one of these criteria was missing in the FROI. Under the assumption that claim administrator reporting quality is not correlated with worker outcomes within groups defined by combinations of these variables, estimates produced using these weights are representative of the full WCIS population with no missing data on the FROI. In our main analysis sample, the average weight was 1.18, and the maximum weight was 3.28. We view this as an indication that no groups of observations were excessively influential in our weighted estimates. See Table B.1.

Table B.1. Comparison of Analysis Sample to Full WCIS FROI

	Full WCIS	Main Sample Unweighted	Main Sample Weighted	FROI Target Distribution (complete records) unweighted
Demographics and Type of Coverage				
Age	40.99	40.70	40.87	40.86
Female	43%	44%	44%	44%
Pre-injury wage	688.06	642.91	683.81	689.16
Self-insured	34%	31%	35%	35%
Region				
Los Angeles	26%	25%	26%	26%
Inland Empire	20%	20%	20%	20%
Bay Area	19%	19%	19%	19%
Central Valley	12%	12%	12%	12%
San Diego	8%	8%	8%	8%
Rest of California	16%	16%	16%	16%
Year of Injury				
2011	14%	15%	14%	14%
2012	15%	15%	15%	15%
2013	15%	15%	15%	15%
2014	15%	15%	15%	15%
2015	15%	15%	15%	15%
2016	15%	14%	15%	15%
2017	11%	11%	11%	11%
Number of observations	4,161,463	2,956,496	2,956,496	3,474,858
Sum of weights	n.a.	n.a.	3,474,304	n.a.

NOTES: Statistics are based on data from RTWSP Program data and WCIS, injury years 2011–2017. Weighted proportions use sampling weights from a sample of claims administrators with timely and complete reporting to the SROI.

A number of calculations in the study required an estimate of the total number of claims in the statewide workers’ compensation system. We rely on recent estimates from DIR that FROI reporting is 91 to 92 percent complete, and we assume that the failure to report claims to the WCIS is random with respect to claim characteristics of interest. This is an imperfect assumption, but we lack any reliable information about the characteristics of unreported claims that would point toward a better assumption. We thus scale up the total number of claims with a FROI by dividing by 0.915 to obtain a benchmark total claim count for each year in our sample. Table B.2 reports our analysis sample, target count of FROI, and estimated total number of claims for each year from 2011 to 2017.

Table B.2. Analysis Sample Size, FROI Counts, and Estimated Total Claim Counts by Injury Year

Injury Year	Number of Claims in Analysis Sample	Number of Complete Records Claims from All Claims Administrators	Number of FROI in Injury Year, Including Missing Observations	Estimated Total Accounting for FROI Underreporting
2011	431,746	503,685	599,071	654,722
2012	446,798	515,743	612,330	669,213
2013	447,727	516,504	613,388	670,369
2014	449,749	530,693	632,933	691,730
2015	444,413	524,939	639,078	698,446
2016	429,238	517,392	634,448	693,386
2017*	313,592	377,619	462,034	504,955
Total	2,963,263	3,486,575	4,193,282	4,582,822

* 2017 data are incomplete and reflect only FROI reported as of October 25, 2017.

For estimates requiring an estimate of the total number of indemnity claims, we also had to account for the right-censoring of indemnity benefit reporting to WCIS. We used age-to-ultimate development factors for indemnity claim count development reported by the WCIRB at the December 6, 2017, Actuarial Committee Meeting (WCIRB, 2017c). These development factors allow projection of the long-term claim count from the count observed at a given maturity for an accident year.⁵² Table B.3 provides statewide estimates of the total claims to date and ultimate indemnity claims by year for the 2011–2017 injury years. The impact of right-censoring on the count of claims to date is apparent from the decline in claims to date between 2015 and 2016. Estimated indemnity claims to date for the 2011 to 2015 injury years range between 189,000 and 203,000, while ultimate indemnity claims over the same time frame range between 189,000 and 211,000. The percentage of WCIS claims reported to date with indemnity is stable at around 29 percent through the 2015 injury year. While there is some potential for error in the application of WCIRB development factors to WCIS data, we believe that both the paid-to-date claim counts and the ultimate claim counts suggest that 190,000 to 200,000 indemnity claims per injury year is a reasonable assumption for calculating RTWSP eligibility.

⁵² WCIRB age-to-age and age-to-ultimate-development factors (reflecting the projected ratio of future claim counts to claim counts observed at a given claim maturity) are provided at 12-month intervals starting at nine months. While this timing appears to match our data pull closely (because data was extracted in October 2017, between nine and ten months after the end of the 2016 injury year), applying the nine-month-to-ultimate-development factor to the 2016 indemnity claim count led to an implausibly large number of claims. Tables B.3 and B.4 do not report claim counts after 2015. To assess sensitivity to the development factors used, we also projected ultimate claim counts using the 21-month-to-ultimate-development factor for 2016 injuries, the 33-month-to-ultimate-development factor for 2015 injuries, and so on, yielding a lower and arguably conservative estimate of ultimate indemnity claims. Claim development slows sharply after 21 months, so the impact of using lower development factors on the claim counts for 2015 and earlier years was minimal.

Table B.3. Indemnity Claim Counts to Date and Ultimate Indemnity Claim Counts by Injury Year

Year	Estimated WCIS Indemnity Claims to Date	Estimated Total Indemnity Claims to Date	Estimated Ultimate Indemnity Claims	Percentage of Indemnity Claims to Date	Ultimate Indemnity Percentage of Total Claims
2011	173,041	189,115	189,494	28.9%	28.9%
2012	176,254	192,627	193,397	28.8%	29.5%
2013	176,862	193,292	194,838	28.8%	29.8%
2014	182,955	199,951	202,750	28.9%	31.0%
2015	185,547	202,783	211,300	29.0%	32.3%
2016	170,089	185,890	-	26.8%	-
2017*	96,740	105,727	-	20.9%	-

* 2017 data are incomplete and reflect only SROI reported as of October 25, 2017.

