

WORKING P A P E R

Medical Care Provided California's Injured Workers

An Overview of the Issues

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PREFACE

This paper conveys findings from a formative evaluation to identify the major problems affecting the quality and efficiency of medical care provided to California's injured workers. It also discusses a conceptual framework for a monitoring system that could be used to assess system performance on an ongoing basis. The research for this paper was conducted in 2004, as major reform provisions were being implemented. The paper is intended to provide baseline data and information on the anticipated impacts of the new legislation and should be of general interest to stakeholders in California's workers' compensation (WC) system.

The RAND Institute for Civil Justice (ICJ) and RAND Health, divisions of the RAND Corporation, conducted the study, which was part of a broader study of the cost and quality issues affecting medical care provided under the California WC system. The study was performed for the California Commission on Health and Safety and Workers' Compensation (CHSWC) and the California Division of Workers' Compensation (DWC), both within the California Department of Industrial Relations. Separate documents report findings from other study tasks.

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SUMMARY

BACKGROUND

California's workers' compensation (WC) system has been the center of intense debate and legislative activity over the past several years. The California Commission on Health and Safety and Workers' Compensation (CHSWC) and the California Division of Workers' Compensation (DWC) asked RAND to examine the cost and quality issues affecting medical care provided to California's injured workers and to assess strategies to improve the quality and efficiency of that care. The study involved several interrelated tasks, the first of which was to identify the most important utilization and cost drivers and quality-related issues. This paper discusses our findings from this task, which are based on a review of the literature and interviews with stakeholders regarding their perceptions of the program and the likely impact of recent legislative changes on the access, cost, and quality of medical care. The paper also contains the product of a second task, which was to develop a conceptual framework for an ongoing monitoring system. Other publications deal with other aspects of the study.

RECENT LEGISLATIVE CHANGES AFFECTING MEDICAL TREATMENT

Rising costs stimulated a series of reform efforts between 2002 and 2004 to control medical treatment costs for injured workers and improve program efficiency. The most important changes affecting medical treatment for California's injured workers were to repeal the primary treating physician (PTP) presumption on medical issues; adopt medical treatment guidelines as presumptively correct medical treatment; limit the number of chiropractic, physical therapy, and occupational therapy visits per claim; require that injured workers of employers with medical provider networks use network providers throughout the course of their treatment; require employers to authorize up to \$10,000 in medical treatment before the compensability determination is made; and expand the Official Medical Fee Schedule (OMFS) to include facility fees for ambulatory surgery, ambulance services, and other Medicare-covered services (all limited to 120 percent of Medicare fees). Physician

services remain under the former fee schedule until a new fee schedule is implemented but were reduced 5 percent (with Medicare as a floor).

Cost and Utilization Drivers

In 2003, medical expenses accounted for 51 percent of total WC program expenditures. Three broad categories of costs accounted for 90 percent of expenditures for medical care in 2003: professional services, hospital services, and pharmaceuticals.¹ Over the study period (1997 to 2003), payments to physicians and practitioners increased 157 percent, most of which was attributable to utilization because, with the exception of a 1999 increase in allowable fees for evaluation and management (E/M) services, the fee schedule for these services was frozen. Comparative analyses by the Workers' Compensation Research Institute (WCRI) of claim data for accidents occurring in 1999 for 12 states generally found that California had higher utilization rates but lower prices than average (Eccleston, Zhao, and Watson, 2003).

Payments for hospital and ambulatory surgery center (ASC) facility services comprise the second-largest component of medical expenditures after professional fees. Between 1997 and 2003, hospital and ASC facility payments grew 168 percent. Several studies have concluded that the inpatient facility fees are higher than needed to provide injured workers with access to inpatient hospital care and may create incentives for unnecessary utilization (Kominski and Gardner, 2001; Wynn, 2004). Payments for ambulatory surgery conducted prior to 2004 were not subject to a fee schedule and were substantially higher than the amounts paid by group health insurance and the amounts that would be payable under Medicare (Kominski and Gardner, 2001). However, the WCRI 12-state comparison suggests that California's high total costs for facility services were due more to a high utilization of services per claim than to high payments per service (Eccleston, Zhao, and Watson, 2003).

Although payments for pharmaceuticals were only 9 percent of total medical costs in 2003, they grew 356 percent over the 1997-2003 study period. Increases in utilization (particularly for pain medications) and

¹ The other categories are medical-legal evaluations, payments made directly to patients, capitated medical payments, and cost-containment expenses.

price, coupled with the frequent use of brand-name drugs over generic equivalents, were all factors in the rising costs.

Access, Quality, and Outcome Issues

When looking specifically at WC, value-based care should translate into good access to appropriate, high-quality care, high patient satisfaction, good long-term health outcomes, and return to sustained employment for as many injured workers as possible. Studies predating the legislative changes documented shortcomings in each of these areas. We made a preliminary assessment of the likely implications of the new legislation on access, quality, and outcomes through a review of the literature and interviews with various stakeholders and observers of the California WC medical treatment system.

Findings from the Key Informant Interviews

We conducted a series of interviews with stakeholders involved in the medical care provided to injured workers to obtain information on the likely impact of the legislative changes on access, cost, and quality. We conducted the interviews from June 2004 to October 2004, so the findings reflect early experiences with the reform legislation, and some comments may be less relevant as workers and their representatives, providers, employers, and payors alike have gained familiarity with the provisions. Respondents expressed general support for the use of evidenced-based guidelines to improve quality of care but also concerns that the guidelines were being applied too stringently without sufficient room for clinical judgment, that they needed to be translated into utilization criteria that include the frequency and duration of care, and that they do not adequately address chronic conditions, particularly pain management.

The experts we interviewed had mixed views on the likely impact of the medical networks. They expressed concerns regarding whether workers would have adequate access to care, how selective the employers would be in establishing the networks, and whether fee discounting would be used.

In addition, our interviewees emphasized that the recent reforms had not solved two salient problems in the California WC system:

- The first is the sheer complexity of the system—the rules differ depending on whether the employer has a medical network and whether the employee has predesignated a physician.
- The second is the high level of distrust and contention within the system. The challenge is to find ways to reduce the opportunities for dispute while safeguarding the rights of both employers and workers.

Discussion of Potential Impact of Legislative Changes

The way in which the medical network and medical treatment guidelines are implemented will affect whether workers have better access to appropriate care. Evidence from previous studies has shown that the use of medical provider networks for WC care can reduce costs within the program. However, study findings also suggest that the cost savings attained through the use of networks may come at the price of reduced worker satisfaction with medical care and with the WC program overall (Victor, 2003). But this is not always the case. For example, Pennsylvania injured workers with access to panel physicians report better access and higher satisfaction than do other injured workers (Pennsylvania Department of Labor and Industry, 2005). While patient choice may be more limited—depending on how selective the network is—it may become easier for an injured worker to find a physician willing to provide care, and there may be improvements in coordination and continuity of care. Potentially, networks can concentrate physician workloads for injured workers and increase treating-physician expertise in occupational health issues and practice guidelines.

Medical treatment guidelines are an important tool for implementing evidence-based medicine and, if appropriately refined and implemented, should increase value-based care. The requirement that payors employ utilization review (UR) criteria that are consistent with medical treatment guidelines should reduce the variability in the criteria for assessing whether care is appropriate (Gray and Field, 1989; Wickizer and Lessler, 2002) and may reduce the level of contention in the system as providers and payors become more familiar with the guidelines.

There are two other important considerations in assessing whether injured workers have access to appropriate care. First, the provision requiring up to \$10,000 in payments for medical care before the compensability determination is made should provide injured workers with timelier access to care and improve outcomes. Second, taken together, the changes may negatively affect provider willingness to treat injured workers. The medical-necessity and dispute-resolution provisions have added administrative complexity and burden, and there have been reductions in maximum allowable fees for many professional services and a continued freeze on fees for the remaining services.

EVALUATING THE IMPACT OF THE RECENT REFORMS

Initial Findings

There is evidence from the California Workers' Compensation Insurance Rating Bureau (WCIRB) that the reform measures are having a significant impact on costs. Reflecting the estimated impact of fully implemented legislation, the estimated ultimate medical costs for indemnity claims have decreased from a high of \$25,857 on average per claim for accident year 2002 to \$20,477 for accident year 2004 (WCIRB, 2005b). There is also preliminary evidence from the California Workers' Compensation Institute (CWCI) analyses that there have been significant reductions in utilization (Swedlow, 2005a; Swedlow, 2005b). While there is considerable evidence that the legislation has had the intended effect of decreasing medical costs, there has not been a comprehensive analysis of how the provisions, both individually and jointly, have affected access, quality of care, and outcomes.

A separate project task was to provide technical assistance on various fee-schedule issues. Our work on this task found that the implementation of the fee schedule was relatively smooth but that one area warrants further attention: the pass-through payment for hardware and instrumentation used during complex spinal surgery (Wynn and Bergamo, 2005b). The administrative director (AD) has authority to take further action on setting the maximum allowable fee. In addition, the AD still needs to implement a fee schedule for rehabilitation hospitals and other specialty hospitals and to establish a new fee schedule for

physician services. Further, there is a need to determine whether the new fee-schedule provisions, along with the other changes that have occurred, have affected provider participation rates, access to services, and the site where services are delivered.

BUILDING AN INFRASTRUCTURE FOR FUTURE EVALUATIONS

Improving the Knowledge Base

A general challenge to evaluating WC reforms is the relative scarcity of evidence and information on effective and efficient care practices.

There may be merit in establishing a national clearinghouse to make what is known about medical treatment for common injured-worker conditions readily available and to provide measures for monitoring access, cost, and quality. While there is a growing body of literature on these topics, there is no single place that interested parties can go for high-quality, evidence-based information. A national clearinghouse would help drive rational and evidence-based decisions for all WC programs.

Improving Access to Data

Having a limited amount of available data presents a major obstacle to evaluation of the reforms. There is no single database that combines medical claim data from payors and self-insured employers. Further, there is no unified source of data on all aspects of WC care; instead, the information has to be pieced together from different entities, often with different conditions for data use and with differences in sampling and time periods. Progress is being made in this regard in that DWC has implemented reporting requirements for the submission of medical claim data for injured workers, but much work needs to be done. Providers and employers need to be held accountable for furnishing timely and accurate data. There also need to be links between the medical claim data and other administrative data, such as appeal history and indemnity payments, so that total system performance can be evaluated. Finally, public use files are needed that can be used for program evaluation and research purposes.

Developing Performance Measures

It is a major task to go from collecting data to providing useful information. Standard and accepted measures are needed to gauge system performance and to benchmark both within California and with other WC systems. Substantial development efforts will be necessary to meet this requirement. Quality measurement for the most common conditions in WC care is an underdeveloped field in spite of its great policy importance. Indicators should be developed that make optimal use of administrative data that are collected on an ongoing basis and require as little dedicated data collection as possible.

PRIORITIES FOR FUTURE REFORMS

Our interviewees highlighted two policy issues for future consideration: the complexity of the rules and the contentious nature of the system. In addition, we identified two major priorities for future reform efforts: the implementation of a performance-monitoring system and the introduction of financial incentives to reward performance.

Implementation of a Performance-Monitoring System

Improving the knowledge base, access to data, and measurement science in WC care will not only facilitate future evaluation but will also form the basis for a performance-monitoring system, which would provide actionable information to various stakeholders on a routine basis. This system could be used by policymakers to monitor trends and track the impact of reforms, by purchasers to inform selection decisions regarding individual providers and networks and contract negotiations, and by health care organizations and providers for quality improvement activities. Availability of objective data would also help to reduce the system's contentiousness that is commonly fed by irrational fears and unfounded assumptions.

Experimentation with Performance-Based Payment

Performance monitoring will have its greatest impact if the results are tied to financial incentives for reporting reliable data and for providing appropriate care. Because the current WC system is primarily on a fee-for-service basis, physicians have had no financial incentive to provide efficient care and little accountability for the quality of

care and outcomes. Now that employers can establish medical networks and control which providers care for an injured worker, there may be greater opportunity to measure performance and use financial incentives to reward providers who deliver high-quality care. A better understanding is needed of the strategies aimed at providers or medical networks that an individual employer, payors, or DWC could *plausibly* adopt to stimulate quality improvement (Dudley et al., 2004).

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ACRONYMS

AB	assembly bill
ACOEM	American College of Occupational and Environmental Medicine
AD	administrative director
AME	agreed medical evaluator
APC	ambulatory payment classification
ASC	ambulatory surgery center
AWP	average wholesale price
BETOS	Berenson-Eggers Type of Service
CHSWC	California Commission on Health and Safety and Workers' Compensation
CMS	Centers for Medicare and Medicaid Services
CPT	<i>Current Procedural Terminology</i>
CPT-4	<i>Current Procedural Terminology</i> , 4th edition
CWCI	California Workers' Compensation Institute
DO	doctor of osteopathy
DRG	diagnosis-related group
DWC	California Division of Workers' Compensation
E/M	evaluation and management
FAC	federal allowable cost
HCO	health-care organization
HEDIS	Healthcare Effectiveness Data and Information Set
HOPD	hospital outpatient department
ICJ	RAND Institute for Civil Justice
IMR	independent medical review
IOM	Institute of Medicine
MAIC	maximum allowable ingredient cost
MD	doctor of medicine
OMFS	Official Medical Fee Schedule
OPA	California Office of the Patient Advocate
P4P	pay for performance
PTP	primary treating physician
QME	qualified medical evaluator

SB senate bill
UR utilization review
WC workers' compensation
WCAB Workers' Compensation Appeals Board
WCIRB California Workers' Compensation Insurance Rating Bureau
WCRI Workers' Compensation Research Institute

CHAPTER ONE. INTRODUCTION

BACKGROUND

California's workers' compensation (WC) system provides medical-care and wage-replacement benefits to workers suffering on-the-job injuries and illnesses. An injured worker is entitled to receive all medical care reasonably required to cure or relieve the effects of his or her injury. It is a no-fault system, in which benefits are paid without the need to determine whether employer or employee negligence caused the injury. This structure is intended to ensure that workers receive prompt medical attention and needed income protection while shielding employers from liability for civil damages and costly litigation over responsibility for workplace accidents. Today, WC insurance covers nearly 15 million workers in California, and more than 800,000 claims are filed each year for WC benefits related to workplace injuries and illnesses. Two-thirds of claims are medical-only claims requiring only medical treatment. In the remaining one-third, the worker is unable to work for one or more days.

California's WC system has been the center of intense debate and legislative activity over the past several years. Rising costs stimulated a series of reform efforts to control both cash payments and medical treatment costs for injured workers and improve program efficiency. California employer premiums as of January 1, 2004 were the highest in the nation (Reinke and Manley, 2004). Payments for medical care had been the fastest-rising component of benefits. The cost to California employers for providing medical care, expressed as cost per \$100 of wages, increased 50.0 percent from 1999 to 2003 compared to an increase of 20.7 percent for the cost of providing cash payments (Sengupta, Reno, and Burton, 2005). Nationally, average employer costs per \$100 wages for medical care increased 17.4 percent over the same period, while there was a slight decline in the average costs for cash benefits (Figure 1.1).

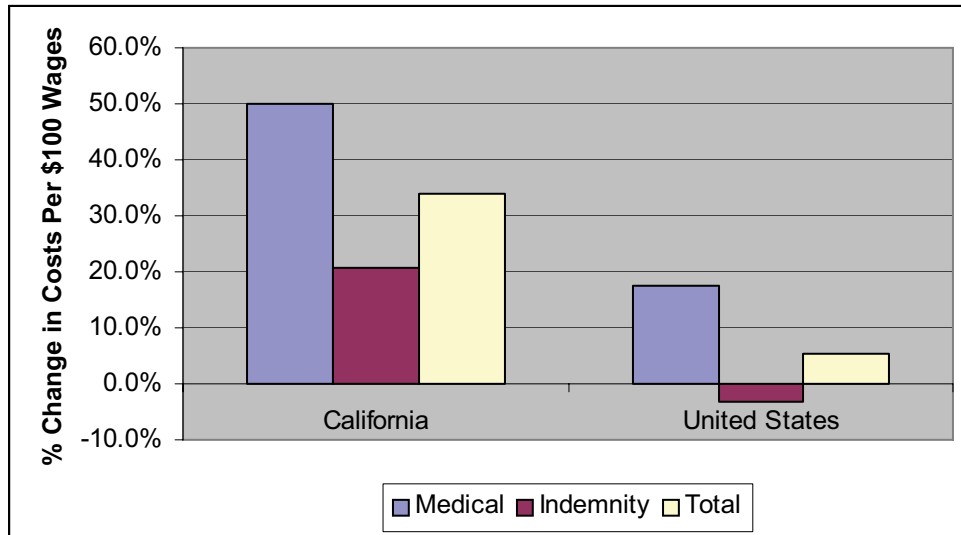


Figure 1.1. Comparison of Percentage Increase in Workers' Compensation Medical and Cash Benefits Per \$100 of Wages, 1999–2003

Source: Sengupta, Reno, and Burton (2005).

SCOPE AND PURPOSE OF THE MEDICAL TREATMENT STUDY

Responding to several legislative mandates, the California Department of Industrial Relations (Commission on Health and Safety and Workers' Compensation [CHSWC] and the Division of Workers' Compensation [DWC]) asked RAND to examine the cost and quality issues affecting medical care provided to California's injured workers and to assess strategies to improve the quality and efficiency of that care. The study involved several interrelated tasks, the first of which was to identify the most important utilization and cost drivers and quality-related issues. This paper discusses our findings from this task, which are based on a review of the literature and interviews with stakeholders regarding their perceptions of the program and the impact of recent legislative changes on the access, cost, and quality of medical care. The paper also contains the product of a second task, which was to develop a conceptual framework for an ongoing monitoring system. Other publications deal with other aspects of the study (see Nuckols et al., 2005; Wynn, 2005; and Wynn and Bergamo, 2005a, 2005b).

This study evolved from several provisions in recent legislation affecting medical treatment for California's injured workers:

- California Assembly Bill (AB) 749 required that DWC, in consultation with others, study various topics related to the cost and quality of medical treatment, including the factors contributing to the rising costs.
- California Senate Bill (SB) 228 contained several provisions related to utilization schedules, including requirements that
 - CHSWC survey for nationally recognized, evidence-based utilization guidelines and make recommendations to DWC.
 - The administrative director (AD) of DWC adopt a utilization schedule that sets presumptive standards for the duration and scope of medically appropriate care.

Other provisions in SB 228

- provided for the phased implementation of Medicare-based fee schedules for things other than physician services.
- established requirements for a new fee schedule for physician services effective January 1, 2006.
- required the AD to monitor access, cost, and quality of medical care provided to injured workers.

The medical treatment study was initiated prior to the enactment of SB 899, which made additional changes that affected aspects of the WC medical treatment system. Most significantly, injured workers whose employers have a medical provider network are required to use network providers throughout the course of their treatment. We adjusted our study priorities to take into account the SB 899 provisions.

This paper conveys our findings from a formative evaluation to identify the major problems affecting the quality and efficiency of medical care provided to California's injured workers. The research for this paper was conducted in 2004, prior to implementation of the medical network provisions. The focus is on medical care provided once an injured worker's claim is established and does not include medical-legal processes to evaluate claims and apportion benefits. A separate report evaluating utilization review (UR) guidelines that might be considered for California's WC program was issued November 15, 2004. Other study activities included technical assistance on fee-schedule issues and separate working papers on specific fee-schedule topics.

TASK METHODS AND ACTIVITIES

This paper discusses our findings with respect to five basic questions:

- What have been the recent cost and utilization drivers of medical treatment costs for injured workers?
- How well has California's WC program performed in providing injured workers with access to high-quality medical care in an efficient manner?
- What are the likely impacts of recent legislation on access, cost, and quality of care?
- What issues either have not yet been addressed by the recent legislation or are likely to arise as the new provisions are implemented?
- What aspects of the WC medical treatment system should be monitored on an ongoing basis?

Given resource and time constraints, we used existing studies, secondary data, and interviews with key stakeholders and experts knowledgeable of California's WC issues to answer these questions rather than undertaking new primary data analyses. We drew predominantly on secondary data to identify the major cost and utilization drivers for WC expenditures and to assess system performance. Data sources included

- annual cost and utilization data collected by the Workers' Compensation Insurance Rating Bureau (WCIRB) to determine trend comparisons by categories of cost.
- the Workers Compensation Research Institute (WCRI) annual cost and utilization reports and other studies to benchmark California's medical care against other states using cost, utilization and quality indicators.
- high-volume procedure summaries furnished annually by the California Workers' Compensation Institute (CWCI).
- earlier studies commissioned by CHSWC (Kominski and Gardner, 2001; Wynn, 2004) to identify high-cost and high-volume procedures.

We also used studies dating from 2005 and earlier that examined medical-care treatment issues for California's injured workers. For example, in the period preceding the reform provisions, DWC conducted a

preliminary assessment of UR, surveyed (with assistance from the University of California at Berkeley's Survey Research Center) 800 workers to assess patient satisfaction with care as well as patients' perceptions of pain and functional outcomes, and conducted a series of focus groups with key WC stakeholders (i.e., injured workers, employers, physicians, nurse case managers, claim adjusters, attorneys, DWC judges, and information and assistance officers). CHSWC funded research on a number of specific issues as well, and the California State Auditor (2003) issued a report looking broadly at cost, utilization, and quality issues in WC medical care.

In light of the legislative changes, we undertook additional activities to assess their likely impact on WC medical care in California. We began by gathering and reviewing literature discussing the implications of particular features of WC programs, such as the use of provider networks, policies regarding physician choice, and processes for defining *medically appropriate care* and for resolving medical treatment disputes. We supplemented our literature review by interviewing several nationally recognized experts on WC medical treatment policies. Drawing on these activities and a preliminary analysis of the legislative changes, we then conducted 20 interviews with knowledgeable individuals from major stakeholder groups in California's WC system. These included labor representatives, applicants' attorneys, providers, employers, payors, state regulators, appeal board judges, and managed-care companies. We used a semistructured interview protocol that asked interviewees about their perceptions of the strengths and weaknesses of policies pertaining to medical care provided to California's injured workers, the incentives within the current system for efficient delivery of high-quality appropriate medical care, and how these incentives are likely to change under the new statutory provisions. We asked the interviewees to identify the policy issues that either have not yet been addressed or are most likely to arise as the new provisions are implemented (see Appendix A).

After we completed our research, more recent studies have become available that examine the early impacts of the reform provisions.² Rather than updating this paper to take the findings from those studies into account, we are developing a separate report that will synthesize findings from these studies with results from our own analyses of available post-reform data and a second round of interviews with individuals from the various stakeholder groups.

ORGANIZATION OF THIS PAPER

The remainder of this paper is organized into five chapters. In Chapter Two, we present an overview of California's WC program with particular emphasis on the policies governing medical treatment. In discussing the key features of the program, we highlight the recent legislative changes and conclude with a comparison of WC health coverage and employer group health insurance. Chapter Three follows with an analysis of the cost and utilization drivers for California's WC medical treatment. That chapter examines both trend and benchmarking data on WC medical service utilization and costs. In Chapter Four, we synthesize existing reports and literature regarding access, quality of care, and stakeholder satisfaction and summarize the themes that emerged from our expert and stakeholder interviews in 2004 regarding the performance of California's WC program and the likely impact of the recent legislation. In Chapter Five, we present a conceptual framework for an ongoing monitoring system to assess access, cost, and quality of care provided to injured workers. We conclude in Chapter Six with a summary of the status of the reform initiatives affecting medical care provided to California's injured workers, share observations that we made during our study, and identify priority areas and issues in which research and evaluation would help drive value-based medical care for injured workers. By *value-based care*, we mean the efficient delivery of high-

² For example, see Swedlow, 2005a; Swedlow, 2005b; and, Kominski et al., 2007.

quality care that improves the health and functional status of injured workers and enables them to return to work.

CHAPTER TWO. KEY FEATURES OF THE CALIFORNIA WORKERS' COMPENSATION SYSTEM

In this chapter, we provide an overview of the key features of the California WC system. As indicated throughout the chapter, a series of statutory changes has modified a number of the features. While these changes are discussed in context, we have summarized the major provisions affecting medical treatment in Table 2.1.