NOTES: Estimated WCIS indemnity claims to date reflect weighted estimates for full WCIS. Estimated total indemnity claims represent WCIS estimates scaled up to account for percentage of FROI underreporting. Estimated ultimate indemnity claims represent total indemnity claims to date multiplied by age-to-ultimate indemnity claim development factors reported in WCIRB, 2017c, Exhibit 10.1.

Table B.4 presents estimated counts of PPD claims on both a paid-to-date and an ultimate basis. The impact of right-censoring on PPD claim counts is far more obvious, with paid-to-date claim volumes dropping each year from 2011 to 2016. For an estimate of ultimate PPD claims by year, then, we assume that 50 percent of indemnity claims will eventually result in PPD, an assumption that appears to be consistent with our 2011 injury year data.⁵³

Table B.4. Paid and Settled PPD Claim Counts to Date and Ultimate PD Claim Counts by Injury Year

Year	Estimated Total PPD Claims to Date	Estimated Ultimate PPD	PPD Claims to Date Percentage of Total Claims	Ultimate PPD Percentage of Total Claims
2011	103,813	94,747	15.9%	14.5%
2012	99,105	96,699	14.8%	14.4%
2013	93,119	97,419	13.9%	14.5%
2014	89,330	101,375	12.9%	14.7%
2015	78,598	105,650	11.3%	15.1%
2016	42,320	-	6.1%	-
2017*	7,723	-	1.5%	-

* 2017 data are incomplete and reflect only SROI reported as of October 25, 2017.

NOTES: Total PPD claims to date reflect weighted estimates for full WCIS scaled up to account for FROI underreporting. Estimated ultimate PPD claims were calculated as 50 percent of estimated ultimate indemnity claims, as reported in Table B.3.

To estimate the RTWSP-eligible population, we assume there are 95,000 to 100,000 ultimate PPD claims per injury year, an assumption that is informed by the estimates in Table B.4.

While the estimates in Tables B.2 to B.4 require fairly strong assumptions, the claim counts reported here represent our best estimate of the total statewide volume of indemnity and PPD

⁵³ The approximation that 50 percent of indemnity claims result in PD was suggested by WCIRB staff (personal communications, Tony Milano, vice President and actuary, WCIRB of California, February 6, 2018).

claims per year, including those for which a FROI is never reported to WCIS. Estimates of the statewide total volume of claims are crucial for anticipating the potential cost of the RTWSP. Even without assumptions about claim development, the number of PPD claims paid to date from the 2011 injury year clearly indicates that the assumption of 60,000 PPD claims per year, which was used in Seabury and Scherer (2014) to develop eligibility criteria and benefit levels for the RTWSP, is an underestimate of the true volume of PPD claims in the system: The unweighted count of PPD claims in our analysis sample (which itself excludes claims administrators with unreliable reporting) is 80,681 for 2011 injuries. This is a sharp lower bound on the statewide number of PPD claims for 2011 injuries.

Identifying Workers at Risk of Receiving the RTWSP

To better understand which workers face a nontrivial probability of RTW Supplement receipt, we examined seven mutually exclusive categories of claims based on benefits, settlements, and MMI information reported in the WCIS. These categories are defined in Table B.5.

Table B.5. Definition of Claim Disposition Categories for Analysis of RTW Supplement Receipt

					% of Workers in Category by RTW Supplement Receipt		
Group	Indemnity	Settlement	PPD	MMI Date	No RTW Supplement	RTW Supplement	All
1	NO	NO			71.1%	6.9%	70.7%
2	NO	YES			1.3%	2.7%	1.3%
3	YES	NO	NO		15.5%	6.6%	15.4%
4	YES	YES	NO		1.1%	8.0%	1.2%
5	YES	NO	YES		6.6%	26.1%	6.7%
6	YES	YES	YES	NO	0.9%	6.6%	1.0%
7	YES	YES	YES	YES	3.4%	43.1%	3.7%
Observations (unweighted)					2,937,303	19,193	2,956,496

NOTES: Statistics are based on data from RTWSP Program data and WCIS, injury years 2011–2017. Proportions were weighted using sampling weights from a sample of claims administrators with timely and complete reporting to the SROI.

Rates of RTW Supplement receipt vary systematically across these groups of injured workers. As shown in Table B.5, approximately 90 percent of current RTW Supplement recipients have received paid or settled indemnity benefits.

While a minority of RTW Supplement recipients do fall in to category 1 or 2, this does not represent the normal pattern of claim development for RTWSP eligibility. Receipt of the RTW Supplement by workers without paid or settled indemnity benefits is unusual. While this could reflect to some extent late claim development, we note that these estimates were produced using our analysis sample from claims administrators with reliable reporting of SROI and so underreporting of SROI is unlikely to explain these patterns.

On the other hand, 72 percent of claims *without* RTW Supplements are nonindemnity claims, meaning that the majority of these claimants are unlikely to be candidates for the RTWSP. As a result, we believe that any potential bias from omitting these groups is outweighed by the benefits of narrowing the pool of relevant claims in the comparison sample.

The population of indemnity claims likely still includes many workers who are likely ineligible for the RTWSP, however, including claimants who only receive TTD benefits or claimants with PPD benefits who are able to return to work. As a result, this first comparison group serves to provide a broad assessment of how RTW Supplement recipients compare to the overall composition of workers receiving indemnity benefits in California.

Our best comparison group for the analysis of targeting limits the comparison group to any claimants with paid or settled PPD benefits. As shown above in Table B.5, however, this comparison group excludes approximately 25 percent of claimants who received an RTW Supplement. Even so, comparison to PPD recipients enables us to analyze targeting within one of the primary eligibility criteria of the program (PD). Due to the absence of information about qualifying return to work offers or SJDB voucher issuance in the WCIS, the PPD population is the most informative comparison group for evaluating the targeting of the RTWSP.

Accounting for Right-Censoring of Recent Claims

Importantly, both of these comparison samples are based on the state of claims as we are able to observe them in the WCIS, meaning that some more recent claims are still ongoing. In general, claims in the California system with PPD take a long time to close, and a significant fraction of closed claims are reopened. Some ongoing claims may currently be nonindemnity claims but may eventually transition into one of the other categories for receipt of indemnity payments, PPD, or settlement. This right-censoring means that these categorizations may exclude workers who should be in the comparison group for RTW Supplement recipients but have not yet reached the relevant milestone in their claim. As shown in Table B.6, the median duration from date of injury to receipt of PPD is slightly longer than one year, and the 90th percentile of the duration from date of injury to receipt of PPD is approximately 3.5 years, meaning that we expect to observe this transition for nearly all claims at risk of PPD in the 2013 and 2014 injury cohorts. Similarly, as shown above in Table B.4, most indemnity claims have been identified by three to four years after the injury date.

Table B.6. Distribution of Duration (in Days) from Date of Injury to Benefit Milestone

Duration to Claim Milestones	p25	p50	p75	p90	Mean	Unweighted Number of Observations
Date of injury to first receipt of indemnity	2	74	342	681	219.5	120,304
Date of injury to MMI	255	434	674	891	482.6	91,003
Date of injury to first receipt of PPD	157	393	681	900	437.2	120,304
Date of injury to settlement	357	632	909	1143	639.8	55,057
Date of injury to RTWSP application	769	952	1143	1328	961.1	10,301

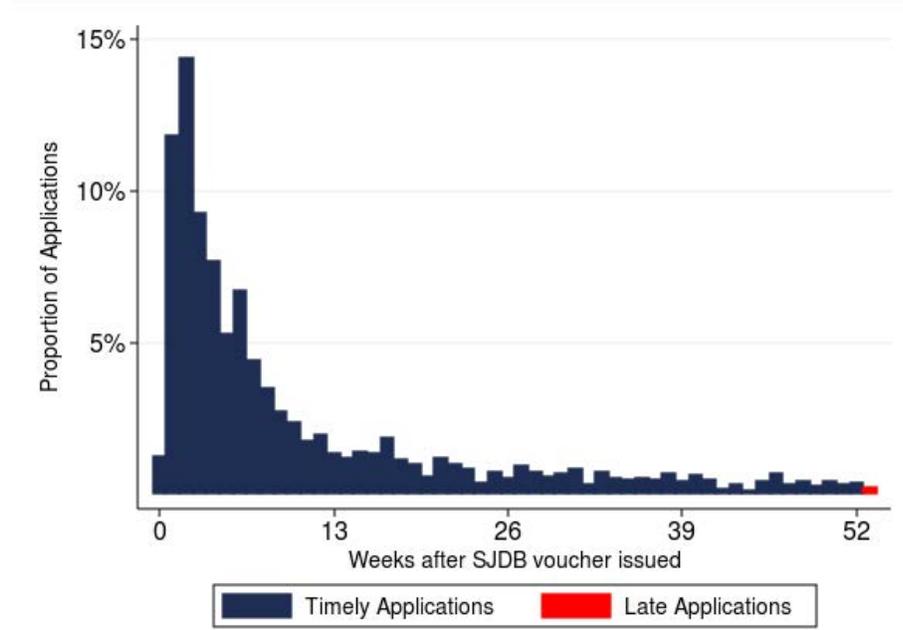
SOURCE: Data are from WCIS, injury years 2013–2014, injuries with PPD benefits only.

NOTE: WCIS proportions were estimated using sampling weights from a sample of claims administrators with timely and complete reporting to the SROI.

As a result, we conduct the majority of our analysis of targeting on the 2013 and 2014 injury cohorts where claims are more likely to have reached PPD status by the time of data collection. These are the earliest cohorts of claims that were eligible for the RTWSP, and they provide a picture of the initial composition of claimants who took up the benefit as the program began. As we discussed in Chapter Seven, workers injured after the RTWSP was established are able to begin applying to the program much sooner after their injuries than workers with 2013 or 2014 injury dates were, leading to different patterns of application volumes. It is thus difficult to say whether the patterns of take-up and eligibility that we documented might be changing for more recent injury years, since the overall differences in application timing relative to injury rule out the type of adjustments for claim maturity that would be needed to compare, say, 2015 injuries to earlier injury years.

We also examined the timing of RTWSP application relative to the date of voucher issuance in order to learn whether there might be a large number of outstanding RTWSP applicants. Again using data from the claims administrator sample, Figure B.1 shows that RTWSP applications are typically filed soon after an individual receives the SJDB. The majority of applications are filed within the first three months after SJDB voucher issuance. This suggests that voucher recipients either apply quickly or not at all.

Figure B.1. Distribution of Timing of RTWSP Application Relative to Receipt of SJDB



NOTES: Data are from a convenience sample of claims with data on SJDB voucher issuance and program data from the RTWSP extracted in October 2017. Figure covers 2013–2015 injuries with SJDB vouchers issued within 34 months of injury. All applications submitted more than one year after SJDB voucher service date were recoded to 53 weeks for this figure.

Details on Methods

Analysis of RTWSP Targeting

The descriptive analysis on program targeting was mainly conducted through a comparison of means, comparing claimants who received the RTW Supplement to claimants in various comparison groups (described above) who did not receive the RTW Supplement. We compared demographic characteristics (including age, gender, and weekly wage), geographic characteristics, potential barriers to accessing the RTWSP, industry, type of benefits received, and value of benefits received. We also analyzed the entire distribution of benefits received by recipients and nonrecipients to inform our assessment of program adequacy and compared the size of the RTW Supplement to other benefits received (e.g., TTD, PPD, settlements).

Table 6.1 compared permanently disabled workers with the RTW Supplement to those without the RTW Supplement. Table B.7 extends this analysis to three additional comparison groups. First, we expanded the sample to include all indemnity claims (the indemnity sample described in Chapter Five). Second, we compared RTW Supplement recipients and nonrecipients within the convenience sample for whom we have SJDB voucher data. Third, we compared recipients to nonrecipients among workers in the convenience sample who received the SJDB voucher. These comparisons served as a preliminary step in our analysis of factors affecting program take-up.

The population of workers in the convenience sample of claims with voucher data is not representative of the full workers' compensation system, since this population reflects the combination of employers and industries served by a nonrandom selection of claims administrators. However, a comparison of RTW Supplement recipients to all other claims in this sample shows that the same factors appear to be associated with RTW Supplement receipt in both the convenience sample and the full WCIS. In both samples, RTW Supplement recipients earn a lower pre-injury weekly wage, are more likely to live in low-English and low-internet zip codes, and disproportionately come from the high-turnover industries we observed in the overall WCIS sample. These patterns also are apparent when we further limit the comparison to claims where an SJDB voucher was issued.