Table 2.1. Summary of Recent Changes Affecting Medical Treatment Provided to Injured Workers

Policy Area	Policies as of January 1, 2002	Subsequent Legislative Changes: AB 749, SB 228, and SB 899
Primary treating physician (PTP)	The employer selects the PTP for first 30 days (or 90-180 days in a health-care organization); thereafter, the employee may select the PTP. An employee may be treated by a predesignated primary care doctor of medicine (MD) or doctor of osteopathy (DO) from the date of injury or may transfer care to a predesignated chiropractor or acupuncturist at any time after the first visit with the employer-selected physician.	SB 899: The employee is eligible to predesignate a primary care MD or DO only if the employer provides nonoccupational health coverage. A maximum of 7% of the state workforce may predesignate. Unless the employee has predesignated a personal physician, effective 1/1/2005, an employer with a medical network selects the treating physician for first visit; thereafter, the employee may select a different physician within the network. Other than the change in eligibility for predesignation, there is no change in provider-choice policies if the employer does not have a medical network.

Policy Area	Policies as of January 1, 2002	Subsequent Legislative Changes: AB 749, SB 228, and SB 899
Presumption for medical-necessity determinations	The findings of the PTP are presumed to be correct unless rebutted in cases in which an additional comprehensive medical evaluation is obtained.	<p>AB 749: For injuries occurring on or after 1/1/03, the PTP presumption is eliminated unless the worker predesignated his or her personal physician or chiropractor prior to being injured.</p> <p>SB 228: For injuries occurring on or after 1/1/04, the PTP presumption is eliminated. The American College of Occupational and Environmental Medicine (ACOEM) practice guidelines are presumptively correct on scope and duration of treatment until the AD issues a utilization schedule. The guidelines are rebuttable by a preponderance of evidence establishing that a variance from the guidelines is reasonably required to cure or relieve the effects of the injury. For injuries not covered by the designated guidelines, treatment shall be in accordance with other evidence-based medical treatment guidelines generally recognized by the community.</p> <p>SB 899: This completely repeals the PTP presumption regardless of date of injury. It provides that treatment according to the designated guidelines constitutes the treatment that is reasonably required and requires that rebuttal evidence be scientific.</p>

Policy Area	Policies as of January 1, 2002	Subsequent Legislative Changes: AB 749, SB 228, and SB 899
Limits on services	No specific limitations. All care reasonably required to "cure and relieve" is to be provided.	<p>SB 228: This limits chiropractic and physical-therapy services to 24 visits each per industrial injury unless claim examiner authorizes additional visits in writing. The limits apply regardless of the guidelines or utilization schedule.</p> <p>SB 899: This adds a 24-visit limitation on occupational therapy and changes coverage to care reasonably required to "cure or relieve."</p>
UR		<p>SB 228: This repeals existing regulations and UR guidelines effective 1/1/04. Requires each employer to establish an internal UR process and established new UR standards and administrative penalties for failure to meet the UR requirements.</p>

Policy Area	Policies as of January 1, 2002	Subsequent Legislative Changes: AB 749, SB 228, and SB 899
Medical dispute process	A medical-legal evaluation is to be conducted. If an attorney does not represent the worker, a state-certified, qualified medical evaluator (QME) performs the evaluation. If an attorney does represent the worker, the attorney and the employer or insurer's claims administrator may each select a QME or may agree to use an agreed medical evaluator (AME)—that is, a physician evaluator who need not be a QME.	<p>SB 228: This established a second-opinion program for spinal surgery that replaced the normal appeal process. It requires a \$100 fee for each initial lien a provider files. If any contested amount is deemed payable, the defendant reimburses the provider's filing fee.</p> <p>SB 899: This provides that, if an attorney represents the worker and the attorney and employer or insurer's claim representative do not agree on an AME, a QME from a state-assigned list of three physicians performs the evaluation after each side strikes one from the list. It also establishes a new appeal process for medical network-provided care. Finally, it allows an employee to obtain second and third opinions from network physicians, followed by independent medical review (IMR), before moving into the normal dispute-resolution process.</p>

Policy Area	Policies as of January 1, 2002	Subsequent Legislative Changes: AB 749, SB 228, and SB 899
Provider payment policies	The Official Medical Fee Schedule (OMFS) establishes maximum allowable fees for physician services, drugs, pharmacy services, physical therapy, and facility fees for hospital inpatients. Fees for professional services are based on a historical charge-based relative value scale. Medical services not covered by the fee schedule are reimbursed as "reasonable" or "usual and customary" rates.	<p>AB 749: This requires the AD to establish a fee schedule for ambulatory surgery facility services after extensive data analysis and public consultation process.</p> <p>SB 228: Effective 1/1/04, this expanded the fee schedule to include facility fees for ambulatory surgery, ambulance services, and other Medicare-covered services, all limited to 120 percent of Medicare fees. Physician services remain under the former fee schedule but are reduced 5% (with Medicare as a floor) for calendar years 2004 and 2005. Skilled nursing facility services, home health services, and specialty hospital inpatient services were not subject to the Medicare-based fee schedule until 2005.</p>

Policy Area	Policies as of January 1, 2002	Subsequent Legislative Changes: AB 749, SB 228, and SB 899
Outpatient drugs	No requirement for dispensing generic drugs. Payment is based on the average wholesale price (AWP): Brand name: 110% AWP + \$4 Generic: 140% AWP + \$7.50	AB 749: This requires a pharmacy to dispense the generic equivalent unless a physician specifically provides for the nongeneric drug or the generic is not available. It required the AD to establish a fee schedule for drugs by July 1, 2003, with a single dispensing fee. SB 228: This extended the generic-drug requirement to any person or entity that dispenses drugs. It set the maximum allowable fee for pharmaceuticals at 100% of MediCal rate for drugs covered by MediCal.
Physician self-referral	A physician may not refer a person for specified medical goods or services if the physician or immediate family has a financial interest with the person or in the entity that receives the referral.	SB 228: This prohibits physicians from making referrals for outpatient surgery to clinics in which they have a financial interest unless they have (a) disclosed financial interest and (b) obtained preauthorization from the claim administrator.
Prompt payment	The employer is required to pay the provider within 60 calendar days of receiving a billing statement and other documentation. Any properly documented amount not paid timely is increased by 10% plus interest unless the employer takes prescribed actions.	SB 228: This extends the timeframe for payment to 45 working days and increases the late penalty fee to 15% plus interest.

Policy Area	Policies as of January 1, 2002	Subsequent Legislative Changes: AB 749, SB 228, and SB 899
Electronic billing	The AD is required to issue regulations requiring electronic billing.	SB 228: This required that rules for electronic billing be adopted by January 1, 2005, and that all employers accept electronic claims by July 2006 and pay within 15 working days after electronic receipt of an itemized electronic billing for services at or below the maximum fees provided in OMFS.
Payment before compensability determined	An employer is not required to pay for medical treatment unless the claim is determined compensable. The claim is presumed compensable if the employer has not challenged the claim after 90 days.	SB 899: This requires employers to provide up to \$10,000 in medical treatment after a WC claim is filed and until the claim is accepted or rejected.

WORKERS' COMPENSATION COVERAGE

California's WC law requires virtually every employer in the state to secure WC coverage for its employees. Employers can satisfy these requirements by purchasing WC insurance from commercial WC insurance companies or from the California State Compensation Insurance Fund, a public, nonprofit carrier. Alternatively, some larger employers set up a self-insured plan to cover their workforce rather than purchasing conventional WC coverage from an insurance company. About one-third of employees are covered through self-insured employer plans.

To be eligible for WC coverage, there must be a medical determination that job activities or conditions caused or aggravated the worker's ailment. Figure 2.1 shows the 10 most common occupational injuries and illnesses in California by occupation in 2002. Operators, fabricators, and laborers experience the greatest share of eight out of the 10 types of injuries. This occupational group has a declining share of total injuries. Two groups with growing shares of total injuries, service and support employees, experience more than half of all the carpal-tunnel syndrome and nearly 40 percent of the sprains, strains, and tear injuries. The latter account for about 40 percent of all injuries. The back is the most common site of injury, accounting for about 24 percent of injuries.

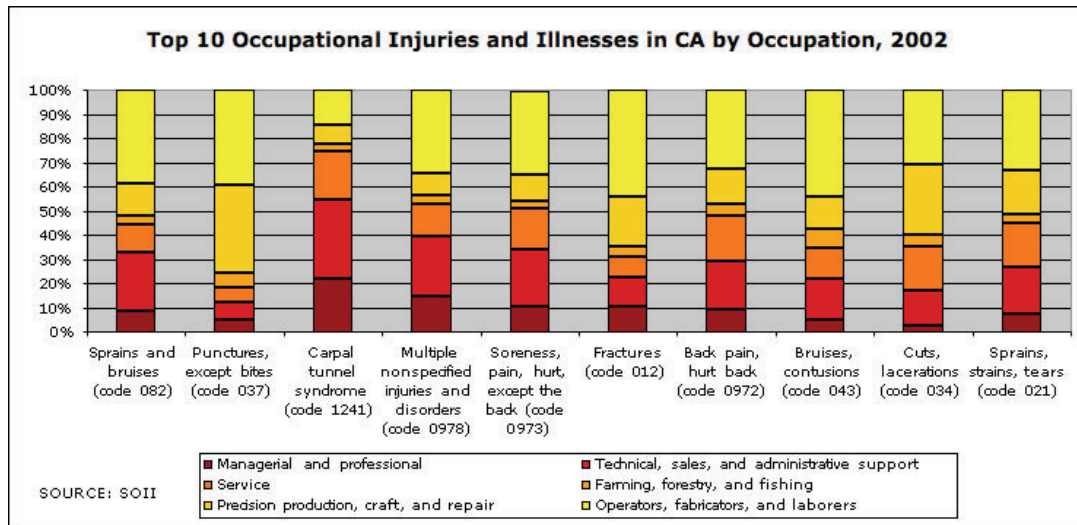


Figure 2.1. Top 10 Occupational Injuries and Illnesses in California, by Occupation. Source: U.S. Bureau of Labor Statistics Survey of Occupational Illnesses and Injuries for 2002

WC pays for all medical care reasonably required to cure or relieve the effects of a worker's injury or illness, with no deductibles, copayments, or cost-sharing required by the injured worker. WC provides diagnostic and therapeutic care for work-related injuries³ and also pays for medical equipment, transportation to providers' locations, prescription medications, and medical services aimed at restoring the injured worker's capability to perform a job (e.g., physical therapy). WC also provides for payment for medical providers to evaluate the extent of the injured worker's physical impairments and work restrictions and to assess the worker's readiness for return to work.

Many other common types of occupational-health services are not covered under WC, including preplacement examinations; routine medical surveillance; preventive services (e.g., vaccinations for health-care workers); drug testing; and on-site first aid. Typically, employers that provide these services purchase them from commercial vendors or provide them through in-house medical staff.

In addition to medical benefits, five other types of WC benefits are available to injured workers:

- temporary disability benefits

³ In this paper, we use the term *injury* to refer to both injuries and illnesses or conditions that arise from work-related activities.

- permanent disability benefits
- vocational rehabilitation services (for injuries suffered prior to January 1, 2004)
- supplemental job-displacement benefits (for injuries suffered on or after January 1, 2004)
- death benefits.

The amount of these benefits is based on the nature and severity of the worker's condition. Temporary disability benefits and permanent disability benefits are also determined in part by the worker's preinjury earnings and postinjury employment. The extent of the injured worker's disability is typically determined from a medical provider's assessment of the worker's impairments and job limitations in accordance with published disability-evaluation guidelines.

OBTAINING WORKERS' COMPENSATION BENEFITS

To obtain WC benefits, an injured worker must report a job-related illness or injury to the employer. Under the California labor code prior to SB 899, if a claim was not denied within 90 days, it was presumed compensable. A worker who had a claim denied was allowed to challenge that decision through an administrative adjudication process, but necessary medical treatment may have been postponed until the dispute was resolved. Under SB 899, the employer must pay for all required medical treatment once a WC claim is filed, up to a maximum of \$10,000, even if the claim administrator has not yet accepted the claim, provided that the medical services delivered conform to the state's utilization schedule (i.e., medical treatment guidelines).

California's system for delivering WC medical-care benefits is predicated on the selection of a health-care provider as the PTP for care of an injured worker. The PTP has a central role in determining whether the worker's illness or injury is work related, in establishing the plan of treatment and making referrals for specialized care, and in assessing readiness to return to work. Current WC law allows chiropractors, acupuncturists, psychologists, optometrists, dentists, podiatrists, and osteopaths, as well as MDs, to serve as the PTP. In addition, licensed nurse practitioners and physicians' assistants, while not qualifying as treating physicians, are permitted to perform various

care functions including providing medical treatment of a work-related injury in accordance with their authorized scope of practice, qualifying a worker for up to three days off work, and coauthoring and signing the doctors' reports required by DWC. Other types of health-care specialists (e.g., physical therapists, audiologists) are also permitted to provide care for injured workers, normally through referrals from the PTP.

Until January 1, 2005, employers or their WC insurers were allowed to select the PTP for treatment of an employee's work-related injury or illness for the first 30 days after an injury was reported. After the first 30 days, employees were free to choose any qualified medical provider or facility for care of their condition. Employees who preferred to be initially treated by their personal physician could do so if they had notified the employer in writing about their preference prior to being injured (called *predesignation*). Other rules regarding the choice of provider governed employers and employees who agreed to care through a specific managed-care plan (i.e., a certified health-care organization, or HCO). Generally, under authorized HCO plans, employers had additional time (ranging from 90 to 180 days) to control the choice of the medical-care provider for the injured worker.

Beginning January 1, 2005, new laws went into effect that allow employers or their WC insurers to create medical provider networks for treatment of injured workers. Under the new laws, employees of employers with medical provider networks are required to use network providers throughout the course of their treatment unless they have predesignated a personal physician. Generally, the employer or insurer arranges for a network provider to perform the initial examination and treatment, and then the employee can choose a different provider from within the same network for subsequent treatment. Employers or their WC insurers need to submit their network plan to DWC for approval. The network must include both physicians engaged in care of work-related injuries and illnesses and physicians engaged primarily in care of nonoccupational conditions. The network also must have a sufficient number of providers representing a variety of specialties in locations convenient to covered workers. Care provided in the network needs to conform to the WC utilization schedule.

If the employer does not use a medical provider network, the prior practice remains in effect, with the employer controlling choice of provider for the first 30 days after injury and the employee free to select his or her own provider after the first 30 days. Under the new legislation (SB 899), an employee is allowed to predesignate his or her regular personal physician for care of a work-related condition from the initial date of injury, but only if the employer provides nonoccupational health-care coverage to its employees and the designated physician agrees to be predesignated. The employer or its insurer may require preauthorization and conduct utilization management for services provided by a worker's predesignated physician. The WC statute provides that no more than 7 percent of employees statewide be allowed to predesignate personal physicians. However, the AD has not issued regulations implementing this provision, because there is no established mechanism to obtain information from employers on the incidence of predesignation.

PAYMENT FOR WORKERS' COMPENSATION MEDICAL SERVICES

Insurers or claim administrators generally pay for medical services provided under WC on a fee-for-service basis. California's OMFS regulates authorized payment rates for a variety of medical services. There is very little use of capitation, case rates, or prepayment plans in California's WC system. SB 228 expanded the services subject to OMFS and limited aggregate maximum allowable fees for most nonphysician services to 120 percent of the amount payable for comparable services under the Medicare program. Prescription drugs and other pharmaceuticals are limited to what is payable under the Medi-Cal fee schedule. Physician fees were reduced up to 5 percent (with Medicare fee-schedule amounts as a floor in determining the reduction). Employers and insurers can develop discounted fee-for-service payment plans with those medical provider networks established after January 1, 2005. However, they are prohibited from establishing any payment incentive system that is intended to reduce, delay, or deny medical treatment or to restrict access to care.

DETERMINATION OF CAUSATION, APPORTIONMENT, AND EXTENT OF DISABILITY

To be eligible for coverage under WC, a medical determination is required that job conditions caused or aggravated the worker's condition. Additionally, medical evaluations by a physician are needed to evaluate the extent of temporary or permanent work disability, degree of recovery, required medical treatment, and readiness to resume work. Under SB 899, the extent of permanent disability is based on the medical assessment of physical impairments in accordance with the procedures published in the *AMA Guides to the Evaluation of Permanent Impairment* (Cocchiarella and Andersson, 2001). In determining the extent of permanent disability, the physician must estimate the relative contribution of workplace and nonwork factors in causing the permanent disability, so that disability benefits can be apportioned to compensate only for the work-related component. Indemnity payments for temporary work disability are limited by the new legislation to no more than two years from the date of the first payment for most injuries and to a period of no more than 240 weeks (over a five-year period) for certain specific conditions, such as hepatitis B, amputations, severe burns, and HIV infection.

MEDICAL AND LEGAL DISPUTES

California's WC law makes provisions for resolving disputes about diagnosis, treatment, UR, disability evaluation, causation, and other medical issues. Effective January 2005, under the provisions of SB 899, if an injured worker initially receives care within a provider network and disagrees with the findings of the initial provider, the worker can obtain second and third opinions from other physicians within the network. Workers who disagree with the opinion of the initial treating physician and with the subsequent second and third opinions may request an IMR. A licensed physician whom DWC has authorized and assigned to perform these impartial reviews performs an IMR. IMR is intended to be an alternative to lengthy litigation and legal proceedings. The reviewer will be asked to determine whether treatment conforms to the established guidelines and utilization schedule. If it does, the worker will generally be entitled to receive the disputed treatments either from a network provider or a different provider of his or her choice.

Additional legal processes are available to employees or employers who have disputes about determination of compensability, rating of impairment and disability, readiness to return to work, or other medical issues. In most cases, DWC-employed WC judges adjudicate these disputes. Their decisions are subject to reconsideration by the seven-member WC Appeals Board (WCAB). A WCAB decision is reviewable only by the appellate courts. As part of the adjudication process, a formal *medical-legal evaluation* may be required to provide medical evidence for the purpose of proving or disproving medical issues in a contested WC claim. An evaluating physician other than the PTP generally performs that evaluation, and the evaluation results in the writing of a medical-legal report that is admissible as evidence in legal proceedings. The state certifies QMEs (paid for through WC under a regulated medical-legal fee schedule) to perform these evaluations. If the worker is represented by an attorney, the worker's attorney and the employer or insurer's claim administrator may agree to use an AME—that is, a physician evaluator who is not necessarily a QME. SB 899 included new procedures for requesting QMEs and AMEs and conducting medical-legal evaluations.

PRESUMPTION OF CORRECTNESS

Until recently, the opinion of the worker's PTP concerning diagnosis, treatment, disability, and other medical issues was presumed to be correct for legal purposes. SB 228 repealed the PTP presumption and UR guidelines that had been adopted by the Industrial Medical Council. The DWC AD was required to adopt a utilization schedule by December 1, 2004, and, until then, treatment that was reasonably required to cure or relieve was treatment based on ACOEM practice guidelines (Glass, 2004).⁴ However, the guidelines are potentially refutable in a legal proceeding if it can be shown that the preponderance of the scientific evidence establishes that a variance from the guidelines is reasonably required to cure or relieve the injured worker's condition. Notwithstanding the ACOEM guidelines, for

⁴ The DWC's final medical treatment guideline regulations, formally called the medical treatment utilization schedule (MTUS), became effective June 15, 2007. The MTUS regulations incorporate the ACOEM Practice Guidelines and acupuncture treatment guidelines.

dates of injury after January 1, 2004, an injured worker is limited to no more than 24 visits per claim for each of the following services: chiropractic, physical therapy, and occupational therapy.

RETURN TO WORK

California's WC system includes incentives for encouraging prompt and sustained return to work of injured workers.

AB 749 provides that employers with no more than 50 employees be reimbursed (to the extent to which the state has funds available) up to \$1,250 of expenses to accommodate a temporarily disabled worker or \$2,500 to accommodate a permanently disabled worker. In addition, SB 899 reduces the amount the employer has to pay for permanent disability by 15 percent if the injured employee is offered regular, modified, or alternative work for a period of at least 12 months, whether or not the employee actually returns to work. To be eligible for this discount, the modified or alternative work must pay at least 85 percent of time-of-injury wages and be at a convenient commuting distance for the employee. Also, the employer's obligation to pay permanent disability benefits is increased by 15 percent if the employer does not offer a return to regular, modified, or alternative work or if the employee is terminated before all permanent disability benefits are paid. The 15-percent upward or downward adjustment of permanent disability benefits applies only to employers of at least 50 employees.

Under AB 227, injured workers who need retraining in order to return to the workforce are eligible for a supplemental job-displacement benefit in the form of a voucher for education-related retraining or skill enhancement. Workers injured prior to January 1, 2004, are still eligible for vocational-rehabilitation benefits up to \$16,000 for counseling, training, education, and self-employment. However, that benefit program will end on January 1, 2009.

COMPARISON OF WORKERS' COMPENSATION AND GENERAL (NON-WORKERS' COMPENSATION) MEDICAL CARE

Main Differences Between Workers' Compensation and Non-Workers' Compensation Medical Care

Table 2.2 summarizes some of the key differences between the way in which medical care is provided to injured workers under California's WC law and the way in which general medical-care services are provided for people with non-work-related conditions. Employers ultimately pay for the entire cost of WC medical care, either through their WC insurance premiums or by directly paying for care through self-insurance. Unlike general health care, covered employees do not pay for part of the WC insurance premium or share part of the employer's cost through copayments or deductibles. While general health insurance usually covers care only during the time period covered by the health-insurance policy, WC insurance covers the costs of medical care for injuries that occur during the policy period, even if the duration of care provided to the patient extends beyond that period. This makes the ultimate cost of WC medical care less predictable and magnifies the importance to health systems and insurers of distinguishing between conditions that are job related and those that are not.

It is important to consider the substantial differences in the mix of cases when comparing costs or services between WC and general medical care. Compared to general health care, WC medical care involves a narrower range of conditions. Common types of occupational disorders include musculoskeletal ailments, sprains and strains, fractures, cuts, contusions, and other traumatic conditions. Back pain is the single most frequently treated and costly type of work-related condition paid for under WC in California, accounting for 27.1 percent of all WC medical payments in 2002 (Swedlow and Gardner, 2003). The PTP has a more expansive role in WC than in group health. In addition to providing medical care and functioning as a gatekeeper for referral to other practitioners, the PTP has responsibilities to determine causation and to assess impairment status and readiness to return to work.

Comparing Workers' Compensation and Non-Workers' Compensation Medical Costs

Payments for medical care for work-related conditions covered under WC have been generally higher than those provided for similar medical conditions under other forms of health insurance (e.g., group health insurance, Medicaid, and Medicare), in part because of the administrative burden associated with treating injured workers. For example, payments for WC hospital stays are 30 percent higher on average than inpatient stays for the same diagnostic conditions covered under employer-based health insurance (Kominski and Gardner, 2001), and the prices paid for prescription drugs under WC prior to the implementation of SB 228 provisions were about 40 to 45 percent greater than what large, employer-sponsored, general health plans pay for the same pharmaceuticals (Neuhauser et al., 2000; Smithline, Swedlow, and Blay, 2002). Studies conducted before the implementation of the recent legislation indicate that, in general, WC medical treatment costs in California were 50 to 100 percent higher than costs for treatments paid for similar disorders by group health insurance (CHSWC, 2003a).

The higher relative costs for WC care are, in part, a result of the expanded range of medical services that are often required for the diagnosis and treatment of injured workers and to address the exigencies of WC claim administration. Besides providing the patient with treatment to alleviate symptoms and restore health, WC medical care frequently involves additional tests and procedures to determine whether the patient's condition was caused occupationally, to evaluate the patient's work capabilities and limitations, to gauge the extent of impairment and work disability, and to provide advice and services aimed at restoring vocational function and promoting return to work (Dembe, Fox, and Himmelstein, 2002; Dembe, Sum, and Baker, 2003a). As a result, use of physical therapy and other physical medicine techniques is traditionally more extensive in WC cases than in cases with similar diagnosis treated under general health care. Other factors that could affect the differences in costs between WC and non-WC care include differences in reimbursement rate schedules for particular conditions and services and the greater utilization of managed-care approaches in general health care compared to WC care in California.