Table B.7. Descriptive Characteristics by Receipt of RTWSP for Additional Comparison Groups

	RTW Supplement Paid?					
	Panel 1: WCIS Indemnity Claims		Panel 2: All Claims Administrators with SJDB Data		Panel 3: SJDB Voucher Recipients	
	No	Yes	No	Yes	No	Yes
<i>Sociodemographics</i>						
Female	41%	45%	34%	32%	29%	32%
Age	43.08 (12.31)	43.99 (11.11)	41.38 (12.65)	43.53 (11.19)	44.26 (11.89)	43.34 (11.16)
Weekly wage	774.63 (632.51)	654.30 (508.00)	784.02 (599.57)	711.54 (488.01)	774.33 (533.97)	713.53 (485.06)
<i>Geography and Barriers to Access</i>						
Low-English zip code	35%	41%	31%	40%	37%	41%
Low-internet zip code	26%	29%	23%	25%	25%	26%
Distance from DWC office	15.62	14.51	20.86	18.24	20.04	18.39
Southern California	48%	48%	31%	37%	33%	36%
LA	28%	26%	15%	22%	19%	22%
Inland Empire	20%	22%	16%	16%	15%	16%
Bay Area	18%	18%	15%	18%	15%	18%

	RTW Supplement Paid?					
	Panel 1: WCIS Indemnity Claims		Panel 2: All Claims Administrators with SJDB Data		Panel 3: SJDB Voucher Recipients	
	No	Yes	No	Yes	No	Yes
Central Valley	12%	11%	20%	16%	18%	16%
San Diego	7%	7%	8%	6%	5%	6%
Rest of California	15%	16%	27%	23%	27%	23%
<i>Industry</i>						
Manufacturing	12%	15%	4%	5%	5%	5%
Transportation	5%	5%	2%	4%	4%	4%
Health care	10%	8%	3%	3%	3%	3%
Public administration	10%	5%	40%	16%	24%	15%
Administrative support	8%	11%	3%	6%	4%	5%
Agriculture	4%	5%	12%	13%	17%	14%
Retail	12%	13%	12%	14%	11%	13%
Accommodations/food services	8%	7%	4%	5%	5%	5%
Construction	6%	9%	8%	21%	16%	21%
Education	8%	4%	2%	2%	1%	2%
Wholesale	4%	4%	1%	1%	1%	1%
Other	14%	15%	8%	10%	10%	11%
Observations (unweighted)	247,991	11,780	111,832	1,846	2,243	1,607

NOTES: Data are from WCIS, injury years 2013–2014, and convenience sample of claims administrators, injury years 2013–2014. Panel 1 reflects all indemnity claims from the WCIS, panel 2 indicates all claims from the convenience sample, and panel 3 indicates all claims from the convenience sample who received a voucher. WCIS proportions were weighted using inverse probability weights from a sample of claims administrators with timely and complete reporting to the SROI; proportions from the convenience sample of claims administrators are unweighted.

Analysis of RTWSP Take-Up

Our primary analysis of program take-up used logistic regression to model receipt of the SJDB voucher and workers' decisions to apply to the RTWSP, if eligible. Because both of these analyses require accurate observation of SJDB issuance, this analysis was restricted to the claim administrator sample.

In the regression, we control for variables capturing a wide range of worker and claim characteristics. Controls for claim characteristics include indicators for whether the claim has reached certain milestones (settlement, MMI date, and an interaction between settlement and MMI date), whether the FROI indicates a cumulative injury, and whether the claim was filed with a self-insured employer. The excluded category for the settlement and MMI date indicator consists of claims with no settlement and no MMI date reported. We also control for the severity of the claim by using several measures based on paid-to-date indemnity and settlement amounts. We used the weekly wage variable and the paid-to-date TTD amount to back out the implied duration of TTD receipt and then binned workers with TTD into terciles of implied TTD duration (low, medium, or high). Marginal effects of TTD duration should be interpreted relative to workers in the sample who had no paid or settled TTD. We also controlled for indicators for paid-to-date PPD amounts (including settled PPD) or settlements above the median level for each category of payment.

Demographic control variables included three categories of age at injury (age below 40, age 40–54, and age 55–70) interacted with an indicator for female. The excluded category includes males under age 40. Indicators for potential barriers to access as defined above (low internet zip code and low English-speaking zip code) were included. We included the log distance to the nearest DWC field office because the distance variable was somewhat right-skewed. We also included indicators for worker residence in one each of six geographic regions based on the ten regions typically used in DWC publications.⁵⁴ Los Angeles County, the most populous region, is the excluded category. We included an indicator for whether the pre-injury weekly wage was below the median in the full WCIS. We also included indicators for 12 broad industry categories defined based on the FROI. To control for local economic conditions, we included the seasonally adjusted index of county-by-industry employment levels described above. Any observations that had missing data for any of these criteria were casewise deleted from the sample used in the regression analysis.

Our first regression specification analyzed SJDB take-up among all claims from the claims administrator sample who received PPD. We also ran this regression separately for each of the three claims administrators but expanded the sample to the high-risk sample criteria (which

⁵⁴ DWC regions included in the model are Los Angeles, Inland Empire, Bay Area, Central Valley, and San Diego. The Rest of State category includes the Central Coast, Eastern Sierra Foothills, North Sacramento Valley, North State–Shasta, and Sacramento Valley DWC regions. These regions have lower volumes of claims and did not yield precise estimates in the voucher RTW sample.

includes all claimants with any indemnity). In our final regression specification, we restricted the sample to claimants who had been issued a SJDB voucher and analyzed take-up of the RTW Supplement as the dependent variable. In addition to obtaining the standard logit coefficients, we also estimated average marginal effects to ascertain both the significance and magnitude of the effect sizes on relevant covariates. We did not report marginal effects for the interaction effects between gender and age.

Alternative Estimates of Eligible Population Based on Claim Administrator Sample

In the report, we took a top-down approach to analyzing the size of the population who could potentially receive the SJDB voucher and thus who could qualify for the RTWSP. We explored using our convenience sample of claims administrators to estimate the size of the population who have actually received vouchers in order to study the take-up rate. The basic approach in this analysis was to assume that the claims administrator sample was representative of SJDB issuance patterns for the entire market sector from which the sample was drawn. Similar to our approach in the SJDB take-up analysis described above, we estimated a logistic regression model for SJDB voucher issuance to date that included all explanatory variables used in our targeting analysis.

Unlike the take-up analysis models, however, we included non-PPD and non-indemnity claims in the estimation sample in order to allow for voucher issuance and RTWSP eligibility among claims without reported indemnity. We accordingly included a full set of dummy variables for the seven categories of claims defined in Table B.5 above and interacted these categories with indicators for the market sector from which the claims were drawn.

We caution, however, that it may not be possible to extrapolate the take-up rate in our convenience sample to the broader pool of claimants who could be eligible for a voucher, and there is no reason to assume that the claims administrators who provided our convenience sample are representative of the workers' compensation system as a whole or even of the market segments from which each claims administrator was drawn.

While we have no reason to expect that the convenience sample of claims should be representative of the system as a whole, it might still be possible to learn about the eligible population if the probability of SJDB benefit receipt conditional on individual characteristics and claim status were similar across claims administrators within each broadly defined market sector. Under this assumption, it should be possible to extrapolate from the logistic regression model estimated on the convenience sample to the full analysis sample. The (weighted) sum of the predicted probability of SJDB receipt for all WCIS injuries would then give an estimate of the size of the eligible population as of the time of data collection. The first column of Table B.8 presents these estimates for the 2013 and 2014 injury years in the top panel, along with the implied systemwide take-up rate in the bottom panel.

Table B.8. Eligible Population and Take-Up Estimates Extrapolated from Convenience Sample of Claims with SDJB Data

SJDB Vouchers and RTWSP Take-Up Under Alternative Assumptions about Claims Management				
Number of Vouchers Issued	Total Applicants to Date by Injury Year	Central	Low Voucher	High Voucher Issuance Estimate
		Voucher Issuance Estimate	Issuance Estimate	
Injury year	Year	Estimate	Estimate	Estimate
2013	9,522	15,753	8,255	18,535
2014	10,292	12,565	13,783	17,075
2015	7,209	8,727	6,619	10,551

Implied Take-Up Rate				
Injury year	Total Applicants to Date by Injury Year	Central Take-Up	High Take-Up	Low Take-Up
		Estimate	Estimate	Estimate
2013	9,522	60.4%	115.4%	51.4%
2014	10,292	81.9%	74.7%	60.3%
2015	7,209	82.6%	108.9%	68.3%

NOTES: Total applicants to date by injury year is a count of unique cases (identified by ADJ number) by injury year with one or more applications submitted to the RTWSP as of October 2017, including cases not linked to WCIS. Central voucher issuance estimate is derived assuming that, for each sector of the workers' compensation market, voucher issuance probabilities conditional on claim characteristics are identical to those observed in our convenience sample. Low voucher issuance estimate and high voucher issuance estimate are derived using the lowest and the highest voucher issuance probabilities observed for any individual claims administrator in our convenience sample. Systemwide probabilities reflect out-of-sample predictions calculated for the full WCIS analytic sample from logistic regressions for voucher issuance estimated in the convenience sample. Implied take-up rates are calculated by dividing the total applicants to date by the voucher issuance estimate.

While these take-up rates appear initially plausible, closer inspection revealed them to be highly sensitive to the assumption that claims administrators are representative of their entire sectors. This assumption is most problematic for self-insured/self-administered claims administrators, since a convenience sample from a limited number of self-insured employers necessarily omits data on a wide range of industries.

To explore the sensitivity of these estimates to assumptions about the representativeness of our convenience sample, we reestimated the prediction model using data from only one type of claims administrator at a time: By extrapolating these separate models to the full sample, we impose the assumption that there are no meaningful differences across types of claims administrators in the probability of SJDB voucher issuance after controlling for other variables. The sizable range of estimates for 2013 injuries in Table B.8 suggests strongly that differences in SJDB voucher issuance across types of claims administrators are large enough to be meaningful: Predicted voucher issuance is more than twice as high if we extrapolate from claims administrators with a high propensity to issue vouchers than if we extrapolate from claims

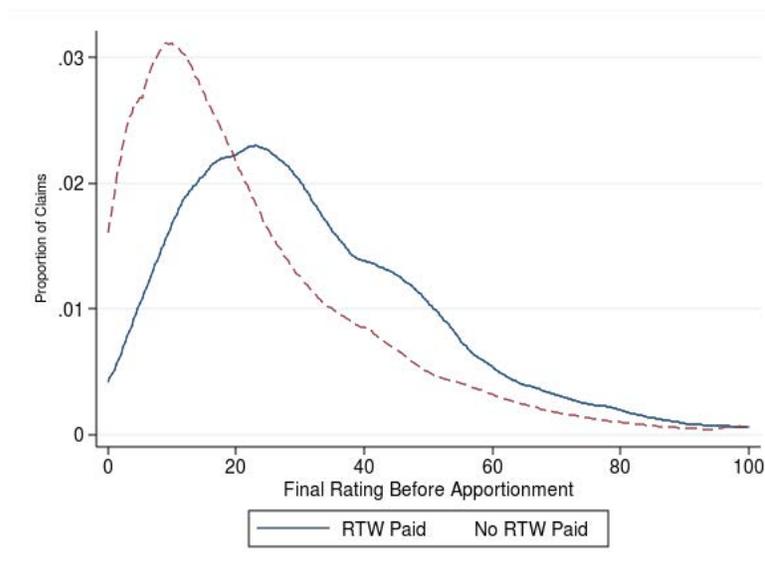
administrators with a low propensity to issue vouchers. As noted in the report, we lack the data to distinguish directly between differences in return-to-work rates and differences in claim management practices across these sectors. We take this as a strong warning not to assume that our convenience sample is representative of the system as a whole.