Some researchers have conducted studies suggesting that most of the cost differential between the WC and non-WC cases can be attributed to differences in service utilization and a different mix of providers rather than to higher average prices per service (Johnson, Baldwin, and Burton, 1996). Other studies have indicated that the higher WC costs for care of particular conditions may be due to higher reimbursement rates rather than to greater utilization of services (e.g., in the case of hospital inpatient care) (Kominski and Gardner, 2001). Additional research is needed to clarify the observed cost differences between WC and non-WC care using more recent data that reflect implementation of the recent legislation.

Twenty-Four-Hour Care Plans

Twenty-four-hour care plans attempt to more closely coordinate or combine medical care provided for work-related injuries and illnesses with general health care for nonoccupational conditions. In a fully integrated version of 24-hour care, medical services for both work-related and non-work-related conditions could be provided by the same providers (or health system) and paid for under a single health-insurance policy. Other versions of 24-hour care would merely coordinate the administration, pricing, and marketing of the two types of medical benefits, while preserving separate WC and general health-insurance policies. Proponents of 24-hour plans point to potential administrative savings, efficiencies in care delivery, and possible reductions in legal disputes involving occupational causation. Opponents cite legal and regulatory barriers, institutional resistance among employers and health systems, and the complexity of preserving a system for awarding indemnity benefits under a merged 24-hour system (Farley et. al, 2004).⁵

As part of SB 899, California employers and their labor unions were granted expanded authority to create negotiated "carve-out" programs through collective bargaining that include integrated benefit plans for delivery of medical-care services and dispute-resolution processes for all employee health conditions, work-related and not.

Table 2.2. Comparison of General Medical Care and California Workers' Compensation Medical Care

Issue	General Medical Care	California WC Medical Care
Care financing	Employers, individuals, and other entities can purchase insurance, or public sources can provide funding for care. Many workers do not have health insurance.	Virtually all employers are required to provide WC coverage for their workers through commercial WC insurance, self-insurance, or the state compensation insurance fund.
	Cost-sharing by patients is common. Most employers that offer coverage require workers to pay a portion of the premium.	There is no cost-sharing, deductible, or copayment required from patients. WC provides first-dollar, 100% coverage for care.
	Payment to providers can be on a fee-for-service, capitated, or prospective-payment basis. Fees are typically negotiated or are established by government payors like Medicare or Medicaid.	Almost all payment is on a fee-for-service basis. The use of capitated payment plans is uncommon in California's WC system. The state regulates many fees.
	Health-insurance policies are typically written on an annual contract basis.	WC policies are generally for one year but cover all medical expenses incurred for injuries occurring during the policy year. Medical treatment for injuries occurring during the policy year can extend far into the future.
Access to care	Care is normally provided for a variety of conditions. Routine and preventive care are commonly included.	Care is provided only for injuries and illnesses that are determined to be work related. Care often includes evaluation of disability, work capabilities, restoration of vocational function, and assessment of readiness to resume work.
	Patients can typically select a primary care provider. In some plans, the provider must be chosen from a designated list or from members of a provider network.	In California, the employer has control over choice of the PTP for the first 30 days after an injury (unless the worker predesignates a personal provider). Thereafter, the employee can choose. Beginning in 2005, employers could restrict all WC care to a designated provider network.
Quality of care	Quality measurement standards exist (e.g., the Healthcare Effectiveness Data and Information Set [HEDIS]), and	Although a few quality standards have been proposed (e.g., URAC), systematic quality measurement and

<p>many provider organizations perform quality measurement and reporting.</p>	<p>reporting are uncommon.</p>
<p>Providers focus on providing appropriate care, achieving desired health improvement, alleviating symptoms and addressing patient needs. Many providers have limited knowledge of workplace demands, occupational-health principles, and WC.</p>	<p>Along with conventional diagnostic and therapeutic care, providers also focus on vocational function, minimizing work disability, and addressing employer as well as patient needs. Providers are commonly familiar with job demands, occupational hazards, WC, and return-to-work strategies.</p>
<p>Treatment guidelines are becoming more common as increasing emphasis is placed on evidence-based practice, but their use is rarely legally mandated.</p>	<p>California WC regulations require adherence to treatment guidelines that are specific to the care of particular work-related conditions.</p>

CHAPTER THREE. MEDICAL TREATMENT COSTS AND UTILIZATION

This chapter synthesizes, from reports and prior studies, information on the costs of medical treatment provided to California's injured workers. It begins with an overview of overall trends in medical treatment costs and its growing contribution to increases in employer premiums for WC. The remainder of the chapter concentrates on trying to understand the contributing factors to escalating medical treatment costs. The data presented in this chapter predate the implementation of the recent reforms and serve as a potential baseline for future assessments of the legislation's impacts on the utilization and costs of medical care provided to injured workers.

While the focus of this chapter is on direct expenditures for medical care, it is important to recognize that policies regarding medical treatment have implications not only for direct medical expenditures but also for administrative costs such as UR and other medical-cost containment activities and claim-processing costs. Further, access to appropriate medical care affects not only clinical outcomes but also work-related outcomes such as return to work and has implications for time lost from work, productivity and indemnity payments. In Chapter Five, we discuss a conceptual framework for monitoring these costs as well as direct expenditures for medical treatment. Any assessment of the impact of the reform provisions affecting medical care needs to consider the impact not only on medical expenditures but also on administrative expenses, productivity, and indemnity payments.

OVERVIEW OF MEDICAL TREATMENT COSTS

Growing Importance of Medical Treatment Costs

Compared to payments for indemnity benefits, medical payments represented the fastest-growing and largest cost component of the California WC system. Between 1997 and 2003, medical expenditures grew by 151 percent as compared to a 72-percent increase in indemnity

payments (Figure 3.1).⁶ Insured employers' medical payments grew from \$1.9 billion to \$4.9 billion, and indemnity payments grew from \$2.7 billion to \$4.6 billion (Figure 3.2). Medical benefits also experienced the highest annual cost increase by growing 29 percent between 2001 and 2002 (CHSWC, 1998, 1999, 2000, 2001, 2002, 2003b; WCIRB, 2004). As a consequence of its higher growth rate, medical payments increased from 42 percent of total WC expenditures in 1997 to 51 percent in 2003.

⁶ All calculations in this section are done in terms of the total cost of benefits paid by insured employers only.

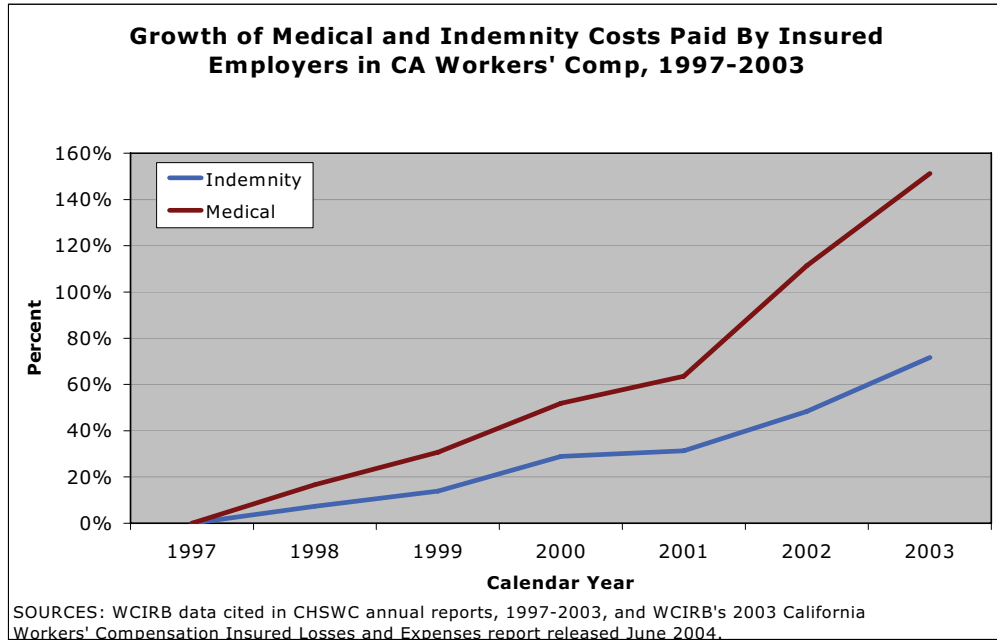


Figure 3.1. Growth of Medical and Indemnity Costs Paid By Insured Employers in CA Workers' Comp, 1997- 2003

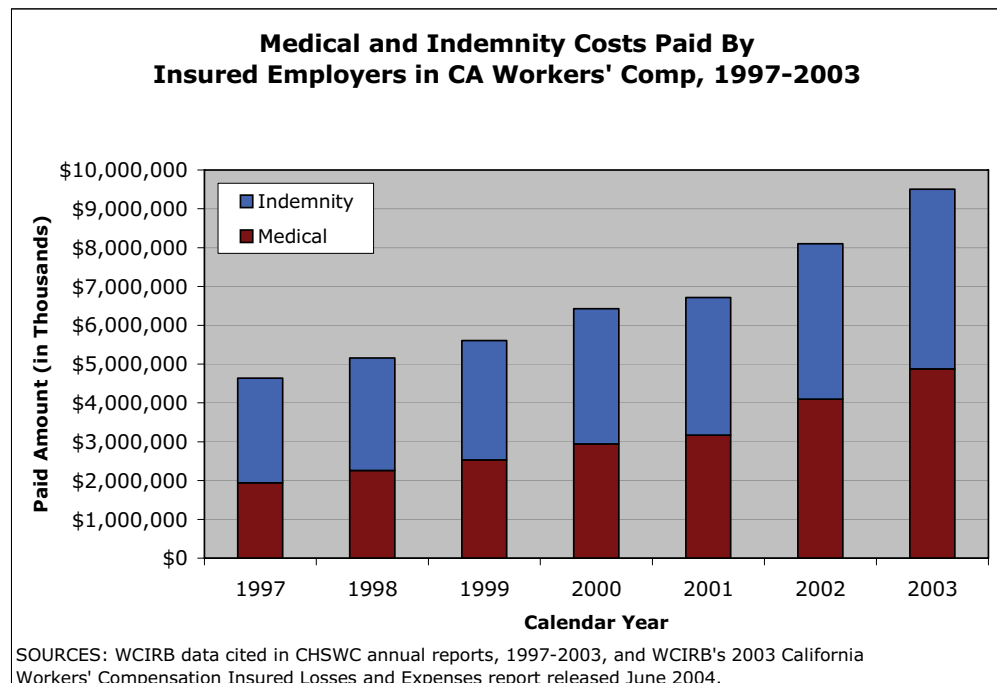


Figure 3.2. Medical and Indemnity Costs Paid By Insured Employers in CA Workers' Comp, 1997-2003

Policy interventions that improve the quality and efficiency of medical care provided to WC patients will be important levers in containing the costs of California's WC system. To implement policy

interventions correctly, policymakers must have answers to the following key questions:

- Which are the largest medical cost components?
- Which medical cost components are growing the fastest?
- For which cost components is there evidence of overutilization or inappropriate utilization?
- For which cost components is there evidence that maximum allowable fees are out of line with amounts needed to provide access to quality care?

To answer those four questions, we present, in the sections that follow, detailed analyses of the cost drivers within the following three broad categories of medical cost:

- professional fees (e.g., physicians, chiropractors)
- hospital charges
- pharmaceutical cost.

These three categories accounted for 90 percent of the entire amount that was paid for medical benefits in 2003. Of the three, WCIRB data show that the professional fee category was consistently the largest in the 1997-2003 period (accounting for more than half of all medical costs each year) but experienced the slowest growth (Figures 3.3 and 3.4). The pharmaceutical-cost category was the smallest but experienced the greatest growth (CHSWC, 1998, 1999, 2000, 2001, 2002, 2003b; WCIRB, 2004).

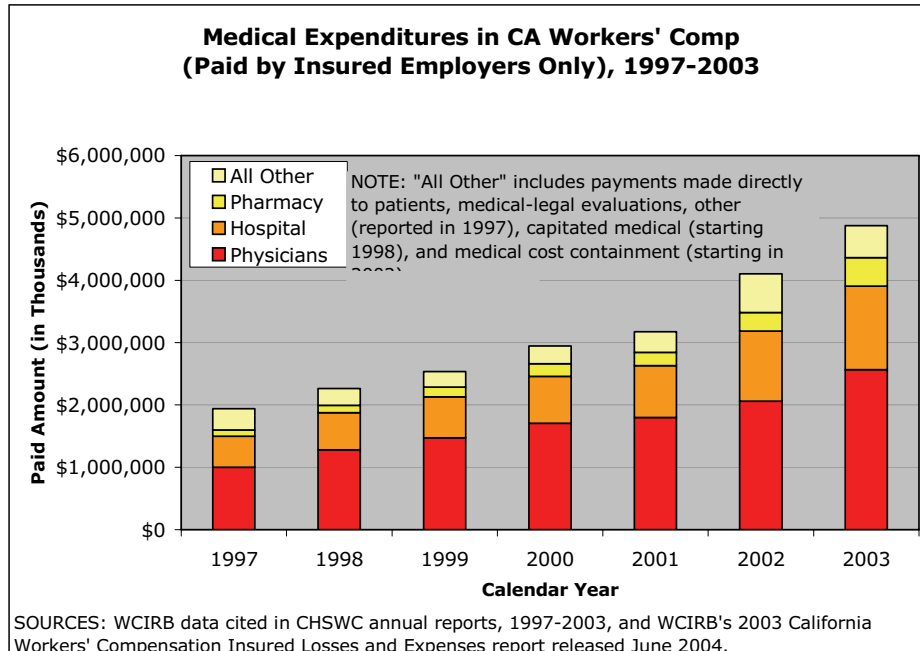


Figure 3.3. Medical Expenditures by Service Categories in CA Workers' Comp (Paid by Insured Employers Only), 1997-2003

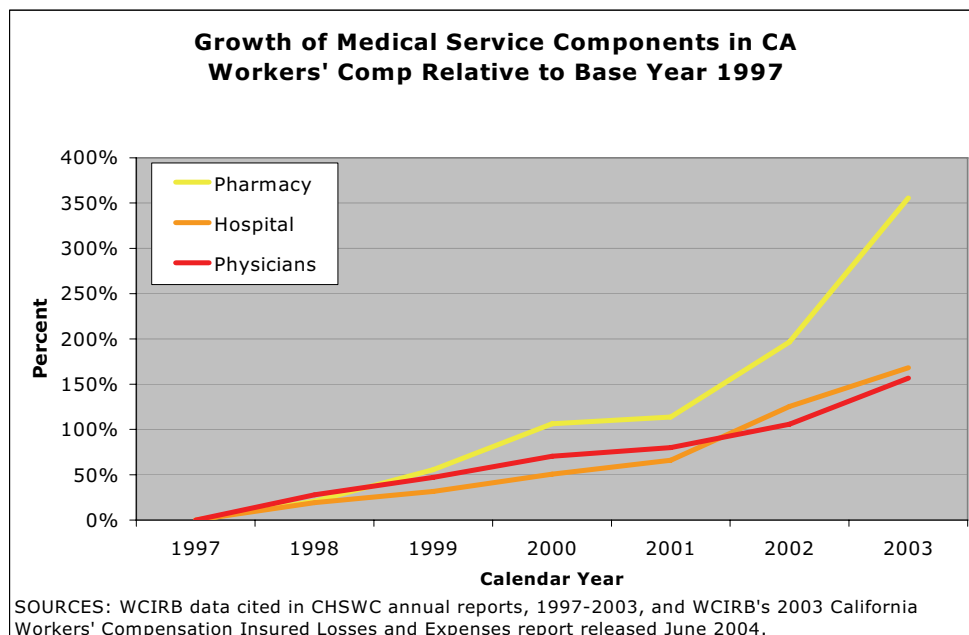


Figure 3.4. Growth of Medical Service Components in CA Workers' Comp Relative to Base Year 1997

WCIRB reports five additional cost categories (medical-legal evaluations, payments made directly to patients, capitated medical payments, "other" [reported in 1997], and cost containment [reported for

the first time in 2002]). As a group, they accounted for only 10 percent of the total medical costs in 2003 (CHSWC, 1998, 1999, 2000, 2001, 2002, 2003b; WCIRB, 2004). Because they were a relatively small percentage of costs and do not inform the question about candidate conditions for targeted UR, they are not investigated in any detail in this paper.

Box 3.1. A Note on Data Sources and Methods

No single comprehensive source of data covers all aspects of the California WC system that we wished to analyze in this paper. We believe that there are four main components of WC medical costs that need to be covered. These components, why we think they are important, and the disparate sources of data that were brought together to discuss them are as follows:

1. To highlight the importance of analyzing medical cost drivers, we needed to show the increase of medical costs in aggregate over time and in relation to indemnity costs, which are not the focus of this paper. To discover the most critical cost categories, we looked at the relative size and rate of growth in paid expenditures for the following categories: professional fees, facility charges, pharmacy payments, medical-legal evaluations, medical cost containment, payments made directly to patients, capitated medical payments, and "other." Data for this analysis are available through WCIRB for calendar years 1997 through 2003. Data for the most recent year came from WCIRB (2004). WCIRB data for calendar years 1997 through 2002 were pulled from CHSWC annual reports. WCIRB's data reflect only insured employers and thus understates the magnitude of overall costs. It has been estimated that insured employers represent only 70 percent of all California employers. Self-insured employers represent the remaining 30 percent and account for about 20 percent of additional expenditures.
2. The majority of medical costs comes from professional fees, facility charges, and pharmacy payments. To determine the individual cost drivers in these categories and, where appropriate, the procedures that would be good candidates for targeted UR, we turned to different data sources that had different sample sizes and covered differing time periods:

- a. WCIRB breakdowns of professional fees in calendar years 1995 through 2003
- b. CWCI documents, including a news release (2001) on the top 100 surgical codes in 1999; a report (2002) on pharmaceutical costs; policy issues release (2003b) on the top 150 OMFS codes between January 2000 and June 2002
- c. Wynn (2004) report on inpatient fee schedules
- d. Kominski and Gardner (2001) report on outpatient facility fees.

3. To begin to answer the question of whether the utilization and prices of the services within the large medical cost components have been appropriate, we compared the average utilization and price in California with that in other states. The best source of this comparison data is WCRI, and the most recent data available at the time of the analysis were from accident year 1999.

Although data were pulled from disparate sources, we attempted to be clear about the period that each data source covered and to use relative or average volumes and paid amounts (as opposed to raw incidence or dollars) to make the sources comparable. We note that all data sources predate the recent legislation, and significant reductions in costs have occurred since these data were compiled. As a result, the analyses in this chapter serve as a potential baseline for evaluating subsequent changes. In Chapter Six, we discuss the need for a unified database to support ongoing monitoring and evaluation of the WC program.

Professional Fees and High-Volume, High-Cost OMFS Procedures

Physician and other practitioner payments, the single largest medical cost component, accounted for at least half of all medical expenditures between 1997 and 2003, ranging from a low of 50 percent in 2002 to a high of 58 percent in 1999 and 2000.⁷ Taking into account only the costs to insured employers, these payments grew from \$1 billion in 1997 to \$2.57 billion in 2003 (Figure 3.3). This 157-percent increase was the third-largest increase during the period after pharmacy (356 percent) and hospital payments (168 percent) (Figure 3.4) (CHSWC, 1998, 1999, 2000, 2001, 2002, 2003b; WCIRB, 2004).

OMFS sets the maximum allowable amounts that may be paid to providers for medical services. OMFS covers most medical services provided by a physician or other health-care practitioner regardless of where the service is provided. (Separate facility fees are allowed for hospital emergency rooms and for ambulatory surgery.) The OMFS maximum allowable fee for physician services is based on a relative value scale derived from historical charge data that establishes a value for each procedure relative to other procedures and a conversion factor that varies by type of service. The fee is calculated as the product of the relative value and the conversion factor. OFMS was updated in 1999, when the conversion factor for evaluation and management (E/M) services was increased. The conversion factors for other services have been frozen since 1994. In 2004, SB 228 contained two provisions affecting physician and other professional services:

- Effective January 1, 2004, the maximum allowable fees were reduced by up to 5 percent. The amount that would be payable under the Medicare fee schedule for comparable services was established as a floor in determining the payment reduction. Generally, the provision resulted in a reduction in the amounts payable for surgical and anesthesia services and no or little change in the amounts payable for most E/M and therapy services (DWC, 2007).

⁷ If medical cost containment, a new data item in 2002, were ignored, physicians' share in 2002 would be 54 percent and the low would be 52 percent in 1997.

- The AD was given explicit authority effective January 1, 2006, to adopt and revise, at least biennially, a fee schedule for physician services. The current OMFS remains in effect until the new fee schedule is adopted after public hearings.⁸

With a frozen fee schedule, the observed increases in expenditures must come from increases in utilization. The CWCI data provide a breakdown of the total paid amount, by procedure, derived from a sample of claims paid between January 2000 and June 2002.

Based on CWCI's breakdown of procedures (Figure 3.5), four categories together accounted for 82 percent of the total cost (and individually for at least 10 percent of the cost):

- physical medicine (which includes chiropractic care): 35 percent
- E/M services: 20 percent
- surgery: 16 percent
- radiology: 11 percent

These four categories are discussed in the sections that follow.

⁸ As of September 2007, a new fee schedule had not been proposed. However, effective March 2007, the AD established Medicare fee schedule amounts as a floor for the maximum allowable fees for evaluation and management services.

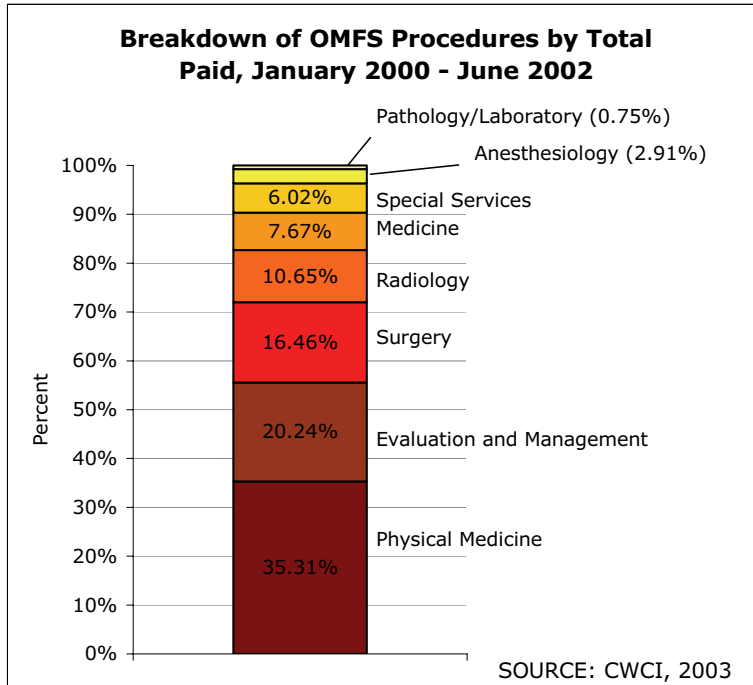


Figure 3.5. Distribution of Total Payments for Professional Services by Type of Service, January 2000-June 2002

The CWCI data show that 35 percent of total payments made for professional services between January 1, 2000, and June 30, 2002, were for physical medicine and chiropractic procedures, making this the largest category of professional costs. Data on paid amounts by physician specialty from WCIRB corroborate this finding. For example, spending on services provided by chiropractors, physical therapists, and physicians in physical and rehabilitation medicine accounted for 35 percent of all professional payments in 2000, 37 percent in 2001, and 34 percent in 2002 (Figure 3.6) (WCIRB, 2004; CWCI, 2003b).

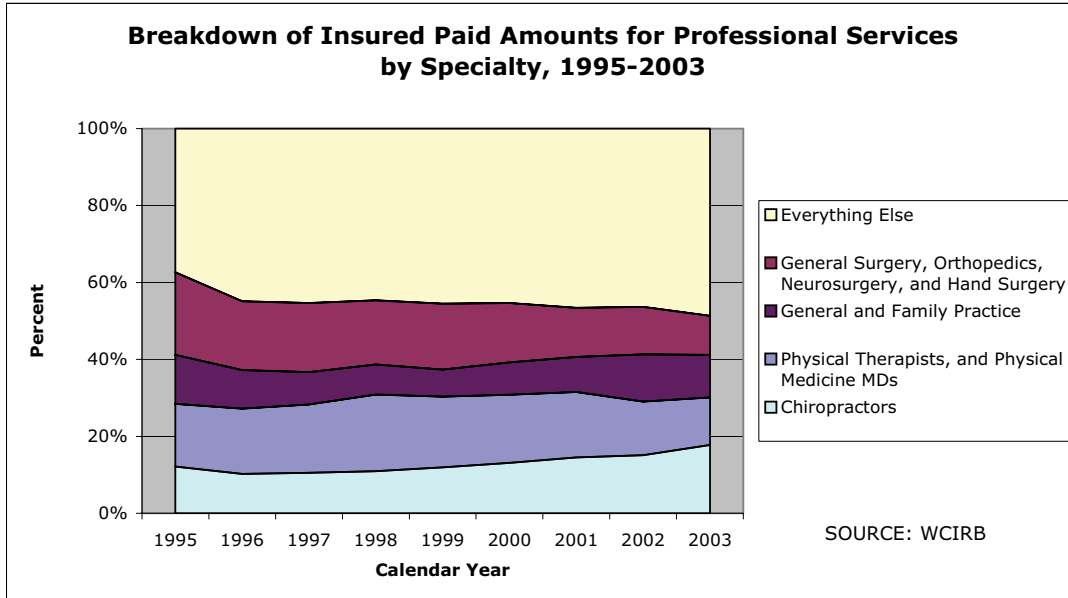


Figure 3.6. Breakdown of Insured Paid Amounts for Professional Services by Specialty, 1995-2003

The chiropractic share of professional payments increased 57 percent from 1995 to 2003 (WCIRB, 2004). This growth corresponds to an increase from \$77 million to \$195 million (a 153-percent increase) in annual payments to chiropractors between 1996 and 2001 that caused chiropractors to receive the highest percentage of professional payments (CWCI, 2003a).

To turn to the question whether the high cost of physical medicine or chiropractic care suggests inappropriate utilization, we use WCRI data to compare chiropractic and occupational- and physical-therapy services per claim in California to WC programs in other states. Based on WCRI analysis of claim data from accident year 1999 for 12 states, California had the greatest average number of visits to chiropractors and to physical therapists per claim after adjusting for industry and injury mix: 34 and 17 visits, respectively. The average number of chiropractic visits in California was 105-percent greater than the median utilization for the other 11 states. Additionally, the average number of visits for occupational or physical therapy in California was 39-percent higher than the median (Eccleston, Zhao, and Watson, 2003). California had higher utilization of physical medicine services not only in terms of number of visits per claim but also in terms of the

percentage of claims that included such services. Sixty percent of all accident year 1999 claims included such services.

While California had high physical medicine utilization, it had the lowest average price per service of all 12 states studied. California's average price, \$24, was 53-percent less than the high of \$51 in Wisconsin (Eccleston, Zhao, and Watson, 2003). Thus, utilization and not price per service was behind the higher payments for chiropractic care in California WC. In a 2003 report, CWCI came to a similar conclusion, noting that utilization was the likely reason for the cost increases for chiropractic care. The OMFS allowances for chiropractic services changed very little between 1993 and the April 1999 revision of OMFS, shifts in type of injuries were negligible, and claim frequency decreased. Additionally, CWCI suggested that the large increases in medical costs (including a 96-percent increase in the average monthly treatment costs for physical medicine between 1994 and 2000) were related to the statutory and judicial expansion of the PTP's presumption of correctness (CWCI, 2003a).

Figure 3.7 shows that claims for back injuries without spinal-cord involvement were responsible for 47 percent of chiropractic claims. This is not surprising when one considers that the back is the most common site of injury. The next-largest category was the "other injuries" category (11 percent) followed by spine disorders that include spinal cord or root involvement (7.2 percent). Although spine disorders with spinal cord or root involvement claims represented only the third-largest share of chiropractic claims, they had the highest number of visits, number of procedures, and average paid amount of any type of injury (CWCI, 2003a).

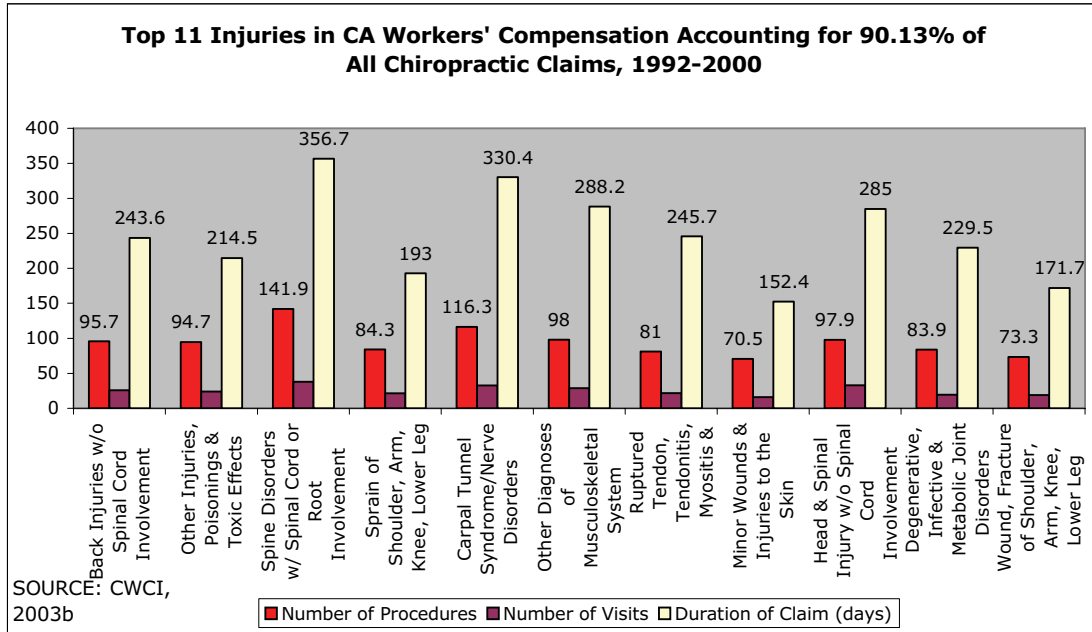


Figure 3.7. Top Injuries in CA Workers' Compensation Accounting for Chiropractic Claims, 1992-2000

CWCI's breakdown of the top 20 procedures in physical medicine by amount paid between January 2000 and June 2002 shows the top four procedures or groups of clinically similar procedures were

- electrical stimulation (*Current Procedural Terminology*, 4th edition [CPT] 97014 and 97118)
- therapeutic exercise (CPT 97110)
- soft-tissue mobilization and massage (CPT 97124, 97250, and 97610)
- chiropractic manipulation of the spine (CPT 98940-98942).

Those categories accounted for nearly two-thirds of all physical medicine procedures by total paid (66 percent) and by utilization (61 percent) in the 2.5-year period that the CWCI data spanned (see Figures 3.8 and 3.9) (CWCI, 2003b). The procedures in these four categories accounted for 66 percent of the total cost in spite of the fact that they were relatively inexpensive individually (the average paid amount was \$33.38 per procedure).

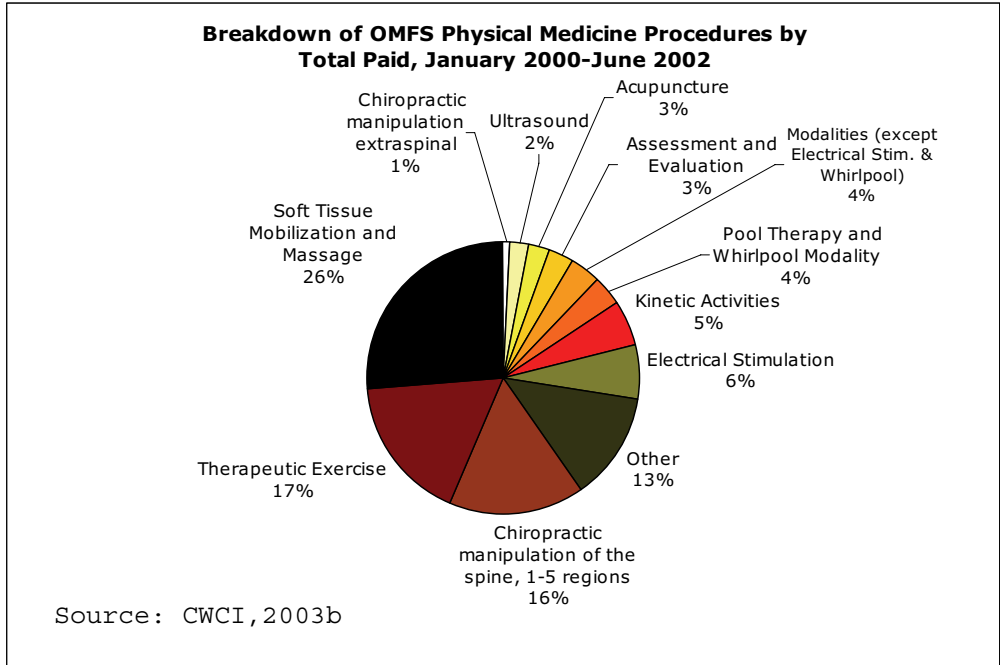


Figure 3.8. Distribution of Payments for Physical Medicine Procedures, January 2000-June 2002

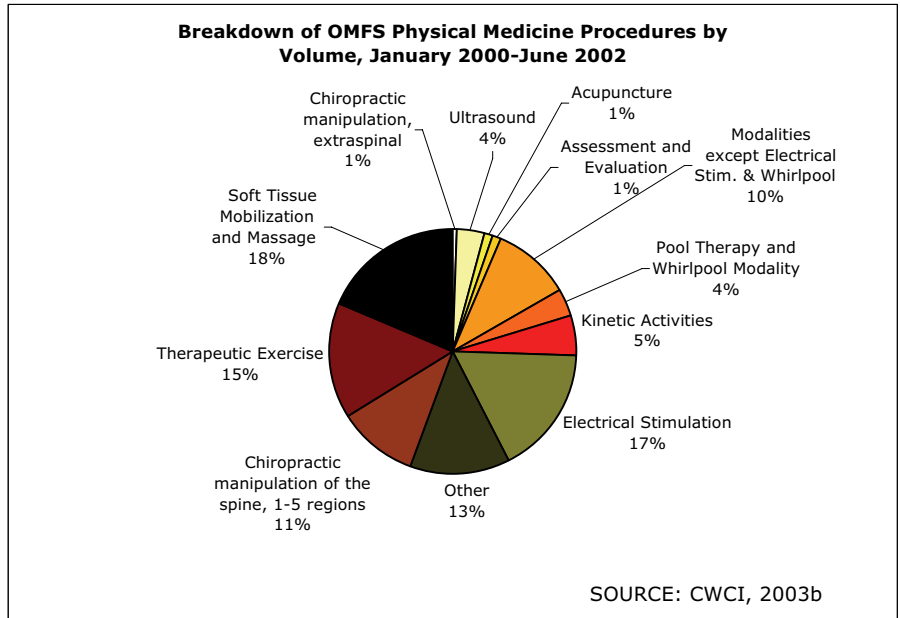


Figure 3.9. Distribution by Volume of Physical Medicine Procedures, January 2000-June 2002

The WCRI benchmarking data indicate there was overutilization of physical medicine services; however, no conclusive study has compared California's utilization against well-accepted, evidence-based medical

guidelines. A study by Harris and Swedlow (2004) found overutilization of services using ACOEM guidelines as a reference standard, but experts disagree as to the appropriateness of those guidelines for physical medicine and chiropractic care (Harris and Swedlow, 2004; Nuckols et al., 2005).

SB 899 addressed the increase in physical medicine costs. Effective for injuries occurring on or after the first of January in 2004, SB 899 limits chiropractic and physical-therapy services per claim to 24 visits each unless the employer makes an allowance for more. These limits are in addition to the application of the medical treatment guidelines.

Evaluation and Management Services

E/M services represented the second-largest category of physician costs in the CWCI claim sample, accounting for 20 percent of the total. E/M services are a very heterogeneous group that reflects mainly office visits and other types of face-to-face visits, and the E/M billing codes reveal little detail about the content of an encounter.

Surgery

Surgery represented the third-largest category of physicians' services after physical medicine and E/M services. In CWCI's breakdown of top procedures, surgery accounted for 16 percent of the total amount paid between January 1, 2000, and June 30, 2002.

The costliest surgical procedures can be grouped into seven categories. Taken together, the procedures in these categories accounted for about half of all surgical paid amounts in both 1999 and the January 1, 2000-June 30, 2002 period, the two periods for which CWCI data are available (Figure 3.10).

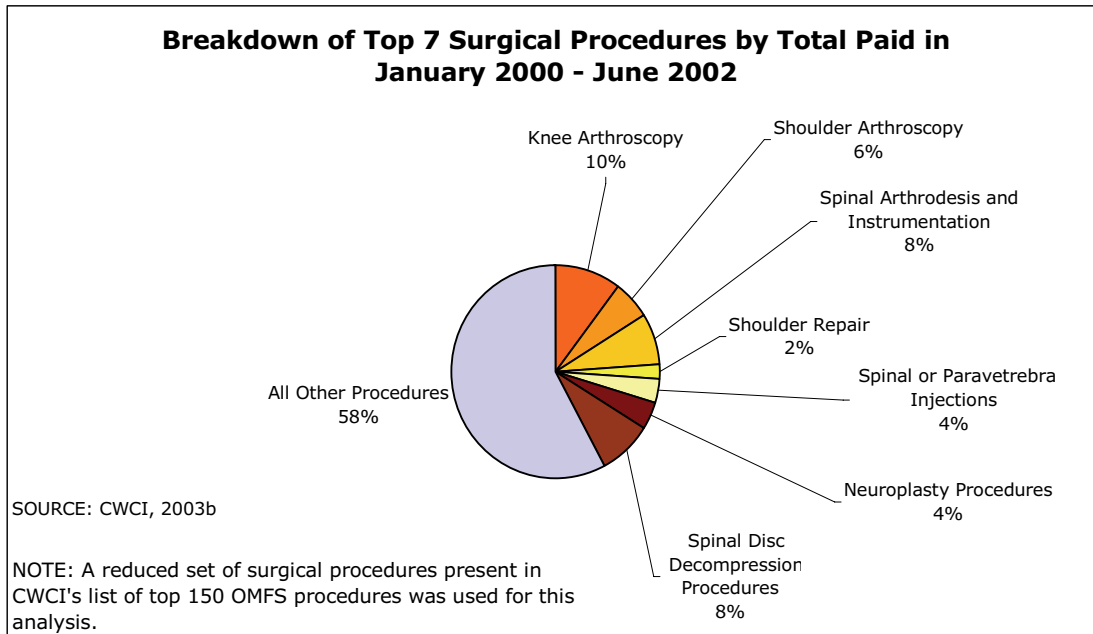


Figure 3.10. Distribution by Payments of Top Surgical Procedures, January 2000-June 2002

The seven categories are

- knee arthroscopy (CPT 29870-29889, 0012T, 0013T, and 0014T)
- shoulder arthroscopy (CPT 29805-29827)
- spinal arthrodesis and instrumentation (CPT 22548-22632 and 22830-22899)
- shoulder repair (CPT 23395-23491)
- spinal or paravertebral injections (CPT 62275, 62278, 62279, 62289, 62298, 64442, and 64443)
- neuroplasty procedures (CPT 64702-64727)
- spinal disc decompression procedures (CPT 63001-63200).

At least three of the seven procedures (spinal arthrodesis and instrumentation, spinal or paravertebral injections, and spinal disc decompression procedures) are known to be discretionary procedures. Also, some of these procedures require high-cost orthopedic implants for which California WC pays separately on top of professional charges and inpatient-facility fees, so additional savings could be expected from controlling their use more effectively (Wynn and Bergamo, 2005b).

To obtain a better understanding of surgical cost-drivers, we grouped surgical procedures in CWCI's 2001 list of top surgical

procedures and identified the highest-cost and highest-utilization procedures by type of surgery (Figures 3.11-3.15).⁹

⁹ For this purpose, we use the Berenson-Eggers Type of Service (BETOS) codes (HHS, 2006).

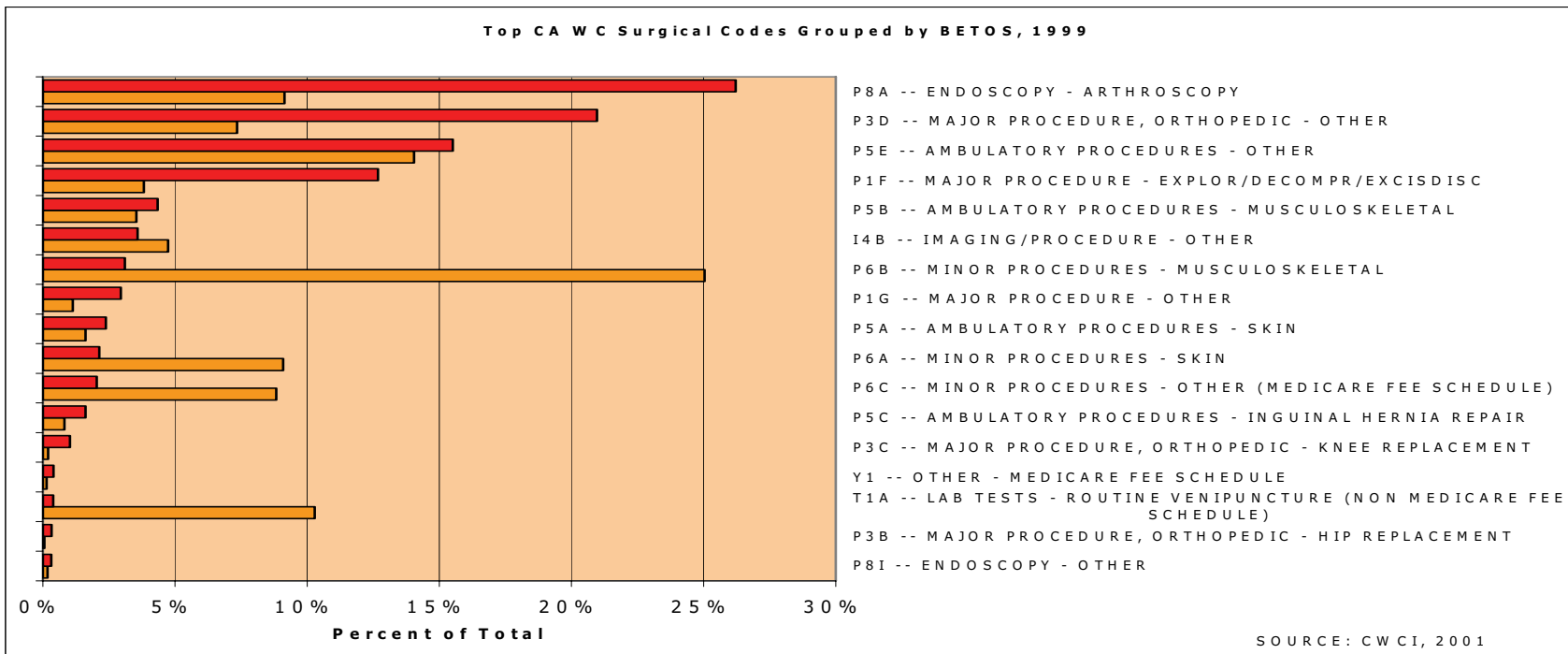


Figure 3.11. Top CA WC Surgical Codes Grouped by BETOS, 1999

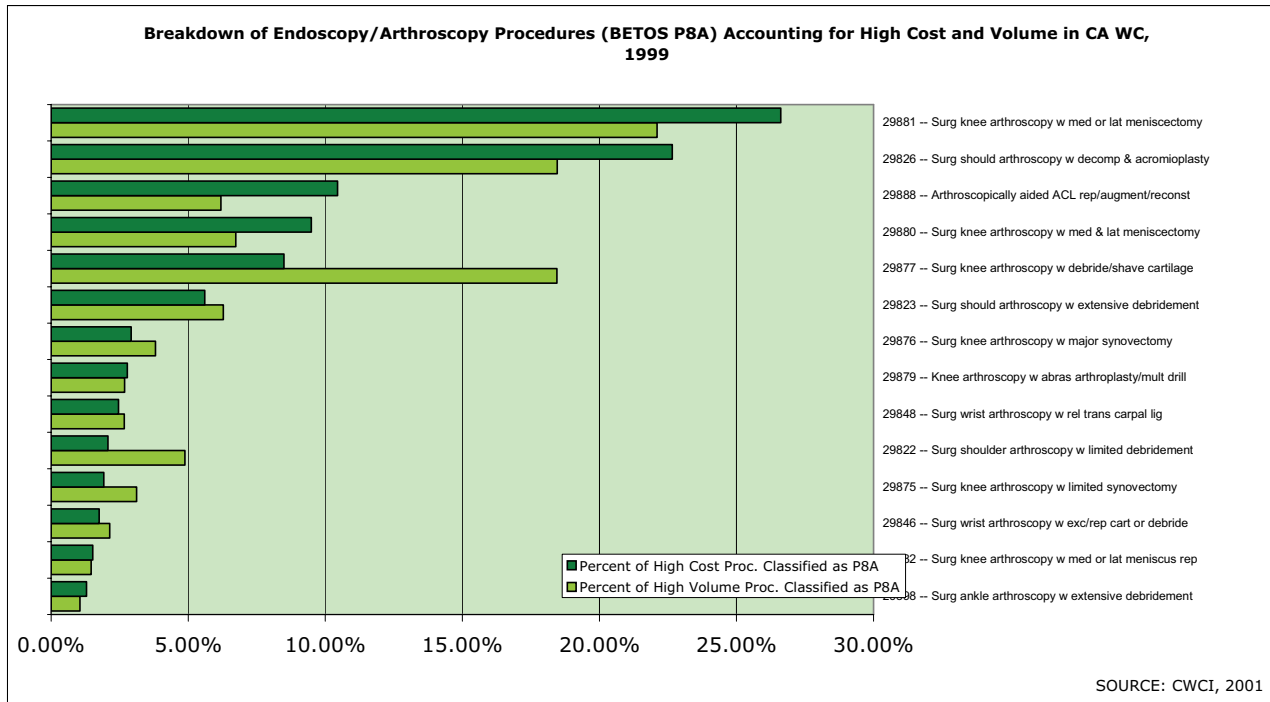


Figure 3.12. Breakdown of Endoscopy/Arthroscopy Procedures (BETOS P8A) Accounting for High Cost and Volume in CA WC, 1999