With voucher issuance data on a representative sample of claims, a similar approach might be used to estimate systemwide eligibility. However, estimates of the total population were highly variable, depending on assumptions about which claims administrator's claims management practices are most applicable to the population of claims outside the convenience sample. The wide range of estimates in Table B.8 indicates a high degree of variability across claims administrators in the propensity to issue vouchers to observably similar workers (i.e., workers with the same demographics, industry, geographic location, and patterns of indemnity benefit or settlement receipt). These somewhat uninformative, even nonsensical, results are suggestive of unmodeled differences between the convenience sample of claims administrators available for this study and the wider population of workers' compensation claims. It would be valuable to revisit this question if and when more representative data about SJDB voucher issuance become available.

Supplementary Estimation Results

Figure B.2 and Tables B.9–B-18 provide supplementary estimation results.

Figure B.2. Final Rating Before Apportionment by Receipt of RTWSP, Injury Year 2013



NOTES: WCIS and DEU ratings data, injury year 2013. Sample is limited to PD claims that matched to DEU ratings records.

Table B.9. Distribution of RTWSP as a Percentage of Other Benefits, Conditional on Receipt of Other Benefits

	p25	p50	p75	p90	Mean	Count
RTWSP as a percentage of PPD benefit	25%	49%	101%	216%	141%	9,672
RTWSP as a percent of settlement payment	12%	20%	36%	80%	208%	7,657
RTWSP as a percentage of TTD benefit	15%	28%	60%	182%	171%	10,049

NOTES: Program data are from RTWSP extracted in October 2017 and data from WCIS, injury years 2013–2014. Total observations in each row are the number of claimants who received both the RTWSP and the benefit listed in the row title. Proportions were weighted using inverse probability weights from a sample of claims administrators with timely and complete reporting to the SROI.

Table B.10. Take-Up Model of Voucher Issuance Among PD Recipients: Logit Coefficients and Marginal Effects

	(1) Logit Coefficients	(2) Marginal Effects
Low English ability (zip code)	-0.0239 (0.0565)	-0.00251 (0.00594)
Low internet connectivity (zip code)	0.0421 (0.0611)	0.00445 (0.00650)
Log miles to DWC office (zip code)	-0.00842 (0.0248)	-0.000887 (0.00262)
Legal representation	0.405*** (0.0497)	0.0422*** (0.00508)
TTD, low duration	0.472*** (0.103)	0.0340*** (0.00777)
TTD, medium duration	0.477*** (0.102)	0.0344*** (0.00763)
TTD, high duration	1.516*** (0.0761)	0.152*** (0.00629)
Settled amount above median?	0.724*** (0.0570)	0.0812*** (0.00673)
PPD amount above median?	0.227*** (0.0505)	0.0236*** (0.00518)
Cumulative trauma injury	-0.00543 (0.0586)	-0.000572 (0.00617)
Age 40–54	-0.0672 (0.0622)	-0.00531 (0.00554)

	(1) Logit Coefficients	(2) Marginal Effects
Age 55–70	0.125 (0.0800)	0.00771 (0.00717)
Female	0.0476 (0.0914)	0.00403 (0.00570)
Female, age 40–54	0.0521 (0.114)	
Female, age 55–70	–0.172 (0.140)	
Wage below median	0.150*** (0.0577)	0.0159*** (0.00612)
Local industry employment	–3.91e–06 (2.69e–06)	–4.12e–07 (2.83e–07)
Inland Empire	–0.0873 (0.0795)	–0.00857 (0.00781)
Bay Area	0.488*** (0.0829)	0.0544*** (0.00939)
Central Valley	0.0160 (0.0864)	0.00161 (0.00869)
San Diego	–0.0912 (0.110)	–0.00895 (0.0107)
Rest of state	0.373*** (0.0777)	0.0406*** (0.00838)
Manufacturing	–0.129 (0.125)	–0.0136 (0.0132)
Transportation/warehousing	–0.261* (0.144)	–0.0275* (0.0152)
Health care	–0.229 (0.154)	–0.0241 (0.0162)
Public administration	–0.939*** (0.0968)	–0.0990*** (0.0101)
Administrative/support services	–0.265** (0.130)	–0.0279** (0.0137)
Agriculture	–0.373*** (0.114)	–0.0393*** (0.0120)
Retail	–0.154 (0.111)	–0.0162 (0.0117)
Accommodations/food services	–0.381*** (0.129)	–0.0401*** (0.0136)

	(1) Logit Coefficients	(2) Marginal Effects
Construction	-0.0106 (0.0969)	-0.00112 (0.0102)
Education	0.0108 (0.209)	0.00114 (0.0220)
Wholesale	-0.790*** (0.293)	-0.0833*** (0.0309)
Injury quarter = 2	-0.0409 (0.0651)	-0.00444 (0.00707)
Injury quarter = 3	-0.0457 (0.0633)	-0.00496 (0.00687)
Injury quarter = 4	-0.273*** (0.0672)	-0.0281*** (0.00693)
Settled, no MMI date	1.577*** (0.142)	0.195*** (0.0192)
MMI date, no settlement	1.133*** (0.135)	0.132*** (0.0168)
Settled and MMI date	2.098*** (0.131)	0.232*** (0.0141)
Constant	-4.543*** (0.194)	
Observations	18,340	18,340
Mean of dependent variable	0.160	0.160

NOTES: Data are from claims administrator convenience sample, injury years 2013–2014, PPD recipients only. The model also controls for claims administrator fixed effects, but these are suppressed to maintain confidentiality.