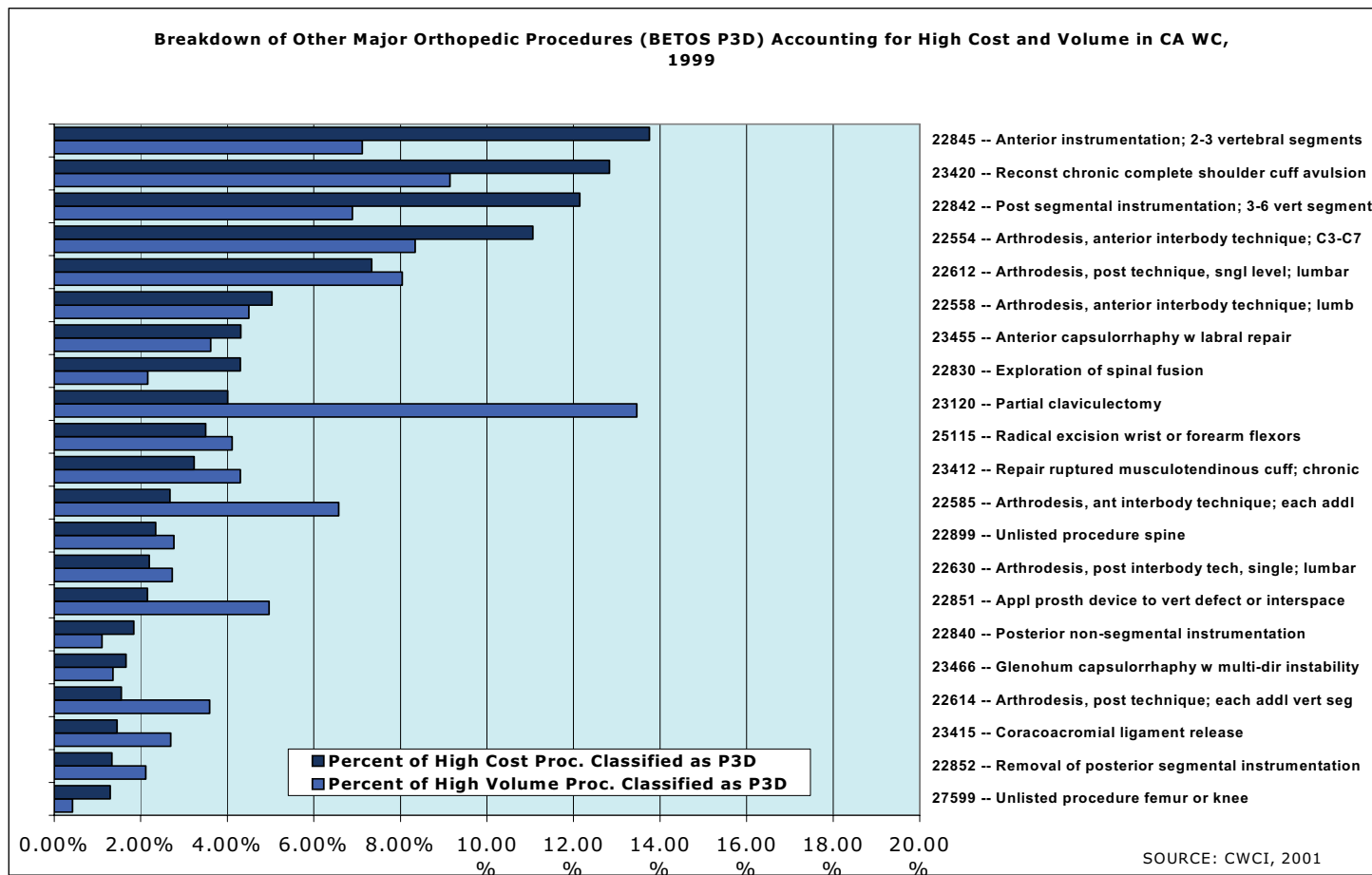


Figure 3.13. Breakdown of Other Major Orthopedic Procedures (BETOS P3D) Accounting for High Cost and Volume in CA WC, 1999

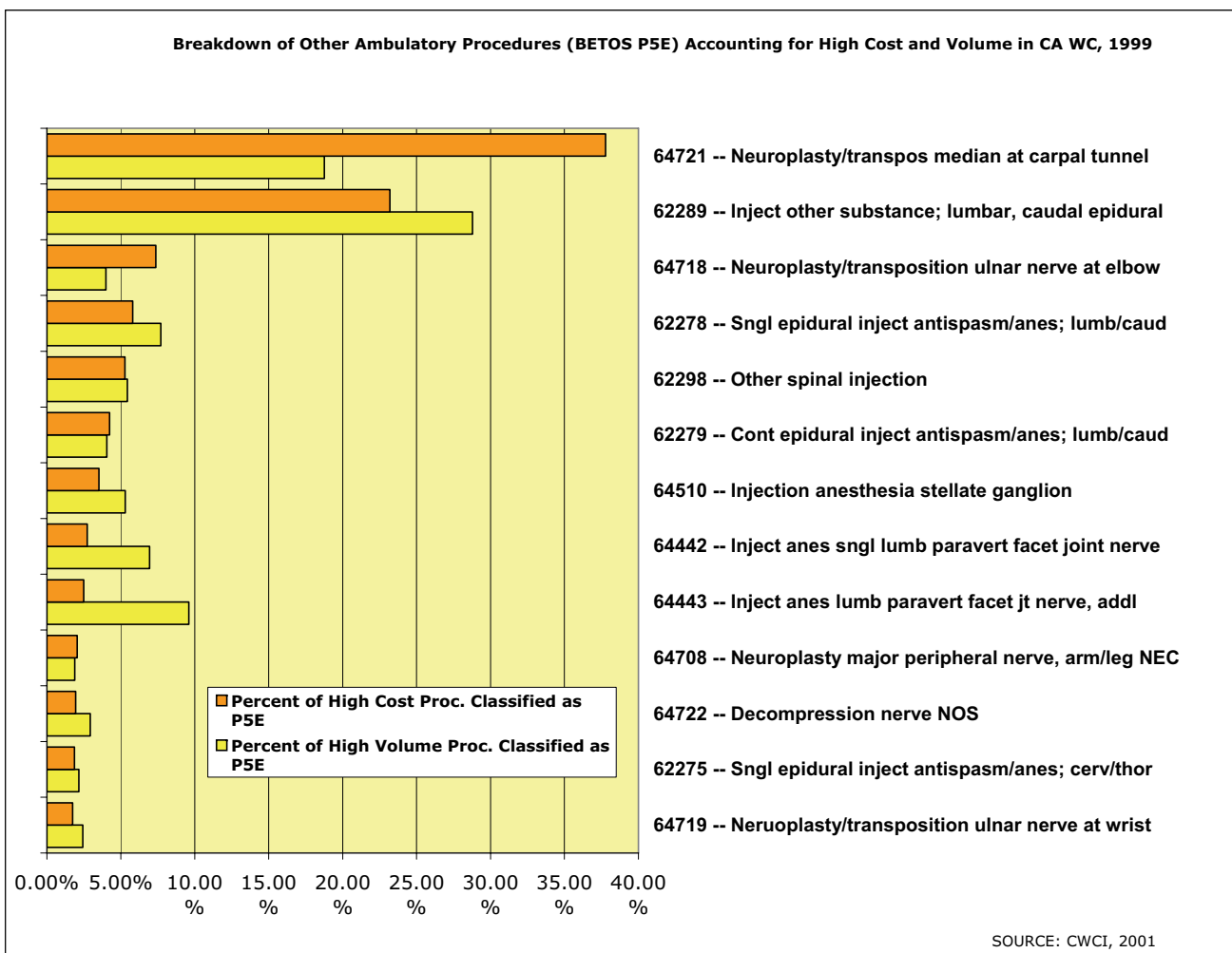


Figure 3.14. Breakdown of Other Ambulatory Procedures (BETOS P5E) Accounting for High Cost and Volume in CA WC, 1999

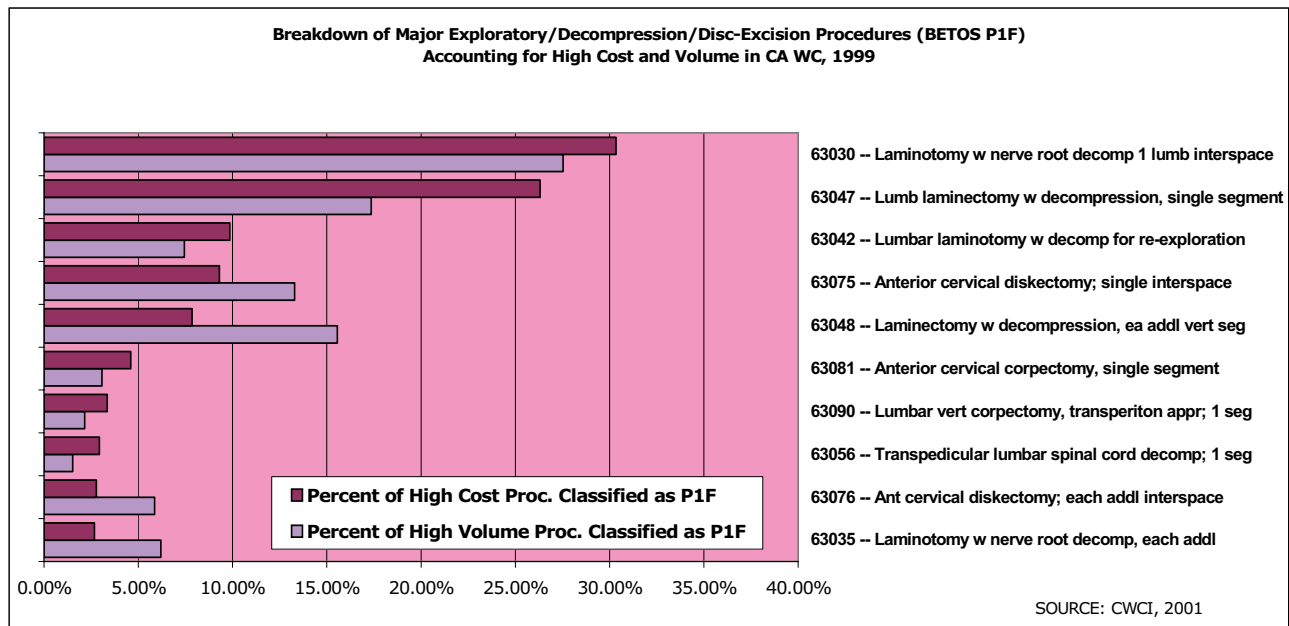


Figure 3.15. Breakdown of Major Exploratory/Decompression/Disc-Excision Procedures (BETOS P1F) Accounting for High Cost and Volume in CA WC, 1999

According to WCRI data on accident year 1999 claims for 12 states, cost and utilization of minor and major surgical procedures in the California system was not markedly higher than in the other states. For minor surgeries, California had the fourth-lowest average price per service, average payment per procedure, and average payment per claim out of the 12 states. In terms of utilization, California was the fourth highest, with an average of 3.3 minor surgical services per claim. For major surgeries, California had the third-lowest average payment per claim and average payment per procedure and the second-lowest average price per service. California's utilization of major surgeries fell at the median for the 12 states: 3.1 services per claim (Eccleston, Zhao, and Watson, 2003).

The WCRI comparison suggests that cost and utilization of major surgery in California are not high compared to other states. However, one can still ask whether costly and risky procedures, such as spinal surgery, are appropriate and necessary. There is some evidence in the general medical literature that suggests inappropriate use of spinal surgery. For example, a recent study stated that rates of spinal surgery vary six-fold by geographic area and that patient characteristics can explain only 10 percent of the variation (Lurie, Birkmeyer, and Weinstein, 2003). A Swiss study found that almost two-thirds of spinal-fusion surgeries were considered inappropriate or equivocal when evaluated against practice standards (Larequi-Lauber et al., 1997).

Radiology

The fourth-largest category in CWCI's ranking of the top 150 OMFS procedures by total paid amount was radiology, which accounted for 11 percent of all payments to professionals between January 2000 and June 2002 (CWCI, 2003b).

Radiology expenditures were primarily driven by MRIs. Figures 3.16 and 3.17 show that, even though MRIs were only 11 percent of radiology service volume, they accounted for more than half of the payments (52 percent). MRIs of the spine (CPT 72141, 72146, 72148, and 72158) accounted for 29 percent of the total paid amount for radiology. MRIs of the lumbar and cervical regions accounted for 16.43 percent and 8.54

percent of total paid amount and 3.46 percent and 1.73 percent of the total volume in radiology, respectively (CWCI, 2003b).

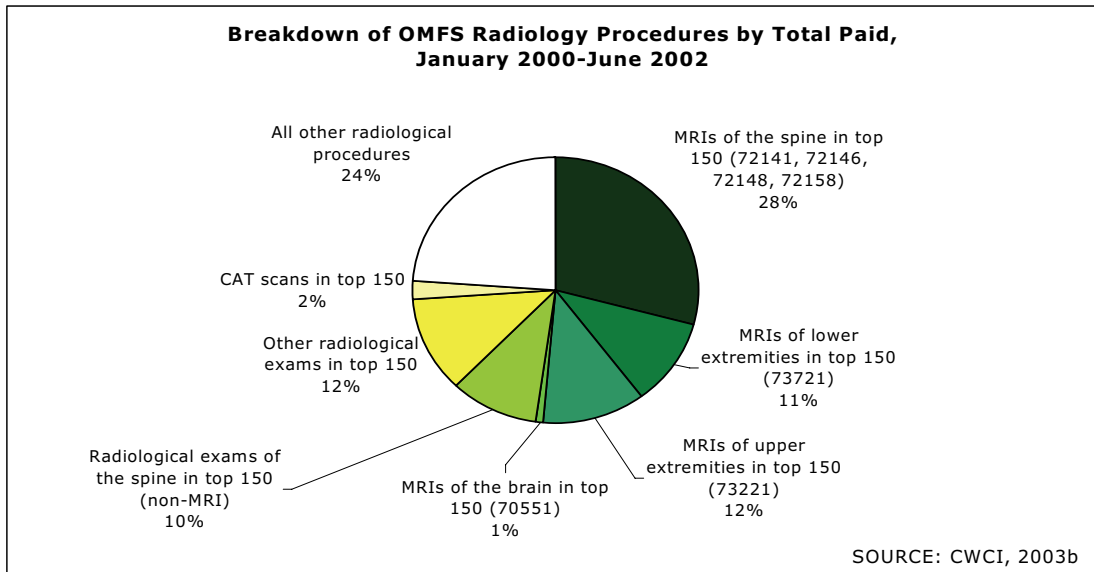


Figure 3.16. Distribution of Total Payments for Radiology Procedures, January 2000-June 2002

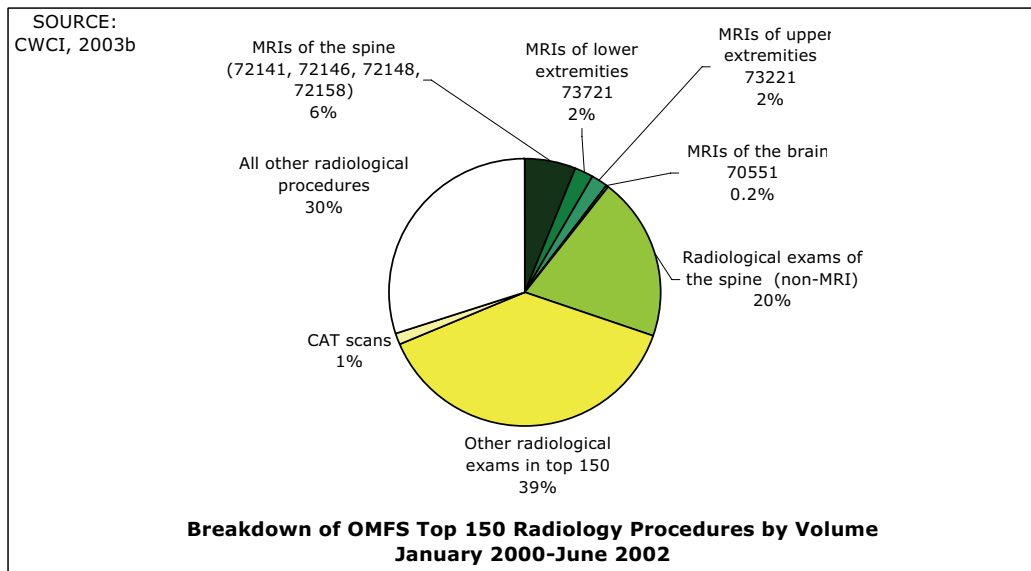


Figure 3.17. Distribution by Volume of Top 150 Radiology Procedures, January 2000-June 2002

No other radiology service approached the cost of MRIs. Of those services costly enough to be included in CWCI's list of the top 150 OMFS codes, other radiological exams, such as x-rays, made up 22 percent of

the total paid amount. These exams were, however, much more frequent, accounting for 58 percent of all the procedures in radiology. While a large portion of the x-ray exams were of the spine (20 percent of volume and 10 percent of total payments), the remainder of the exams were highly heterogeneous, with costs fairly evenly distributed over nine different CPT codes and many different areas of the musculoskeletal system.

Several studies indicate that MRI referrals are highly discretionary. There is some evidence that a considerable percentage of patients who are referred for MRIs do not meet published criteria to undergo the exams. In a 1995 analysis of the costs of care for 169 ambulatory managed-care patients with lower-back pain at a Palo Alto, California, medical clinic, Liu and Byrne (1995) found that the costs of the procedures for 14 patients who underwent MRI totaled 33 percent of the total treatment expenses for the entire study population. Using clinical criteria for MRI use set forth by Deyo et al. (1990), Liu and Byrne (1995) found that five of the 14 patients (36 percent) did not meet the criteria for surgical referral or MRI. The MRI costs for these patients accounted for 62 percent of the total MRI costs in the population. A second study in 1994 found similar rates of inappropriate MRI utilization. Vosburgh and Kopta (1994) examined the medical records of 71 patients who underwent 90 MRIs of the spine or the extremities, performed in three separate sites on both inpatients and outpatients. Using their own appropriateness criteria, they found that 22 percent of the MRIs were inappropriate. In addition, a 1993 study found that regional variations in spinal surgery rates were systematically related to variation in MRI rates, suggesting that controlling MRI utilization could also reduce surgery rates (Lurie, Birkmeyer, and Weinstein, 2003).

FACILITY PAYMENTS

Payments for hospital and ambulatory surgery center (ASC) facility services comprised the second-largest component of medical expenditures after professional fees. In 2003, these facility payments represented 28 percent of all medical expenditures, with 17 percent attributable to hospital outpatient department (HOPD) and ASC facility services and 11 percent attributable to inpatient facility services. Between 1997 and

2003, hospital and ASC facility payments grew 168 percent, a rate of increase that was second only to pharmacy costs (CHSWC, 1998, 1999, 2000, 2001, 2002, 2003b; WCIRB, 2004).

Maximum Allowable Fees for Facility Services

The inpatient hospital fee-schedule portion of OMFS is based on the Medicare prospective payment system for inpatient services provided by acute-care hospitals. The payment is a predetermined amount per discharge based on the diagnosis-related group (DRG) to which the patient is assigned. The initial fees were established at 120 percent of the Medicare rates but, prior to January 1, 2004, had not been updated since 1997 (Wynn, 2004). In addition to the DRG-based payment, devices and instrumentation used for spinal and back procedures are separately reimbursed. Several studies have concluded that the fees are higher than needed to provide injured workers with access to inpatient hospital care and may create incentives for unnecessary utilization (Kominski and Gardner, 2001; Wynn, 2004). SB 228 provided for annual updates in the fee-schedule amounts and continued the pass-through for implantable medical hardware or instrumentation for complex spinal surgeries until the AD adopts a regulation addressing the issue specifying separate reimbursement, if any, for these costs.

Prior to January 1, 2004, payments for facility services furnished in connection with emergency room services and ambulatory surgery were not subject to OMFS. Kominski and Gardner (2001) found that payments have been substantially higher than the amounts paid by group health insurance or the amounts that would be payable under Medicare. SB 228 established a fee schedule for these facility services (including procedures performed in freestanding ASCs) based on 120 percent of the amount that would be payable for comparable services under the Medicare program.

Medical Procedures Leading to High Inpatient Facility Costs

The medical procedures associated with hospital inpatient stays can be seen by decomposing inpatient facility volume and total paid amount by DRG. Table 3.18 identifies those DRG groupings that individually

accounted for at least 3 percent of inpatient payments in 2000.¹⁰ In the aggregate, these DRGs accounted for 48 percent of all payments for inpatient-hospital facility services. All other DRGs individually accounted for less than 3 percent of the total payments for inpatient-facility payments.

Spinal-fusion DRGs accounted for 18.2 percent of the inpatient stays and approximately 28 percent of total inpatient hospital payments in 2000. Other high-volume DRGs were for nonspinal back and neck procedures (11.4 percent), major joint procedures and limb reattachment (4.6 percent), medical back problems (4.0 percent), and lower-extremity procedures (3.8 percent). All other DRGs accounted individually for less than 3 percent of the inpatient volume (Figure 3.19).

¹⁰ The study used an updated Medicare fee schedule in simulating paid amounts and excluded both pass-through amounts for medical hardware and DRGs with fewer than 10 patients.

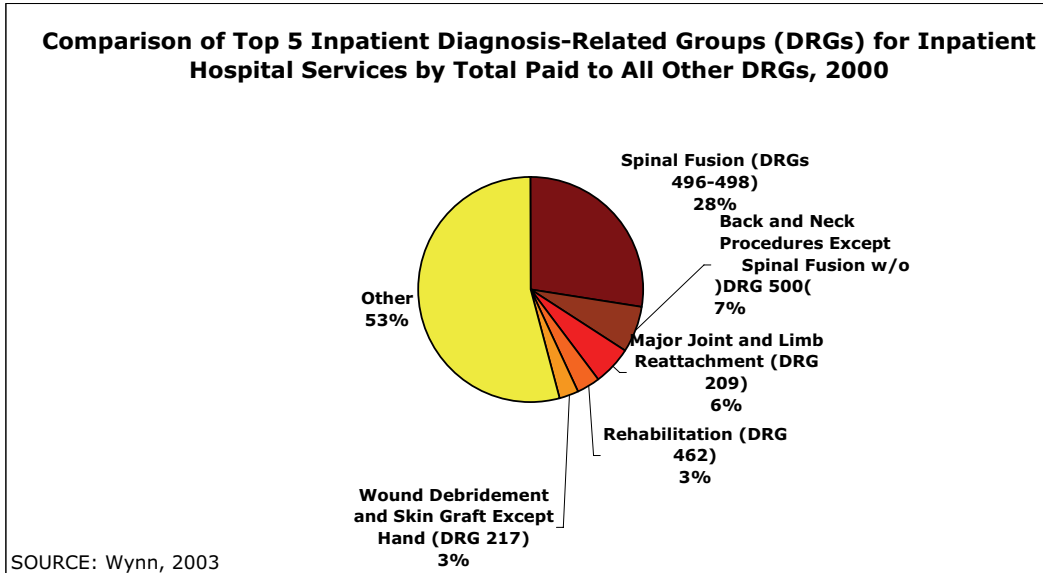


Figure 3.18. Comparison of Top 5 Inpatient Diagnosis-Related Groups (DRGs) for Inpatient Hospital Services by Total Paid to All Other DRGs, 2000

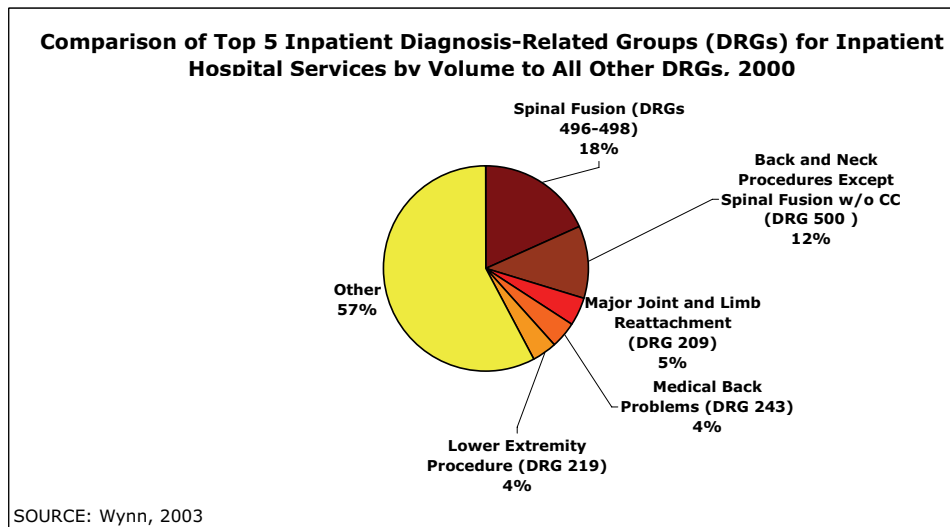


Figure 3.19. Comparison of Top 5 Inpatient Diagnosis-Related Groups (DRGs) for Inpatient Hospital Services by Volume to All Other DRGs, 2000

Given the elective nature of spinal-fusion surgery and the expensive hardware that is often used, their large fraction of inpatient stays for WC patients is noteworthy. It is possible that medical treatment guidelines could significantly reduce inpatient admissions for spinal fusion.

Procedures and Services Leading to High Outpatient Facility Costs

The top 100 procedures by volume in outpatient surgical facility fee data from hospitals and freestanding surgery facilities reveal that outpatient facility costs were also driven by elective procedures.¹¹ Figures 3.20 and 3.21 show that procedures for acute trauma (including procedures for foreign-body removal, wound repair and debridement, the application of casts and strappings, and the treatment of burns and fractures), which are likely to be nondiscretionary, accounted for 35 percent of the volume of claims involving outpatient facility fees but only 10 percent of the total payments. Elective procedures such as knee and shoulder arthroscopy, shoulder repair, neuroplasty, and spinal and paravertebral injections, on the other hand, accounted for 31 percent of the outpatient volume and 47 percent of the total paid amount (Kominski and Gardner, 2001).

¹¹ Outpatient surgical facility fee data are from Kominski and Gardner (2001) and include data from both self-insured employers and traditional insurance carriers gathered from CWCI, private outpatient facilities, and managed-care vendors. The study used 14,017 claims with dates of service between January 1, 1999, and March 30, 2001, that mapped to either an ASC or ambulatory payment classification (APC) group.

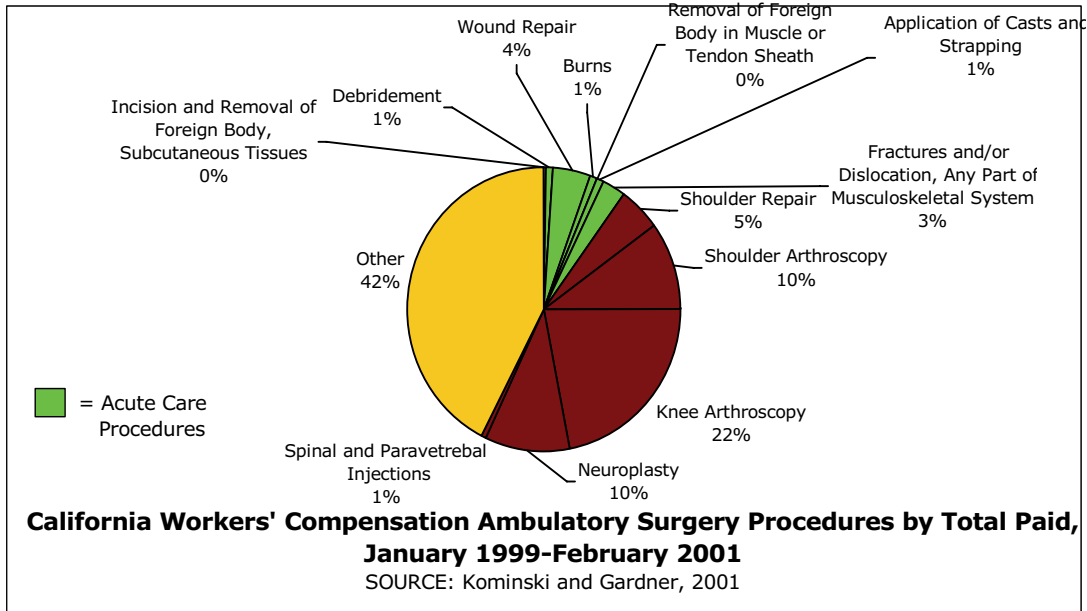


Figure 3.20. Distribution of Payments for Ambulatory Surgery Facility Fees, January 1999-February, 2001

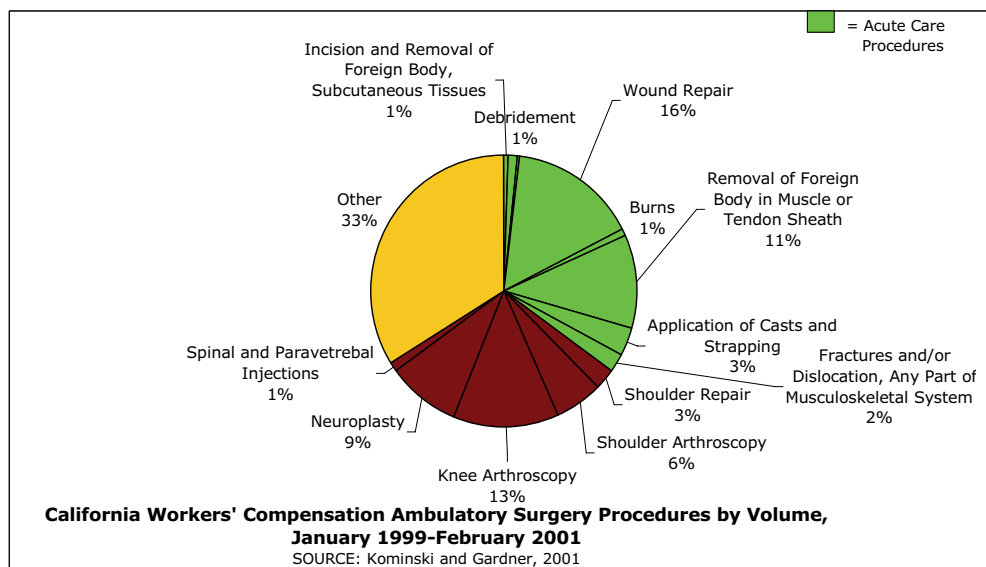


Figure 3.21. Distribution by Volume of Ambulatory Surgery Procedures, January 1999-February 2001

California's Average Facility Fees and High Utilization Versus Other States

Compared to WC programs in 11 other states using WCRI data from accident year 1999 claims, California had the second-highest average payment for hospital facility services per claim and above-average utilization (5.6 facility services per claim). California's average

facility fee was below the 12-state median. Thus, California's high total costs for facility services was due more to a high utilization of services per claim than to high payments per service. It should be noted, however, that California did not have a high percentage of total claims with hospital facility services relative to other states. Only 12 percent of claims involved facility fees compared to the low of 9 percent in Texas and the high of 22 percent in Massachusetts among the 12 states in the comparison (Eccleston, Zhao, and Watson, 2003).

Pharmaceutical Costs

Payments for pharmaceuticals, though only 9 percent of total medical costs in 2003 and small compared to payments for physician and hospital services, had the largest increase between 1997 and 2003 (356 percent) (see Figure 3.4). This rapid growth led to the share of total medical costs for which payments for drugs accounted increasing from 5 percent in 1997 to 9 percent in 2003.

Drug Classes and Trends in Drug Use Leading to High Costs

Previous research has examined pharmacy payments by drug type and identified a number of factors driving pharmacy costs, such as lack of pain management, demand for brand-name drugs, and higher OMFS fees than those in other WC systems. A 2000 CHSWC study using CWCI claim data from 1998 and 1999 showed that six groups of drugs made up 92 percent of all pharmacy claims. Class III and IV narcotic pain medications comprised the largest group, accounting for 41 percent of the volume. The second-largest category was nonsteroidal, antiinflammatory drugs (26 percent) and was followed by musclerelaxants (13 percent). Analgesics and class IV sedatives made up 7.8 percent and 3.1 percent of the volume, respectively (see Figure 3.32). This breakdown indicates that almost 80 percent of all prescribed medications were for pain. Thus, pain is a cost driver, and pain-management programs could be considered as a way to curtail some pharmaceutical costs (CWCI, 2002). A November 2002 CWCI report on pharmaceutical cost management made another important finding: Some heavily advertised brand-name drugs have gained a large share of the volume of prescriptions and of the total drug cost in California WC (see Figure 3.22). Demand for highly advertised drugs is not only a

cost driver but may also lead to inappropriate treatment. For example, a RAND cross-sectional study (not limited to WC patients) conducted at Kaiser Permanente Medical Care Program of Southern California examined the association of direct-to-consumer advertising with appropriate prescribing of COX-2 inhibitors. The study found that a patient who saw or heard a COX-2 advertisement and asked his or her physician about the advertised drug was significantly likelier to be prescribed a COX-2 (versus traditional NSAIDs, as recommended by evidence-based guidelines) than all other patients (Spence et al., 2005). Pharmacy benefit managers attempt to control demand for direct-to-consumer advertised drugs through targeted patient communications. More communication of this type within the California WC system could reduce pharmaceutical costs (CWCI, 2002).

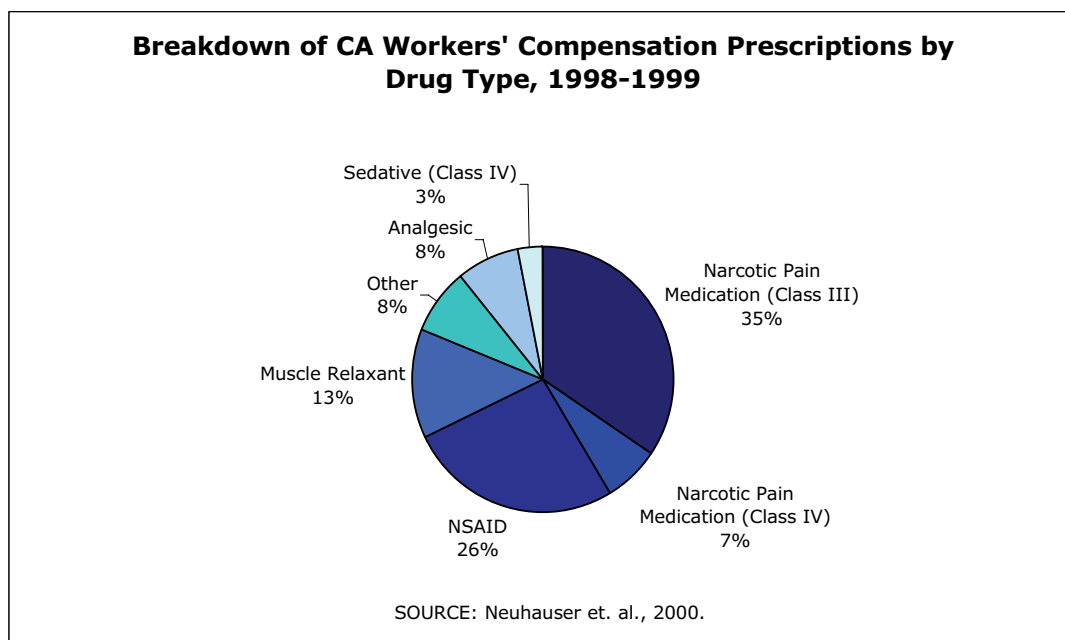


Figure 3.22. Breakdown of CA Workers' Compensation Prescriptions by Drug Type, 1998-1999

The Previous System for Making Pharmacy Payments and Recent Changes

Payors commonly use AWP as a benchmark in establishing payment amounts for drugs. AWP is a self-reported manufacturer price ("sticker price") and does not reflect actual market prices for drugs. Typically, the fee-schedule amount is a discount off AWP. Commercial publishers,

such as First DataBank and Thomson's Medical Economics unit, compile AWP pricing data.

Until January 1, 2004, the maximum allowable fee under OMFS depended on whether a brand-name or generic drug was provided. The maximum allowable fee for brand-name drugs was set at 110 percent of AWP plus a \$4.00 dispensing fee. For generics, OMFS allowed 140 percent of AWP plus a \$7.50 dispensing fee. A CHSWC-commissioned study found that the allowable fees represented substantial premiums over those imposed by other states' WC systems, other regulated systems such as federal WC, and privately negotiated contracts by managed-care and nonoccupational group health insurance (Neuhauser et al., 2000). Beginning January 1, 2004, SB 228 limited the maximum allowable fee for drugs under the WC system to the Medi-Cal fee-schedule amount. Effective September 1, 2004, the Medi-Cal formula for the AWP-based price was reduced to 83 percent of AWP so that the OMFS fee is the lowest of

- the maximum allowable ingredient cost (MAIC) limit established for certain multisource drugs based on a reference product that Medi-Cal determines to be generally equivalent in quality to those products generally used by physicians throughout the state plus current professional fees.
- the federal allowable cost (FAC) limit established by the federal Medicaid program for certain multisource drugs.
- the estimated acquisition cost (EAC) limit based on the lower of AWP minus 17 percent or the price determined for certain drugs California pharmacies frequently purchase in bulk purchase sizes.
- the charge to the general public.

The professional dispensing fee is set at \$7.25 for drugs dispensed by pharmacies. The Medicaid rules do not recognize the additional product cost due to special repackaging of drugs for dispensing from physician offices. Since the National Drug Codes for these drugs are not in the Medi-Cal formulary, the prior fee-schedule rules applied to these pharmaceuticals (Wynn, 2005) until the AD issued a fee-schedule amount for these drugs. Effective March 1, 2007, the fee schedule ties reimbursement for repackaged drugs to the unit costs of the underlying drugs from the original labeler.

Future Trends Resulting from California Assembly Bill 749

In addition to the fee-schedule changes, other changes have been made in payments for pharmaceuticals that should constrain costs in the future. AB 749, which took effect in 2003, requires a pharmacy to dispense a generic equivalent unless a physician specifically provides for a nongeneric drug or the generic is not available. SB 228 extended the provision to any person or entity that dispenses drugs. AB 749 also allowed employers and payors to collectively contract with pharmacies or pharmacy benefit managers to provide medicine and supplies to injured workers at lower negotiated rates (although, with the Medi-Cal fee schedule being used under OMFS, it is not clear whether this provision is being used widely).

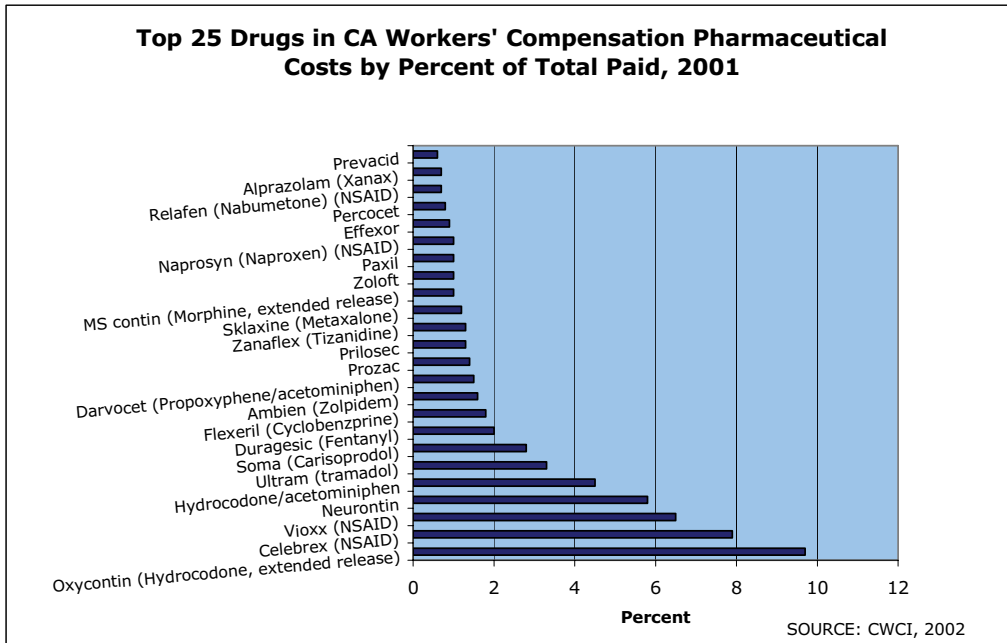


Figure 3.23. Top 25 Drugs in CA Workers' Compensation Pharmaceutical Costs by Percent of Total Paid, 2001

SUMMARY

Medical payments in the pre-reform period were the fastest-growing component of workers' compensation expenditures and accounted for 51% of annual expenses in 2003. Utilization rather than price increases had been the major factor in the increase in payments for professional and hospital inpatient services. Comparative data with 11 other state

programs indicate above-average utilization of physical medicine services but not surgical services. Pharmaceuticals were the fastest-rising component of medical expenditures over the study period. Both price and utilization, particularly for pain management, were major factors, along with the use of brand-name drugs, in the rising costs of pharmaceuticals.

CHAPTER FOUR. MEDICAL CARE FOR INJURED WORKERS: ACCESS, QUALITY, AND OUTCOME ISSUES

In this chapter, we discuss major issues involving medical care provided to California's injured workers, including access to care, care coordination, health outcomes, and return to work. The first section reviews existing studies on these topics. Because they were conducted prior to the passage of AB 749, SB 228, and SB 899, we conducted a series of key informant interviews to understand the implications of the new legislation in 2004. The second half of the chapter presents the findings from the interviews.

FINDINGS FROM EARLIER STUDIES

Health-care quality can be defined in terms of overuse, underuse, and misuse of medical services (IOM, 2001). When looking specifically at WC medical care, value-based care should translate into good access to appropriate, high-quality care; high patient satisfaction; good, long-term health outcomes; and return to sustained employment for as many injured workers as possible.

Access

Potential barriers to accessing the WC program occur at several levels. Primary access issues, or barriers to initially entering the program, include employees who lack information about their rights to receive care for work-related injuries and to predesignate a treating physician, employers who do not provide WC insurance despite legal obligations to do so, delays or denials in determining the work-relatedness of an injury and in filing the necessary paperwork to establish a claim, and an insufficient supply of providers who are willing to treat WC patients. Administrative burden and low payment rates are commonly cited reasons for not treating WC patients. Once a patient has entered the WC program, access to care may be further hindered by secondary access issues, such as restrictions on provider selection; delays by insurers in authorizing treatment and making referrals to specialists; and the occasional situation in which a patient has to pay out-of-pocket for some care, such as prescription drugs. At later stages of involvement with WC medical care, workers

continue to face potential barriers to quality care. These barriers include being treated by providers with limited knowledge of occupational medicine, communication gaps among parties involved in a claim, distrust among the program's stakeholders, and poor continuity of care between the medical care provided in the WC program and the general medical system. Various studies have found evidence of some injured workers experiencing all of these barriers to accessing timely and appropriate medical care (Rudolph et al., 2001; Dembe, Sum, and Baker, 2003a, 2003b; Rudolph et al., 2002; Sum and Stock, 1996; Lashuay et al., 2002).

Some evidence suggests that injured workers may have better access to care when they select their own initial providers. A WCRI survey of California injured workers in 2003 found that 72 percent of workers choosing their primary care providers reported no problems, 12 percent reported small problems, and the remaining 16 percent reported large problems. When the employer chose the primary care provider, about the same percentage (71 percent) reported no problems, but the percentage reporting large problems increased to 22 percent (Belton, Victor, and Liu, 2006). It is not clear whether this finding will continue to apply after the medical networks are fully established. In Pennsylvania, for example, workers with access to panel providers have had improved access and outcomes over time. Workers with sufficient choice within the provider panel reported the best outcomes (Pennsylvania Department of Labor and Industry, 2005).

Quality

It is widely acknowledged that the quality of care in the U.S. health-care system is inadequate. The Institute of Medicine (IOM) book *Crossing the Quality Chasm* (2001) described the immense size of the problem. RAND research on the quality of ambulatory care provided to U.S. residents in 12 metropolitan areas found that these residents received only 59 percent of recommend care (McGlynn et al., 2003).

There is only limited evidence regarding the quality of medical care provided to injured workers, but there is no reason to believe that it differs from the discouraging findings in the general medical-care system. On the contrary, the quality of health care in WC programs seems

to be at least as troublesome as in the U.S. health-care system as a whole, if not more so (Rudolph et al., 2001; Teleki, Damberg, and Reville, 2006). Of additional concern to employers is the implication of WC medical treatment on workforce productivity. Again, systematic evidence from WC care is lacking, but studies conducted in general medical care can serve as an illustration. A recent study showed, for example, that 76.6 percent of the productivity loss caused by chronic pain was due to reduced performance at work rather than absence from work (Stewart et al., 2003).

A 2001 DWC study that involved a wide variety of stakeholders found general agreement on the following barriers to improving quality in the WC program: distrust, lack of knowledge and information for employees, the skills of treating physicians, poor communication and coordination, PTP presumption, lack of incentives for quality, and lack of accountability (Rudolph et al., 2001).

As discussed in Chapter Three, the increases in medical treatment costs for injured workers have been largely attributable to high and potentially inappropriate utilization of medical services. Medical treatment guidelines, such as those required by the reform legislation, can be an important tool for implementing evidence-based medicine. Guidelines can be used by clinicians to support treatment decisions and by payors to determine whether a specific treatment is appropriate for a particular patient and therefore whether it should or should not be provided.

In a separate task for this RAND study, Nuckols et al. (2005) identified priority topic areas based on the analyses reported in Chapter Three of this paper: MRI of the spine, spinal injections, spinal surgeries, physical therapy, chiropractic manipulation, surgery for carpal-tunnel and other nerve-compression syndromes, shoulder surgery, and knee surgery. The researchers evaluated five evidence-based, peer-reviewed guideline sets that addressed these areas. The five guidelines rarely adequately addressed the appropriateness of physical modalities. While the ACOEM guideline performed well for four of the five surgical topics (with the clinical guidelines by the American Academy of Orthopedic Surgeons performing better for lumbar spinal-fusion surgery), the validity of the ACOEM guidelines for the physical modalities and

remaining content was uncertain. Based on a clinical review and input from knowledgeable individuals involved in various roles with the medical care provided to injured workers, the study recommended the following priority areas for guideline development (Nuckols et al., 2005):

- physical therapy of the spine and extremities
- chiropractic manipulation of the spine and extremities
- spinal and paraspinal injection procedures
- MRI of the spine
- chronic pain
- occupational therapy
- devices and new technologies
- acupuncture.

Continuity and Coordination of Care. Providers of patients with work-related conditions are less likely to be those patients' primary care physicians (Dembe, Fox, and Himmelstein, 2002). As a result, continuity and coordination of care have been important issues, particularly in the nonnetwork situation, in which the employer may direct care for the first 30 days only, after which the employee may choose the PTP. Under this system, multiple providers often treat injured workers, with potential disruption in the continuity of care. One study found that fewer than 20 percent of patients in California were treated by a single doctor each, and one-quarter of the patients saw five or more different doctors each (Rudolph et al., 2002). Another study reported that multiple nonemergency providers had treated 79 percent of California workers (Victor, Barth, and Liu, 2003).

Experience in Occupational Health. Providers with training in occupational medicine are better equipped than other providers to meet the needs of injured workers (Rudolph et al., 2001). Providers treating injured workers must be able to write detailed reports that will be useful to all parties relying on the reports to make decisions about medical treatment and benefits. They also need to be able to understand exactly what an employee does in the course of their job, so that they can prescribe the right type of treatment, assess readiness for returning to work, and make recommendations for modified work situations. California workers in one study reported having little

confidence in their providers' ability to understand the impact that their work injuries had on their work demands. Survey respondents reported that 68 percent of providers talked about work restrictions and 73 percent suggested ways to change their job to encourage healing (Rudolph et al., 2002).

Outcomes

The two main goals of any WC program are to return all injured workers to their preinjury levels of health and physical functioning to the maximum degree possible and to return them to the workforce. The first goal is accomplished by providing appropriate care in a timely manner. The second goal is achieved by working with health-care professionals who can accurately assess a worker's readiness to return to work.

The intended outcomes of the WC program, functional improvement and return to work, have the potential to be in conflict (Rudolph et al., 2001). Getting an employee back to work as soon as possible can result in less than optimal functional outcomes. For example, an employee who returns to work before an injury is completely healed or before changes can be made to job duties to prevent a repeat injury can end up developing a permanent disability. Conversely, providing medical care to the injured worker that achieves the best possible functional recovery may prolong the amount of time an employee is not working and can contribute to higher medical and indemnity costs for the WC program.

In the WCRI four-state survey of injured workers, the California workers did not have more severe injuries than did workers in other states (Victor, Barth, and Liu, 2003) but had higher utilization. Despite having higher utilization, California workers had lower rates of return to work and of remaining in their jobs after returning to work, took longer until they returned to work, and were less satisfied with their medical care.