Table B.11. Take-Up Model of RTWSP Among Voucher Recipients: Logit Coefficients and Marginal Effects

	(1) Logit Coefficients	(2) Marginal Effects
Low English ability (zip code)	0.0520 (0.0964)	0.0105 (0.0194)
Low internet connectivity (zip code)	0.101 (0.104)	0.0203 (0.0210)
Log miles to DWC office (zip code)	-0.0628 (0.0424)	-0.0126 (0.00851)
Legal representation	2.105***	0.412***

	(1) Logit Coefficients	(2) Marginal Effects
	(0.107)	(0.0154)
TTD, low duration	-0.173	-0.0347
	(0.195)	(0.0390)
TTD, medium duration	0.0116	0.00235
	(0.195)	(0.0393)
TTD, high duration	0.00154	0.000310
	(0.139)	(0.0280)
Settled amount above median?	0.0820	0.0165
	(0.104)	(0.0210)
PPD amount above median?	0.131	0.0263
	(0.0916)	(0.0183)
Cumulative trauma injury	0.278***	0.0559***
	(0.108)	(0.0215)
Age 40–54	0.0564	0.0216
	(0.104)	(0.0179)
Age 55–70	-0.0808	-0.00841
	(0.141)	(0.0237)
Female	0.104	0.0413**
	(0.157)	(0.0196)
Female, age 40–54	0.172	
	(0.196)	
Female, age 55–70	0.132	
	(0.250)	
Wage below median	-0.119	-0.0238
	(0.0958)	(0.0192)
Local industry employment	-7.86e-06	-1.58e-06
	(5.66e-06)	(1.14e-06)
Inland Empire	0.157	0.0315
	(0.137)	(0.0275)
Bay Area	0.205	0.0412
	(0.137)	(0.0275)
Central Valley	0.0750	0.0150
	(0.152)	(0.0305)
San Diego	0.252	0.0507
	(0.194)	(0.0390)
Rest of state	0.0669	0.0134
	(0.134)	(0.0269)

	(1) Logit Coefficients	(2) Marginal Effects
Manufacturing	0.202 (0.208)	0.0406 (0.0419)
Transportation/warehousing	-0.0878 (0.229)	-0.0176 (0.0460)
Health care	-0.192 (0.250)	-0.0385 (0.0503)
Public administration	-0.669*** (0.169)	-0.135*** (0.0337)
Administrative/support services	0.000116 (0.208)	2.33e-05 (0.0418)
Agriculture	-0.0721 (0.196)	-0.0145 (0.0395)
Retail	-0.104 (0.178)	-0.0209 (0.0359)
Accommodations/food services	0.0367 (0.217)	0.00739 (0.0436)
Construction	-0.0202 (0.153)	-0.00406 (0.0308)
Education	0.486 (0.353)	0.0977 (0.0709)
Wholesale	0.465 (0.497)	0.0936 (0.0999)
Injury quarter = 2	0.0519 (0.113)	0.0104 (0.0227)
Injury quarter = 3	0.313*** (0.110)	0.0632*** (0.0221)
Injury quarter = 4	0.246** (0.116)	0.0496** (0.0235)
Settled, no MMI date	0.266 (0.287)	0.0535 (0.0574)
MMI date, no settlement	0.426 (0.302)	0.0848 (0.0589)
Settled and MMI date	0.670** (0.286)	0.132** (0.0541)
Any PPD	-0.212 (0.158)	-0.0426 (0.0318)
Constant	-2.387*** (0.383)	

	(1)	(2)
	Logit Coefficients	Marginal Effects
Observations	3,257	3,257
Mean of dependent variable	0.433	0.433

NOTES: Data are from claims administrator convenience sample, injury years 2013–2014, voucher recipients only. The model also controls for claims administrator fixed effects, but these are suppressed to maintain confidentiality. TTD indicators for low, medium, or high duration correspond to terciles of TTD duration distribution among claims with paid TTD.

Table B.12. Alternative SJDB Take-Up Rate Estimates by Quarter of Injury

Quarter of Injury	SJDB Exhaustion	Any SJDB Paid	SJDB Voucher
Q1 13	55.3%	49.1%	34.2%
Q2 13	54.7%	54.3%	33.3%
Q3 13	70.7%	61.2%	41.6%
Q4 13	71.2%	64.5%	43.9%
Q1 14	71.4%	63.3%	41.7%
Q2 14	75.9%	69.5%	46.6%
Q3 14	81.3%	73.7%	51.8%
Q4 14	83.9%	77.5%	51.6%
Q1 15	85.8%	81.7%	55.3%
Q2 15	76.4%	70.7%	48.7%
Q3 15	80.0%	72.0%	47.5%
Q4 15	71.9%	62.9%	40.2%
Average	72.9%	66.4%	44.3%

NOTES: WCIS, claims administrator convenience sample, and RTWSP program data, injury years 2013–2015

Table B.13. Number of Injured Workers with Any Paid SJDB by Injury Year, 2011–2014 Injuries

Injury Year	Percentage with Paid SJDB		Unweighted N with PPD	
	All Injuries	PPD Injuries	All Injuries	PPD Injuries
2011	0.43%	2.38%	1864	1791
2012	0.35%	2.06%	1573	1513
2013	0.81%	5.03%	3706	3579
2014	0.77%	5.02%	3595	3451

SOURCE: WCIS.

Table B.14. Average Paid SJDB Amount Among Those with Paid SJDB, by Wage Quartile

	All WCIS	All WCIS with Indemnity	All WCIS with PPD	Claims Administrator Convenience Sample	Claims Administrator Convenience Sample with PPD	SJDB Voucher Recipients
1	4,623	4,619	4,621	4,863	4,849	4,863
2	4,972	4,970	4,971	4,845	4,796	4,845
3	4,572	4,577	4,574	4,401	4,315	4,401
4	3,957	3,940	3,905	3,482	3,410	3,482
Average	4,611	4,607	4,593	4,531	4,467	4,531

SOURCE: WCIS and claims administrator convenience sample, 2013–2014 injuries.

NOTES: 46.5 percent of WCIS cases with paid SJDB have less than \$6,000 paid. 42.3 percent of claims administrator sample cases with paid SJDB have less than \$6,000 paid.