Ten percent of California workers in the WCRI study never returned to work as a result of their injury (Victor, Barth, and Liu, 2003). Workers with back injuries were less likely to return to work for periods of at least one month. Of workers who were able to return to work for a period of at least one month but later had to leave work

again due to their injury, 63 percent said that their initial return to work happened too soon. Employees reported that they return to work before they have fully recovered because they are fearful that they will lose their jobs (Rudolph et al., 2001; Victor, Barth, and Liu, 2003). In another study, 44 percent of injured workers who returned to work said that they returned too soon after the injury; 23 percent said that their employers were "not at all" or "not too helpful" in helping them to return to work after the injury. Thirty-eight percent had job changes to help return to work after injury, and most (79 percent) of those with job changes were satisfied with the changes (Rudolph et al., 2002).

Returning an employee to work before the worker is ready can lead to reinjury, particularly if the employer has not made adequate changes to prevent further injuries. In a focus-group study, some workers reported frustration with employers who did not always provide modified work opportunities or only temporarily provided modified work and then prematurely increased the employee's work duties before the employee was completely ready (Rudolph et al., 2001).

Stakeholder Satisfaction and Distrust

Distrust among stakeholders contributes to dissatisfaction with the program and discourages positive outcomes. The distrust is present among virtually all stakeholder groups. For example, claim adjusters and employers often feel that workers exaggerate or lie about their injuries to take advantage of time off work and disability payments (Rudolph et al., 2001; Sum and Stock, 1996). Applicants' attorneys are perceived as elevating the seriousness of an injury claim or unnecessarily extending the process to receive a larger settlement, which leads to a larger payment for them (Rudolph et al., 2001; Sum and Stock, 1996). Insurers are seen as delaying or denying coverage and payment of benefits for their own financial benefit (Sum and Stock, 1996).

With respect to worker satisfaction, a 2003 WCRI study reported that 83 percent of injured California workers were somewhat or very satisfied with their overall care (Victor, Barth, and Liu, 2003). Despite this, injured workers have great distrust of other stakeholders in the program and significant concerns about their care. These concerns play out in injured workers' decisions to litigate. Injured workers also

often hire attorneys due to lack of information about their rights within the program and a feeling that they need someone who will be on their side (Rudolph et al., 2001; Sum and Stock, 1996).

Experiencing a work injury can strain the relationship between the employer and employee. Injured California workers who did not return to work for at least one month were likelier to have relationships with their supervisors that were characterized by distrust (Victor, Barth, and Liu, 2003). Workers may blame their employers for not taking action to prevent the injury and are further insulted when employers do not remedy the cause of an injury after it has happened (Rudolph et al., 2001). Nearly one-third of California injured workers surveyed by the WCRI feared that they would lose their jobs as a result of their injuries, regardless of whether they were able to return to work or not (Victor, Barth, and Liu, 2003). Injured workers resent the feelings of distrust that employers, claim administrators, and providers have of them, recognizing that some believe that workers lie about their injuries to "game" WC.

Workers who are satisfied with their provider choices are likelier to be satisfied overall with their experience with WC (Rudolph et al., 2002). In California's WC program prior to January 1, 2005, employers selected the PTP to provide care to an employee for the first 30 days after an injury occurred unless the employee had predesignated a personal primary care physician. In one study, 26 percent of California workers selected the initial provider; the employer made the choice for 57 percent of the injured workers; and attorneys (1 percent), hospitals and clinics (12 percent), or someone else (4 percent) selected for the remaining workers (Victor, Barth, and Liu, 2003). Workers who chose their own initial providers were likelier to report high satisfaction with their overall care than were workers whose employer selected their initial providers. Injured workers whose employers selected their initial and primary-care providers were likelier to report wanting to change providers based on their dissatisfaction with their care (Victor, Barth, and Liu, 2003).

FINDINGS FROM STAKEHOLDER INTERVIEWS CONDUCTED FOR THIS STUDY

In conjunction with another study task to evaluate the medical treatment guidelines, we conducted a series of telephone interviews with stakeholders involved in the medical care provided to injured workers. The purpose was to obtain information on the likely impact of the legislative changes on access, cost, and quality. In this section, we summarize the themes that emerged in these interviews.

Methodology

Our interviews included practicing physicians and practitioners in different specialties that treat injured workers (including both primary care physicians; surgeons; and nonphysician practitioners such as chiropractors, therapists, and acupuncturists), provider and business-association representatives; applicants' attorneys and worker advocates; individuals employed by payors to perform UR and claim administration; government officials, including a judge; and other persons generally knowledgeable about California WC issues. We used a semistructured interview guide that was approved by RAND's Human Subjects Protection Committee. Interviewees were told that we would keep their identities confidential but that their comments would be summarized along with those of other interviewees. The interview guide asked about the interviewee's perceptions of

- the strengths and weaknesses of California's WC program with particular attention to cost drivers and quality issues
- the likely impact of the recent legislative changes on incentives to deliver high-quality care in an efficient manner
- additional changes that should be made in the way in which care is delivered to injured workers
- particular aspects of the system that should be monitored closely.

The interview guide is in Appendix A. In total, we conducted interviews with 20 individuals lasting about 75 minutes each. We started with a list of individuals and organizations that were recommended either by CHSWC or DWC staff or experts in occupational medicine as knowledgeable stakeholders in California's WC. We expanded the interviews to include others who expressed particular interest in the

medical treatment study and a desire to provide information on their particular experiences. Thus, the interviewees did not represent a random sample of California stakeholders but rather a broad spectrum of individuals with different perspectives and concerns.

The interviews were conducted from June to October 2004, so the findings reflect early experiences with the reform legislation. Some comments may become less relevant as workers and their representatives, providers, employers, and payors alike gain familiarity with the reform provisions. We found that most interviewees brought up the ACOEM guidelines during the interview and that the medical network issues were of far less interest at the time, perhaps because the formal rulemaking process to implement the medical network provisions of SB 899 had not begun. Nuckols et al. (2005) present a fuller discussion of the themes that interviewees raised regarding the ACOEM guidelines and UR processes.

Common Themes in the Interviews

The issues that were raised in the interviews can be classified into the following topics:

- Medical necessity determinations
- Dispute resolution
- Fee schedules
- Systemic problems.

Medical necessity determinations. The interviewees were most concerned with how the medical treatment guidelines were being applied during UR to determine whether care was reasonably required. There was general consensus that the use of evidence-based guidelines to define *care reasonably required to cure or relieve an injured worker* has the long-run potential to improve quality of care; however, the most common theme that interviewees raised concerned the rigidity with which the guidelines are applied. Providers (including those selected by employers) and representatives for injured workers were consistently concerned that practice guidelines were being applied very stringently without allowing any clinical judgment to consider a particular patient's needs. Another commonly voiced concern was that the ACOEM guidelines were developed as practice guidelines and needed to be

translated into utilization criteria that include the frequency and duration of care. Interviewees also expressed concern that the guidelines are directed to the PTP caring for a worker during the acute stage of an injury and do not adequately address chronic conditions, particularly pain management. Specific areas of particular concern to some interviewees were chiropractic services, physical and occupational medicine, acupuncture, devices, and new technologies.

According to providers, applicants' attorneys, and a WC appeal judge, the payors were taking a hard line in applying the medical treatment guidelines, and, as a result, almost every plan of treatment was being contested. Several interviewees questioned the qualifications and experience of the UR physicians and suggested that their credentials and credibility should be monitored. There was general recognition that implementation of the ACOEM guidelines posed a steep learning curve for all parties, but interviewees expressed different levels of optimism about whether the early implementation problems, such as high denial rates and claim backlogs, would decline substantially as more experience was gained under the system.

Dispute Resolution. Because we conducted our interviews shortly after the ACOEM guidelines were implemented as the presumptively correct standard of medical care, there was not a body of case law interpreting how the guidelines would be applied in individual cases and the standards that would be applied in determining whether other evidence-based guidelines rebutted the presumption. Interviewees expressed concern that the level of burden of proof to rebut the ACOEM guidelines (preponderance of evidence) is onerous because evidence for treatment frequency and duration is limited and many practice guidelines are consensus-based. Even when there is evidence to support a particular therapeutic approach, providers noted that putting the evidence together is very time-consuming for a practicing physician and, while the care is reimbursable, the incremental effort of gathering evidence is not.

To address the delays being experienced in claim adjudication during at least the early stages of implementation, applicants' attorneys indicated that they were making more use of the expedited hearing process to resolve medical treatment disputes. Several interviewees identified the AME process available to attorney-

represented workers as an excellent process but one that is not feasible because there are too few qualified AMEs to examine patients in a timely manner.

Fee-Schedule Issues. In general, interviewees noted that the new fee-schedule provisions had been implemented smoothly and should serve to reduce the volume of disputes between payors and providers. Some concerns were expressed about specific aspects of the fee schedules:

- Orthopedic surgeons were concerned generally about the new maximum allowable facility fees for ambulatory surgery and raised three specific issues: the inconsistent treatment between the inpatient and outpatient fee schedules in the payment for hardware implanted during spinal surgery, the adoption of Medicare's restrictions that some procedures be performed only as inpatient procedures, and prior-authorization requirements for physicians who have an ownership interest in the ASC.
- Payors expressed concern about services that are still not covered by OMFS, most notably inpatient rehabilitation services and home health services.
- Payors were also concerned that drugs that are repackaged and dispensed directly by physicians were not subject to the new schedule payments based on the Medi-Cal payment rates for pharmaceuticals but would continue to be paid under prior fee-schedule rules (see Wynn, 2005, for a discussion of this issue).

Medical Networks. As previously mentioned, the interviews were conducted before the rulemaking process for the medical provider networks had been initiated. Several areas of potential concern were identified.

- One issue was whether the medical networks would provide sufficient access and whether the time a worker needed to wait for an appointment would be adversely affected.
- Another issue was how selective employers would be in forming the medical networks. Applicants' attorneys expressed concern that applicant-selected physicians would

be excluded, while payors expressed concern about potential challenges to keeping some physicians out of the network.

- Physicians expressed concern that fee discounting would be a selection criterion for inclusion in the provider network.

Systemic Issues. Several themes that interviewees raised concerned the broader system of medical care provided to injured workers rather than specific reform provisions. These included the following:

- The administrative burden imposed on all providers caring for injured workers and the potential access problems that might result. In the words of one interviewee, a reasonable physician providing reasonable care should not be overburdened by administrative requirements and review.
- The complexity of the provisions governing medical care provided to injured workers following enactment of the reform legislation. There are now four delivery systems and appeal mechanisms (network/nonnetwork and predesignation/no predesignation) that present a challenge for stakeholders to understand.
- Inadequate incentives and accountability for payors to make timely and appropriate decisions on medical treatment.
- The level of distrust and contention with the system. While the reform measures may eventually reduce the tensions, early implementation issues regarding the medical treatment guidelines and UR process have heightened them at least temporarily.

DISCUSSION: ANTICIPATED IMPACT OF THE REFORM PROVISIONS

Access

Several provisions of SB 899 have the potential to affect worker access to care. Some effects may be positive, while others may raise access issues. First, workers are entitled to receive immediate care for work-related injuries, up to the cost of \$10,000, before a determination is made regarding whether the claim is compensable. Previously, benefits were not payable until the compensability determination. Thus, injured

workers should now receive medical care more promptly, which should improve outcomes.

Second, for workers whose employers establish medical networks for treating WC patients, the challenging process of locating providers who are willing and able to treat WC patients may become easier, because the network must have a sufficient number of providers representing a variety of specialties in locations convenient to covered workers. While a medical provider network may ameliorate access problems related to locating a provider, it also restricts the injured worker's choice to those providers in the employer's medical network. Some studies suggest that this might lead to less satisfaction with care; however, Pennsylvania's experience would suggest that satisfaction may actually increase if there is sufficient provider choice within the network.

Third, the several provisions may discourage physician participation. SB 899 allows employers and insurers to develop their own fee schedules to use with their medical provider networks. This provision's impact on access and physician willingness to participate in the network will depend on how it is implemented. In addition, OMFS reduced physician fee allowances up to 5 percent. New rules governing medical treatment guidelines could further discourage physicians from providing care to injured workers. Over time, however, these rules could also serve to reduce the number of disputes between providers and claim examiners and reduce administrative burden. Depending on how they are implemented and enforced, other provisions, such as the requirements pertaining to UR processes, may improve program administration and payor accountability, thereby increasing physician willingness to provide care to injured workers.

Quality

The medical treatment guidelines should help address inappropriate utilization issues (Harris and Swedlow, 2004) and increase the quality of care. However, the ACOEM guidelines also raise issues regarding access to appropriate medical care for the priority areas for guideline development noted above and for patients with unusual medical needs that the guidelines do not contemplated (Nuckols et al., 2005).

The requirement that payors employ UR criteria that are consistent with medical treatment guidelines should reduce the variability in the criteria for assessing whether care is appropriate (Gray and Field, 1989; Wickizer and Lessler, 2002). The guidelines may also reduce the number of providers a patient sees. Because these guidelines will be given deference over the PTP's clinical approach, workers dissatisfied with a provider's treatment decisions may have less opportunity for alternative care from another provider. In particular, fewer physicians may treat an injured worker receiving care in a medical network over the course of their treatment than would treat a worker whose employer does not use a network, because these physicians are required to provide care in accordance with the medical treatment guidelines. The requirement that workers who disagree with their treating physician must obtain opinions from two additional network physicians before being allowed to request an IMR may also affect the number of physicians who treat an injured worker. It may be too burdensome for workers to utilize this appeal mechanism for smaller problems but would require a worker to see additional physicians to reach the IMR review for major issues.

The medical networks have the potential to improve care coordination and to concentrate care with physicians with occupational-health experience. Whether this potential is realized depends on how the networks are formed and operated. Employers (or insurers on their behalf) face a decision regarding how large the provider panel should be. A "narrow" network, or a select group of providers, is likelier to have established referral and communication patterns, and individual physicians within one are likely to treat more injured workers and be familiar their special needs. Coordination of care among the panel members should also be easier than it would be in a "broad" network (a larger but less selective provider panel). Thus, there may be some access and quality trade-offs in deciding how to form the medical networks.

Outcomes

To the extent that the implementation of the reform provisions improves access and quality of medical treatment, the provisions should also improve outcomes and return to work. In addition, a separate reform provision may increase the potential for modified work opportunities. An

employer's permanent disability payments are reduced 15 percent if the employer provides injured workers with regular, modified, or alternative work.

CHAPTER FIVE. CONCEPTUAL FRAMEWORK FOR AN ONGOING MONITORING SYSTEM

The purpose of this chapter is to describe the principles and conceptual framework guiding the design for a comprehensive performance-monitoring system (i.e., a report card) for California's WC system. The design expands on the CHSWC report "Selected Indicators in Workers' Compensation: A Report Card for Californians" (CHSWC, 2005).

This chapter is composed of four sections. We first describe the rationale for the report card, including its primary audience and intended use. Next, we describe the design approach to creating the report card. The third section sets out a conceptual framework to capture the essential components of the WC system. The last section summarizes the next steps that would be required for implementation of the framework.

THE RATIONALE FOR A WORKERS' COMPENSATION REPORT CARD

As outlined in the previous chapters, California's WC system suffers from severe problems in terms of high cost and utilization as well as inadequate quality and stakeholder satisfaction. Several recent reforms have targeted those problem areas. Reforming a complex and highly contentious system is always a daunting task for policymakers and requires detailed and reliable information about its performance. Absent information on how the WC system is working, policymakers cannot identify problem areas, craft interventions, and evaluate the impact of their reforms. However, the state currently lacks a comprehensive performance-monitoring system that supplies actionable information on a routine basis and has to rely on special studies to address policy concerns. While such studies provide important insight, they are not well equipped to identify potential issues proactively. To be able to design and implement evidence-based policies, a system for routine measurement and monitoring is needed.

The key function of the system would be to inform policy decisions by monitoring WC medical care at the state level—i.e., by providing information on how the system performs in the aggregate. It would be designed to raise questions, not necessarily to provide all the answers.

It can be likened to the dashboard of a car, on which instruments and warning lights provide information about the operation and the status of a car and alert the driver to potential problems. But the car still requires regular inspections and maintenance as well as, from time to time, a mechanic's evaluation. Similarly, a report card can help policymakers and other stakeholders to identify issues, to prioritize resources, and to track the effect of interventions, but it will not replace in-depth research and evaluation projects.

Benchmarking the results would be possible against California's past experience (to the degree that historic data are available) or against others states, if they chose to adopt comparable measures.

To the degree possible, the measures used in the report card should apply to units below the state level. For example, some measures could possibly be broken down by individual medical networks to facilitate value-based purchasing of WC care. There are, however, limits to the degree to which measures can be applied to smaller units of analysis, such as individual providers, for three reasons:

1. Sample size: Most providers do not treat a sufficient number of WC cases to allow drawing statistically meaningful inferences about their performance. And even those who do typically see a variety of injuries cannot easily be lumped together.
2. Case-mix adjustment: Providers will correctly argue that case mix differs across practices, making it difficult to compare their performance without appropriate risk adjustment. For example, the back-pain cases seen by a physician in a San Francisco banking district will differ from those seen at Oakland harbor.
3. Attribution and accountability: It might be difficult to hold individual providers accountable for end results of care when several providers contribute to the patient's outcome. For instance, a general practitioner, a radiologist, an orthopedic surgeon, and a chiropractor may treat a patient with lower-back pain. While one could evaluate whether each provider practiced according to

current medical standards, it would be more difficult to assign responsibility for end points such as overall cost per case and return to work to individual providers, although having a designated PTP may make this easier than it would be in group health insurance.

As a rule of thumb, the higher the level of aggregation, the likelier it is that the measures can be broken down. Thus, reporting measures by geographic region, urban versus rural, industry or medical network versus nonnetwork should generally not pose big problems, whereas the use of most measures for provider monitoring may not be possible. Measures could also be disaggregated by type of injury or worker characteristics, provided that all required data sources provide this level of detail. The level of aggregation at which a given measure can be reported is ultimately an issue to be explored empirically.

DESIGNING A CONCEPTUAL FRAMEWORK OF THE WORKERS' COMPENSATION SYSTEM

Design Approach

The final goal of this chapter is to arrive at a blueprint or framework for a reporting system that is based on a comprehensive set of measures but organizes all selected measures into a few dimensions to facilitate communication.

There are two different strategies for creating frameworks. The first approach, which might be called *bottom up*, starts with the individual measures that are available and creates summary categories that group the measures. This can be done quantitatively, using factor analysis or other methods designed to identify patterns in data, or it can be done qualitatively by obtaining expert opinion. The second approach, which might be called *top down*, starts with conceptualizing the construct that the measures ought to cover and then identifies measures that capture those components.

The bottom-up approach is more frequently associated with research or decision analysis. This approach has the advantage of trying to use all available information. Since the approach is empirically driven, another advantage is the opportunity to identify patterns in data that might otherwise have escaped notice. The disadvantage of this approach,

particularly if done quantitatively (e.g., using factor analysis), is that it may produce results that are difficult to interpret, and the intended audience may not value or easily understand it.

The top-down approach is more structured, because it starts with intuitively plausible categories that reflect our understanding of the essential components of the WC system. The disadvantage of this approach is that there may be categories for which no or few measures currently exist. For this project, we opted for a top-down approach, primarily because WC care affects a wide variety of clearly distinct categories, reaching from access issues over direct medical cost to return-to-work rates.

The first step was therefore to develop a conceptual framework of WC care that reflects our understanding of the essential elements of this system: the desired outcomes and the pathways designed to achieve those outcomes. The categories of this framework define the universe of measurement in its broadest sense—i.e., measures outside of those categories will not be considered. However, there will almost certainly be categories that will not be included in the performance report or for which no suitable measures can be found.

Conceptual Framework

The framework attempts to map the course of an injured worker through the system and create exhaustive and mutually exclusive categories that reflect its important components and functions. We put the categories into three levels: provision of care, system cost, and evaluation of system performance. Figure 5.1 provides an illustration of the conceptual framework.

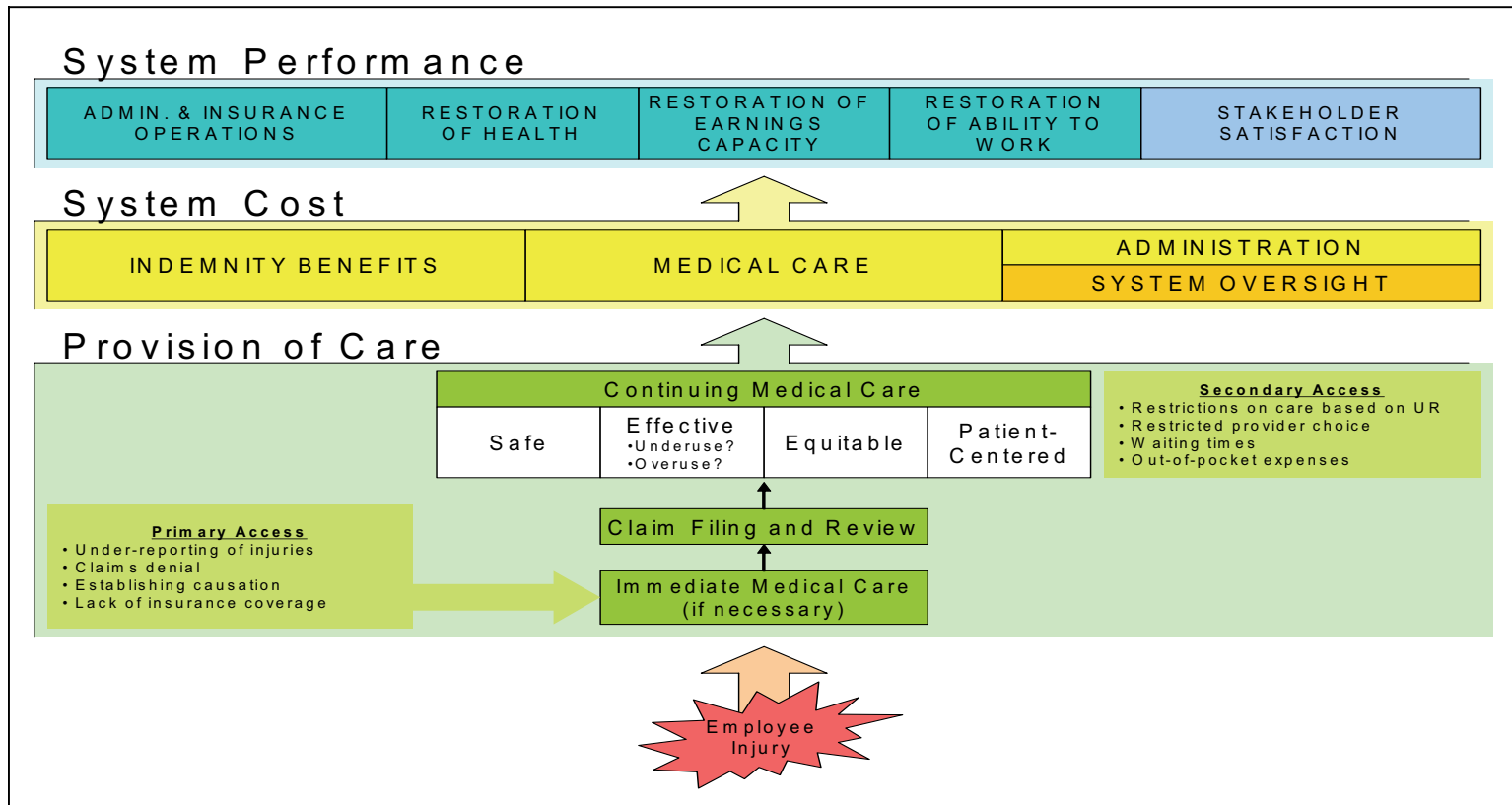


Figure 5.1. A Conceptual Framework for Evaluation of the Workers' Compensation System

Level 1: Provision of Care

The process obviously starts with the work-related injury, for which the incidence depends on workplace safety and prevention, and the first critical function of the system is to allow adequate access. Following work by Fox et al., we distinguish *primary access*—i.e., being able to enter the system—from *secondary access*—i.e., obtaining care and benefits after entering the system (Fox et al., 2001).¹² The categories for primary-access issues that could be reflected in a report card would be

- underreporting of injuries
- claim denials
- establishing causation
- lack of insurance coverage (if legally possible in California)
- provider willingness to take WC patients.