Table B.15. Characteristics of Permanently Disabled Workers With Versus Without Paid SJDB, 2013–2014 Injuries

		PPD Claims No Paid SJDB	Paid SJDB
<i>Sociodemographics</i>			
	Female	42%	42%
	Age	45.12	43.50
	Weekly wage	809.54	634.49
<i>Geography and Barriers to Access</i>			
	Low-English zip code	36%	43%
	Low-internet zip code	27%	31%
	Distance from DWC office	15.39	14.44
	Southern California	52%	50%
	Los Angeles	31%	30%
	Inland Empire	21%	21%
	Bay Area	15%	17%
	Central Valley	11%	10%
	San Diego	7%	7%
	Rest of California	14%	16%
<i>Industry</i>			
	Manufacturing	13%	16%
	Transportation	4%	5%
	Health care	8%	7%
	Public administration	14%	6%
	Administrative support	8%	11%
	Temp	2%	4%
	Agriculture	4%	6%
	Retail	11%	12%
	Accommodations/food services	7%	8%
	Construction	5%	10%
	Education	8%	2%
	Wholesale	4%	4%
	Other	14%	13%
Observations (unweighted)		114,024	6,280

NOTES: WCIS, injury years 2013–2014. WCIS proportions were weighted using sampling weights from a sample of claims administrators with timely and complete reporting to the SROI.

Table B.16. Percentage of Claimants with Any Paid SJDB, by Wage Quartile

Wage Quartile	All WCIS	All WCIS with Indemnity	All WCIS with PPD	Claims Administrator Convenience Sample	Claims Administrator Convenience Sample with PPD	SJDB Voucher Recipients
1	0.3%	2.0%	3.9%	1.7%	11.1%	50.3%
2	1.2%	3.4%	6.6%	2.5%	12.2%	48.9%
3	1.2%	3.1%	6.3%	1.7%	8.0%	47.2%
4	0.6%	1.6%	3.0%	1.2%	4.3%	39.1%
Average	0.8%	2.6%	5.0%	1.8%	8.4%	47.0%

NOTES: WCIS, claims administrator convenience sample, injury years 2013–2014. WCIS proportions were weighted using inverse probability weights from a sample of claims administrators with timely and complete reporting to the SROI; proportions from the convenience sample of claims administrators are unweighted.

Table B.17. Characteristics of Permanently Disabled Workers with Paid SJDB Before Versus After SB 863

	2011–2012 Injuries	2013–2014 Injuries
Age at injury	43.6	43.5
Female	42.6%	41.6%
Weekly wage	\$721.65	\$634.29
High-risk classifications	29.8%	34.4%
Unweighted <i>N</i>	3,325	6,868

NOTES: High-risk classifications are those with 2013 pure premium rates in the top quartile (weighted by injury volume). These classifications had pure premium > \$7.86 per \$100 payroll.

Table B.18. Class Codes with Highest Paid SJDB Rates, by Quartile of 2013 Pure Premium Rate

Class Code	Proportion of PPD Injuries with Paid SJDB
First Quartile (Pure Premium < \$2.00 per \$100 payroll)	
3681: Instrument Mfg - Electronic	9%
8839: Dentists and Dental Surgeons	8%
8868: Colleges or Schools - Private - Professionals	5%
8742: Salespersons - Outside	5%
8810: Clerical Office Employees	4%
Second Quartile (Pure Premium \$2.00 to \$4.77 per \$100 payroll)	
9586: Barber Shops or Beauty Parlors	13%
0079: Strawberry Crops	10%
0040: Vineyards	10%
9059: Day Care Centers - Child	6%
8008: Stores - Clothing and Dry Goods - Retail	5%
Third Quartile (Pure Premium \$4.77 to \$7.66 per \$100 payroll)	
5348: Tile, Stone, Mosaic or Terrazzo Work	12%
5190: Electrical Wiring - Low Wage	12%
0045: Orchards - Nut Crops	10%
8015: Stores - Furniture	9%
8387: Auto or Auto Truck Service Stations	9%
0172: Truck Farms	8%
5432: Carpentry - NOC - High Wage	8%
Fourth Quartile (Pure Premium > \$7.86 per \$100 payroll)	
5553: Roofing - High Wage	16%
5552: Roofing - Low Wage	16%
5403: Carpentry - NOC - Low Wage	14%
5538: Sheet Metal Work - Erection - Low Wage	14%
5474: Painting or Decorating - Low Wage	13%
5446: Wallboard Application - Low Wage	11%
0106: Tree Pruning, Repairing or Trimming	10%
7606: Cable Television Companies	10%
5201: Concrete Work - Sidewalks - Low Wage	10%
7360: Freight Handlers	10%
9008: Janitorial Services - by Contractor	9%
5146: Cabinet or Fixtures - Installation	9%
0016: Orchards - Citrus and Deciduous Fruits	9%
9070: Residential Care Facility - Elderly	9%
5183: Plumbing - Low Wage	8%
0042: Landscape Gardening	8%

NOTES: 2013–2014 WCIS. Sample limited to PPD injuries with valid class codes reported. Table omits class codes with a small number of injured workers with paid SJDB. Class codes with 8 percent or more PPD workers receiving paid SJDB are included. For the first and second quartiles, where rates of SJDB utilization are lower, we report the top five class codes with the highest paid SJDB rates and sufficiently large sample sizes to protect confidentiality.

California's Return-to-Work Supplement Program (RTWSP) is a new benefit for permanently disabled workers who suffer disproportionately high earnings loss in comparison with their workers' compensation benefits. The RTWSP provides a one-time \$5,000 payment to workers who cannot return to work following a permanently disabling workplace injury. RAND researchers conducted an evaluation of the program's performance and identified options for improving the RTWSP. The study included an environmental scan, stakeholder interviews, and analysis of program data. RAND also held a technical advisory group meeting with key stakeholders.

The RTWSP is performing well on several dimensions. The eligibility criteria have accurately targeted workers with more-severe disabilities, and program administration is efficient, with little evidence of fraud or abuse. However, take-up of the program is low: In a sample of eligible workers, just over half applied to receive the benefit. The most important factor predicting access to the program was legal representation, suggesting that many workers are failing to navigate the process on their own, despite the intent of the program's designers. The authors also found that the eligible population is larger than initially anticipated, a trend driven in part by rising utilization of California's vocational rehabilitation benefit (the Supplemental Job Displacement Benefit [SJDB]).

Based on these findings, the authors recommend that modifications to the RTWSP focus on increasing program take-up among currently eligible workers. Options to increase take-up include making issuance of the Return-to-Work Supplement automatic or improving outreach and notification efforts. The Department of Industrial Relations should also improve monitoring of SJDB voucher issuance to track emerging changes in the RTWSP-eligible population and to facilitate oversight of the SJDB.



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