Secondary-access issues would be

- inappropriate restrictions on care based on UR
- restricted provider choice
- lack of knowledge regarding predesignation of personal physician
- waiting times
- out-of-pocket expenses or cash-flow issues.

A key function of the system is to provide for adequate medical care to injured workers—both immediate care, if necessary, and ongoing care. The domains that we propose for monitoring the quality of medical care provided under California’s WC system draw heavily from the IOM report *Crossing the Quality Chasm* (2001). IOM identifies six core domains that serve to focus national efforts for improving the twenty-first-century health-care system. The domains are safe (S), timely (T),

¹² Fox et al. (2001) also mention tertiary-access issues (geography and education of workers). However, we would argue that those reflect statements about variance in access rather than the level of access and should thus not be characterized as separate issues.

effective (E), equitable (E), efficient (E), and patient centered (P)—referred to as the STEEEP model:

- **Safe:** avoiding injuries to patients from care that is intended to help them.
- **Timely:** reducing unnecessary waits and potentially harmful delays for those that receive care.
- **Effective:** providing services based on scientific knowledge and current standards of practice to all who could benefit and refraining from providing services to those not likely to benefit, avoiding underuse and overuse of services (this area addresses the technical quality of care and appropriateness of care).
- **Efficient:** avoiding waste (this area incorporates both cost and utilization).
- **Equitable:** providing care that does not vary in quality because of personal characteristics.
- **Patient centered:** providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

We modified the IOM domains slightly to account for the particularities of WC care. We explicitly list overuse and underuse as subcategories under effectiveness. While the IOM definition does cover both aspects, the concerns about overutilization of care are so severe in the WC environment that an explicit subcategory seems warranted. The timeliness category is subsumed in access to care. Finally, we do not include efficiency as a category under provision of care, because it stands out from the remaining domains as the only one being based on a value-for-money term, whereas all other domains represent the value side of care alone. We suggest providing information on efficiency as part of system cost and system evaluation.

Level 2: System Cost

At the next level of the framework, the cost of care provided to injured workers is assessed. Cost is further broken down as follows:

- Direct medical cost
 - Professional fees
 - Facility cost
 - Pharmacy cost
 - Durable medical equipment, prosthetics, and orthotic costs
 - Other
- Indemnity benefits
 - Temporary disability payments
 - Permanent disability payments
 - Rehabilitation benefits
 - Retraining benefits
- Administrative cost
 - Medical cost containment expenses (e.g., UR costs)
 - Medical-legal cost
 - Claim processing
- Cost of system oversight
 - Dispute resolution
 - Regulation

Level 3: System Performance

The third level evaluates how well and how efficiently the system performs its core functions. The core functions are broken down as follows:

- Administrative and insurance operations
 - Case processing
 - Court proceedings

- Arbitration
- Other administrative functions
- Financial status of the industry
- Restoration of health
 - Health and functional status
 - Health-related quality of life
- Restoration of ability to work
 - Return to work
 - Permanent disability
 - Temporary disability
 - Productivity losses caused by absenteeism and presenteeism
- Restoration of earning capacity
 - Wage replacement
 - Vocational retraining
- Stakeholder satisfaction

NEXT STEPS TOWARD THE IMPLEMENTATION OF THE FRAMEWORK

A comprehensive measurement system should capture the essential components of a conceptual framework within the bounds of parsimony to minimize the burden of collecting and reporting data. This implies that the reporting system will not cover the selected categories or subcategories, even though they are plausible parts of the framework. The next step would be to assess, for each of the categories, whether the reporting system should include the measures, by applying the following three criteria:

1. *Relevance*: Is the category a key element in making policy decisions about medical care under the WC system? Are the results of sufficient interest to users of the reporting system to justify the added cost and complexity of including measures for it?

2. *Measure Availability*: For a category deemed relevant, are established and scientifically sound measures available to capture performance in this category?

3. *Feasibility*: Do data sources available (or potentially available) to the state of California allow constructing a sufficient number of measures for the respective category with reasonable effort?

The evaluation criteria should be applied in a hierarchical manner—i.e., if a criterion is judged not to be met, the following ones are not discussed.

The preceding section presents a conceptual framework that includes the categories fulfilling the first criterion (relevance). The next steps toward the implementation of the framework would be to identify or develop measures to populate the different categories and to collect data, primary and secondary, to construct the selected measures. DWC is phasing in California's WC information system (WCIS), an electronic data interchange to collect comprehensive information from claim administrators, which could become the main source of data for this envisioned monitoring system. The final step would be to solicit input from the end users of the reporting system to ensure that the final set of measures is comprehensive, parsimonious, and balanced.

CHAPTER SIX. SUMMARY OF ISSUES AND TOPICS THAT NEED ATTENTION

In this chapter, we summarize the status of the reform initiatives affecting medical treatment provided to California's injured workers, share observations that we made during our study, and identify priority areas and issues in which research and evaluation would help drive value-based medical care for injured workers.

EVALUATING THE IMPACT OF THE RECENT REFORMS: INITIAL FINDINGS

As we discussed in Chapter Three, medical care has been a major cost driver for the California WC program, increasing from 45 percent of benefit costs in the mid-1990s to an estimated 51 percent in 2003. Comparative studies with other states indicate that utilization has been the main factor. Provisions in AB 749, SB 228, and SB 899 that were directed toward reducing medical costs and utilization included the following:

- PTP presumption repealed; ACOEM guidelines are presumptively correct until AD issues a utilization schedule.
- UR guidelines repealed; new standards for UR processes established.
- Employers permitted to establish medical networks and control medical care for duration of claim.
- Twenty-four-visit limit per industrial injury established for chiropractic, physical-therapy, and occupational-therapy services.
- Second-opinion program established for spinal surgery.
- Employer required to pay up to \$10,000 for medical treatment before compensability is established.
- Fee schedule expanded to include outpatient surgery facility fees and other services.
- Lower allowable fees established for pharmaceuticals; generic drugs required.

There is evidence from the WCIRB that the reform measures are having a significant impact on costs. The first reform provisions were implemented during 2004, when estimated paid medical benefits declined 6

percent from \$6.1 billion to \$5.7 billion (CHSWC, 2005). Reflecting the estimated impact of fully implemented legislation, the estimated ultimate medical costs for indemnity claims have decreased from a high of \$25,857 for accident year 2002 to \$20,477 for accident year 2004 (WCIRB, 2005a). There is also preliminary evidence from CWCI analyses that there have been significant reductions in utilization. For example, Swedlow (2005) found reductions of 55.8 and 47.4 percent in the average number of chiropractic and physical therapy visits, respectively, at nine months postinjury following implementation of the ACOEM guidelines. At the same time, the average number of surgical visits declined 14.6 percent, although surgery payments per claim increased.

A task in this study was to get some early soundings on the likely implications of the new legislation. We conducted interviews with various stakeholders and observers of the California WC medical treatment system. The interviews were conducted from June 2004 through October 2004, so that the interviewees were primarily focused on implementation of the ACOEM guidelines. While there was general support for the use of evidenced-based guidelines to improve quality of care, interviewees expressed concern that the guidelines were being applied too stringently without sufficient room for clinical judgment, that they needed to be translated into utilization criteria that included the frequency and duration of care, and that they did not adequately address chronic conditions, particularly pain management.

In addition, our interviewees emphasized that the recent reforms had not solved two salient problems in the California WC system:

- The first is the sheer complexity of the system—the rules differ depending on whether the employer has a medical network and whether the employee has predesignated a physician.
- The second is the high level of distrust and contention within the system. The challenge is to find ways to reduce the opportunities for dispute while safeguarding the rights of both employers and workers. In this regard, the fee schedule expansions may have eliminated one source of contention.

The regulations pertaining to a number of the reform provisions, including the new UR requirements, treatment before the compensability determination, and the medical networks had not been issued at the time of our interviews. So, interviewees could only speculate about the impact of those reform components, and a second series of interviews and further research would be necessary to provide additional insight.

EVALUATING THE IMPACT OF THE RECENT REFORMS: OPEN QUESTIONS

Medical Networks

Evidence from previous studies has shown that the use of physician networks for WC care can reduce costs within the program. Study findings also suggest that the cost savings attained through the use of physician networks may come at the price of reduced worker satisfaction with their medical care and with the WC program overall (Victor, 2003). However, the Pennsylvania experience indicates that this does not necessarily need to be the case (Pennsylvania Department of Labor and Industry, 2005).

The individuals whom we interviewed had mixed views on the likely impact of the medical networks and raised a number of questions regarding access, quality, cost, and patient satisfaction:

- *Access*: Do the networks provide reasonable access to high-quality providers? What type and percentage of care are provided out of network?
- *Quality*: What is the impact of broad versus narrow networks versus nonnetwork care on the quality of care and return to work? How do patterns of care compare among these three delivery systems?
- *Cost*: How do medical and indemnity payments compare for network versus nonnetwork care? Is there fee discounting within the networks? To what extent is economic profiling used and how?
- *Dispute resolution*: How often and when is the new IMR process used to resolve disputes?
- *Patient satisfaction*: Are there differences in patient satisfaction between network and nonnetwork care?

Perhaps the most fundamental question that needs to be answered is how the medical networks are affecting workers' access to appropriate care. While patient choice may be more limited depending on how broad or narrow the network is, it may be easier for an injured worker to find a physician willing to provide care, and there may be improvements in coordination of care.

Medical-Necessity Determination

In light of the significant reductions in medical treatment expenses, there is also a pressing need to evaluate the provisions affecting medical-necessity determinations to determine what changes have occurred in patterns of care and outcomes. Questions that might be asked include the following:

- What have been the changes in patterns of care and outcomes?
- Is UR cost-effective?
- What has been the impact of the 24-visit limitation on injured workers with chronic conditions or multiple surgeries?
- What are the trends in disputed medical claims?
- What has been the experience with the new processes: second opinions for spinal surgery, AME or single QME, and IMR?

Fee Schedules

A separate project task was to provide technical assistance on various fee-schedule issues. Our work on this task found that the implementation of the fee schedule was relatively smooth but that several areas warrant further attention by the AD. One is the pass-through payment for hardware and instrumentation used during complex spinal surgery (Wynn and Bergamo, 2005b). In addition, the AD still needs to implement a fee schedule for rehabilitation hospitals and other specialty hospitals and to establish a new fee schedule for physician services. Further, there is a need to determine whether the new fee-schedule provisions, in concert with the other changes that have occurred, have affected provider participation rates, access to services, and the site where services are delivered.

Considerations for Future Evaluations of the Recent Reforms

Further evaluation of the recent reforms is certainly desirable, and the changes should be evaluated both individually and together. It may not always be possible to disentangle the effects of one provision from another. The different effective dates may actually help in this regard, because it creates natural experiments—periods during which only a subset of the reforms was enacted and that can serve as comparison periods for times with full enactment. However a transition period occurs as new policies are implemented, and behavioral changes take place before the full impact of a provision can be assessed. Also, stakeholders might anticipate some reform effects in their behavior so that a clear “effective” date of different provisions cannot be easily defined.

In addition, there is a considerable lag time until postimplementation medical claims are available for analysis and until claims have matured sufficiently to determine impact on a per-claim basis. To illustrate, the impact of the medical networks on medical care for injuries occurring in 2005 cannot be fully accounted for until 2007 or later.

As a result, an evaluation of the impact should occur in stages. First, approaches should be employed that act as an early warning system. DWC, for example, asked UCLA to survey providers and workers concerning access to care.¹³ CHSWC has asked RAND to update the interviews that were conducted as part of this study. Second, a public use database of pre-2004 medical claims from both payors and self-insured employers should be developed. As more recent claims become available, the annual changes in utilization patterns and medical expenditures can be examined and, as claims mature, it will be possible to examine longer-term impacts and outcomes.

¹³ The results from the initial survey were made public in February 2007. See Kominski et al., 2007.

BUILDING AN INFRASTRUCTURE FOR FUTURE EVALUATIONS

Improving the Knowledge Base

A general challenge to evaluating reforms in WC is the relative scarcity on evidence and information on effective and efficient care practices, compared to other areas of medicine such as cardiac care. This implies that unambiguous and widely accepted standards against which actual care can be judged are often not available. For example, one task in this study was to try to understand the cost and utilization drivers and quality-related issues affecting medical care for injured workers. The analyses presented in Chapter Three, which provide this information, supported a separate effort to evaluate the medical treatment guidelines (Nuckols et al., 2005). In the report for that task, we noted that none of the guidelines that we evaluated did a good job in addressing the physical modalities. Other cost drivers that we recommended be given further attention were spinal-injection procedures and MRI of the spine. In our stakeholder interviews, other areas of potential weakness in the ACOEM guidelines were identified, including chronic pain, occupational therapy, and acupuncture.¹⁴ Thus, further work on evidence-based guidelines for treating injured workers is required to form the basis for quality-improvement programs and for evaluations of reforms.

There may also be merit in establishing a national clearinghouse to make what is known on medical treatment for common injured-worker conditions readily available and to provide measures for monitoring access, cost, and quality. While there is a growing body of literature on these topics, there is no single place to which interested parties can go for high-quality, evidence-based information. Some proprietary vendors such as the Work Loss Data Institute have compiled evidence-based summaries of treatment modalities, but this information is not available to the general public. Others seeking information on potential guidelines and treatment modalities must access a bewildering number of sources (e.g., Cochrane Collaboration, National Guideline Clearinghouse, state WC Web sites) and make their own assessment of the evidence—a

¹⁴ Effective March 2007, the AD adopted new guidelines for acupuncture.

time-consuming task that requires specialized skills to weigh the value of the evidence. A national clearinghouse would help drive rational and evidence-based decisions for all WC programs.

Improving Access to Data

Having limited available data presents a major obstacle to evaluation of the reforms. First, there is no single database that combines medical claim data from payors and self-insured employers. The CWCI database is the most comprehensive but injured employees of self-insured employers are underrepresented in it and it is not a public use file that is available to researchers. Second, there is no unified source of data on all aspects of WC care; instead, the information has to be pieced together from different entities, often with different conditions for data use and with differences in sampling and time periods.

Progress is being made in this regard. DWC has issued rules requiring submission of medical claim data for all injured workers, and is implementing California's WCIS. However, much work remains to be done. Providers and employers need to be held accountable for furnishing timely and accurate data. There need to be links between the medical claim data and other administrative data, such as appeal history and indemnity payments, so that total system performance can be evaluated.

Finally, public use files are needed that can be used for program evaluation and research purposes. Making public use files available will facilitate health-service research and help drive value-based care by adding to the evidence base. Policies and procedures to protect worker privacy and confidentiality need to be taken into consideration in making the files available.

Developing Performance Measures

It is a major task to go from collecting data to providing useful information, and standard and accepted measures are needed to gauge system performance and for benchmarking both within California and with other WC systems. Substantial development efforts will be necessary to meet this requirement, as quality measurement for the most common conditions in WC care is an underdeveloped field, in spite of its great

policy importance. For example, widely accepted consensus measures have been developed for the quality of diabetes and cardiac care, but similar efforts for orthopedic conditions and traumatic injuries are still in their infancy. Many measures focus on underuse, and a gap of particular importance is the absence of measures for appropriateness of care generally. Other areas in which measure development is necessary are access to care and efficiency of care.

To the maximum extent possible, indicators should be developed so that they make optimal use of administrative data that are collected on an ongoing basis and so that they require as little dedicated data collection as possible. URAC and Robert Wood Johnson Foundation's Workers' Compensation Health Initiative made some progress in the area of measuring quality within the WC program (Teleki, Damberg, and Reville, 2006).

PRIORITIES FOR FUTURE REFORMS

In addition to the two policy issues that our interviewees highlighted for future consideration, (i.e., reducing the complexity of the rules and the contentious nature of the system), we identified two major priorities for future reform efforts: the implementation of a performance-monitoring system and the introduction of pay-for-performance (P4P) elements.

Implementation of a Performance-Monitoring System

Improving the knowledge base, access to data, and measurement science in WC care will not only facilitate future evaluation projects but also form the basis for the implementation of a performance-monitoring system as described in Chapter Five, which would provide actionable information to various stakeholders on a routine basis. Policymakers could use this system to monitor trends and track the impact of reforms, purchasers to inform selection decisions regarding individual providers and networks and contract negotiations, and health-care organizations and providers for quality-improvement activities. Availability of objective data would also help to reduce the system's contentiousness that irrational fears and unfounded assumptions commonly feed.

In our assessment, the current situation presents a window of opportunity to introduce routine performance monitoring. Major reforms have been enacted and new data-reporting requirements have been instituted. Stakeholders would welcome a system that allows them to assess the impact of reforms on their constituents. A commitment to transparency would demonstrate that the recent reforms were not motivated by a political agenda but by the desire to make care for injured workers better and more efficient. Finally, if decision-relevant information were reported back, such as to WCIS, data-reporting requirements would be regarded less as a mere burden and more as a vital necessity. Similarly, the data requirements for the monitoring system could be used to determine the scope of data-reporting requirements under efforts such as WCIS.

Experimentation with Performance-Based Payment

Performance monitoring will have its greatest impact if the results are tied to financial incentives for reporting reliable data and for providing appropriate care. In the past few years, there have been several efforts on the part of both the Centers for Medicare and Medicaid Services (CMS) and private-sector employers and payors to improve the quality of care through incentive programs, typically called P4P. These programs are relatively new and evolving, and, while their value has not been rigorously evaluated, early results are promising. A nationally prominent example is the Integrated Healthcare Association-sponsored program, a collaborative, statewide initiative that a leadership group of California employers, health plans, and physician organizations developed to stimulate improvement in patient satisfaction and clinical quality. The program involves seven health plans and 225 physician groups representing 35,000 California physicians who are eligible to receive bonus payments for attaining evidence-based performance goals in three areas: clinical measures, patient experiences, and investment in IT. In addition, the California Office of the Patient Advocate (OPA) reports physician-group scores on patient-experience measures (OPA, 2006). Analysis of performance results from the first two measurement years (from 2003 to 2004) showed improvement in all clinical and patient experience measures and substantial

improvement in the adoption of IT (IHA, 2006). In the WC arena, there has not been a strong business case for physicians and medical groups to measure or improve health-care quality in the past. Because the current system is primarily fee for service, physicians have had minimal financial incentives to provide efficient care, and there has been limited to no accountability for the quality of care and outcomes. Now that employers can establish medical networks and control which providers care for an injured worker, there may be greater opportunity to measure performance and use financial incentives to reward providers who deliver high-quality care. Little attention, however, has been given to how payment-based incentives might operate given the unique characteristics of the medical treatment system for injured workers. In particular, a better understanding is needed of the strategies aimed at providers or medical networks that an individual employer, payors, or DWC could *plausibly* adopt to stimulate quality improvement (Dudley et al., 2004).

There are technical design issues that would need to be resolved in designing a P4P system, including how to attribute care to a particular physician, how to measure performance, what type of risk adjustment is needed to avoid penalizing physicians who treat the most complex cases, and how to obtain the data needed for measurement. Nevertheless, the concept holds promise for the WC program, in which a designated PTP is accountable for the patient's care, existing outcome measures such as days lost from work are already in use, and there is a clear need to improve the quality of care provided to injured workers. The incentives could be linked to process measures, such as paying for disability-management activities and assessments of readiness to return to work, or they could be linked to improvement in medical or work-related outcomes or to patient-satisfaction measures or to some combination of these aspects of care.¹⁵

¹⁵ CHSWC asked RAND to explore the potential issues involved in adopting P4P financial incentives for California's medical treatment system. See Wynn and Sorbero, 2007.

APPENDIX A.
MEDICAL TREATMENT STUDY INTERVIEW PROTOCOL

I. BACKGROUND INFORMATION ON INTERVIEWEE

[Fill in before interview]

Name:

Phone number for interview:

Organization:

Position:

E-mail address:

Mailing address:

Name of Interviewer:

Date contacted for interview:

Date of interview:

Start time of interview:

II. INTRODUCTION

Thank you for agreeing to speak with me today. I appreciate your time.

I assume that you know a little about the study through your contact with RAND staff to schedule this interview and from the materials you have received from us. Do you have any questions? Would you like me to go over anything about RAND or about the study?

If yes, refer to the following points: (also refer to the project summary for additional information):

- RAND is a nonprofit research organization (i.e., think tank) that provides objective analysis regarding public policy issues. In particular, RAND Health, a unit within RAND, is well known for its research related to quality of care.
- RAND has been asked by the California Department of Industrial Relations to evaluate cost and quality issues related to the care of injured workers under the workers' compensation program. As part of the study, we are conducting interviews with knowledgeable individuals from different stakeholder groups.
- Our focus is on medical treatment costs. In particular, we are interested in understanding the impacts of the new legislation and how it may affect the access that workers have to appropriate medical care.
- Some of the important changes have been repeal of the treating physician presumption, adoption of the American College of Occupational and Environmental Medicine (ACOEM) guidelines until the Administrative Director issues treatment guidelines this December, implementation of Medicare-based fee schedules and, starting this January, medical provider networks.
- We are seeking your input as an interested party in the care provided to injured workers. We want to understand your perspectives on what have been the major cost and quality issues and how these have changed with the new legislation. We are looking for your candid assessment of concerns related to the delivery of high-quality, appropriate care to injured workers.

III. CONSENT

Before we get started with specific questions, I would like to remind you of RAND's data collection and use procedures and make sure you are okay with them.

- RAND will use the information you provide for research purposes only and will not disclose your identity or information that identifies you to anyone outside of the research project, except as required by law.
- We will be taking notes during the interview and will be creating a written summary of your responses to our questions.

- No one except the RAND research team will have access to the information you provide. RAND will produce only summary information from our collective set of interviews.
- You do not have to participate in the interview/focus group, and you can stop at any time for any reason.
- Your participation or nonparticipation will not be reported to anyone.
- You should feel free to decline to discuss any topic that we raise.
- **Do you have any questions about the study?**
 - If participants want to know more about particular aspects of the study, refer to the project summary for additional information.
 - Participants may ask about what the phrase "except as required by law means." It means that RAND, after notification to the interviewee, will divulge the contents of the interview if under court order to do so.
- **Do you agree to participate in the interview?**
- If you have any specific questions about this research, you may contact:

Barbara Wynn
Senior Health Policy Researcher &
Co-Principal Investigator
RAND
Telephone: 703-413-1100 x 5413
Email: Barbara_Wynn@rand.org

Tora K. Bikson, Ph.D.
Human Subjects Protection Committee
RAND
Telephone: 310-393-0411
Email: Tora_Bikson@rand.org

Okay, let's get started.

IV. Generic Questions for the Interview

1. Please tell us about your involvement in the California workers' compensation program.
2. From your perspective, what have been the strong points of the program with respect to medical care furnished to California injured workers?
3. What have been the weaknesses?
4. What do you see as having been the major cost drivers? Quality issues?
5. What are the implications of the recent changes in the program to contain medical costs? These include the establishment of provider networks, employer choice of treating physician with the networks, adoption of ACOEM guidelines or other utilization schedules, and adoption of Medicare-based fee schedules.
 - a. How have the incentives and policies changed for the efficient delivery of quality care?
 - b. What is the likely effect on cost, quality, and access?
 - c. What are the major implementation issues/policy choices?
 - d. What problems are likely to remain? What new problems may have been created?
6. Are there additional changes that you would like to see made in the way care is delivered to California injured workers? Are there best practices in other programs (both other workers' compensation programs and nonoccupational health) that might serve as a model?
7. After the new legislation has been implemented, are there particular aspects of the system that you believe should be monitored closely?

V. CONCLUSION

That concludes the interview. Do you have any additional thoughts or questions? Is there anything I missed that you would like to add?

Many thanks again for your time.

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