Access, Quality, and Outcomes of Health Care in the California Workers' Compensation System, 2008

A Report to the California Department of Industrial Relations, Division of Workers' Compensation, Mandated by Labor Code Section 5307.2

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KEY TO ABBREVIATIONS

AB	Assembly Bill
ACOEM	American College of Occupational and Environmental Medicine
AD	Administrative Director
AMA	American Medical Association
CCR	California Code of Regulations
DC	Doctor of Chiropractic
DO	Doctor of Osteopathy
DPM	Doctor of Podiatric Medicine
DWC	California Division of Workers' Compensation
E & M	Evaluation and Management
LAc	Licensed Acupuncturist
LC	Labor Code
MD	Doctor of Medicine
MPN	Medical Provider Network
MTUS	Medical Treatment Utilization Schedule
N/A	Not applicable
NP	Nurse practitioner
NS	Not statistically significant
OH	Occupational health
OMFS	Official Medical Fee Schedule
PA	Physician assistant
PsyD	Doctor of Psychology (clinical psychologist)
PT/OT	Physical therapist/occupational therapist
RTW	Return to work
RUCA	Rural Urban Commuting Area
SB	Senate Bill
UCLA	University of California, Los Angeles
UR	Utilization review
UW	University of Washington
WC	Workers' compensation
WCIS	Workers' Compensation Information System
WCIO	Workers' Compensation Insurance Organizations

EXECUTIVE SUMMARY

This study, commissioned by the California Department of Industrial Relations, Division of Workers' Compensation (DWC) and conducted by researchers at the University of Washington (UW) School of Public Health, was designed to evaluate the adequacy of access to quality health care delivered to injured workers through the workers' compensation (WC) system in California. Like the 2006 study conducted by the Center for Health Policy Research at UCLA, this study was mandated by Labor Code (LC) section 5307.2, as added by SB 228, and included statewide surveys of injured workers and providers in 2008. We begin by highlighting our conclusions, then briefly describe the 3 surveys we conducted, present results of each survey and comparisons to the 2006 UCLA study, and end with our recommendations.

CONCLUSIONS

- There does not appear to have been much change from 2006 to 2008 in the level of access to quality care.
- Most (4 out of 5) injured workers were satisfied with their health care and rated their overall quality of health care good or better. In addition, between 84% and 89% of workers reported that their main provider performed each of 4 occupational health best practices.
- Over half (52%) of providers indicated that their WC patient volume had decreased in the past 2 years, and one-third (32%) reported that they intended to decrease WC volume or quit treating WC patients altogether. Administrative burden, UR-related delays and denials, restrictiveness of treatment guidelines, and issues related to payment and reimbursement, among other factors, were found to be predictive of provider intent to decrease or quit treating WC patients.
- There were important access barriers that appeared to increase work disability and costs; almost half (47%) of injured workers reported experiencing one or more access barriers at some point during their treatment. We conclude that access to quality care is not adequate and that there is both great need and great potential for improvement.
- On a population level, the excess work disability and costs related to access barriers are substantial – on the order of millions of lost work days and hundreds of millions of dollars in direct economic costs.
- We believe the aim of WC quality improvement can best be advanced by the prompt initiation of action steps to mitigate the access barriers that lead to potentially avoidable work disability and by the development of a research and policy agenda to further assess approaches to best accomplish this aim.

STUDY AIMS AND APPROACH

This study had 3 primary aims: (1) to evaluate the adequacy of access to quality health care for injured workers in 2008, (2) to assess changes in access to quality health care since the 2006 UCLA study, and (3) to determine the effect of access barriers on work disability. To accomplish these aims, three surveys were conducted: (1) the All-Injury Worker Survey, which assessed access to quality health care among the general population of injured workers, (2) the Back Disability Worker Survey, which examined the effect of access barriers on work disability among workers with back sprains/strains and at least some compensated time loss, and (3) the Provider Survey, which gathered information regarding the practice, experiences, and opinions of providers who participate in California's WC system. Taken together, these 3 surveys provide a detailed assessment of the state of access to health care for injured workers in California in 2008 and the effect of access barriers on work disability.

1. **All-Injury Worker Survey**
    - Random sample of injured workers, similar to the 2006 UCLA worker survey
    - Interviews conducted 10 to 13 months after June 2007 injury (11 months on average)
    - 508 completed phone interviews from May 2008 to July 2008
    - 28.3% adjusted response rate
2. **Back Disability Worker Survey**
    - Injured workers with back sprains/strains who had some compensated time loss
    - Injuries occurred between December 1, 2007 and April 30, 2008
    - Interviews conducted 2 to 6 months after injury (90% within 2 to 4 months of injury)
    - 493 completed phone interviews from May 2008 to July 2008
    - 39.2% adjusted response rate
    - Survey responses were linked to administrative data on compensated time loss covering 6 months after the date of injury
3. **Provider Survey**
    - Licensed providers who treated WC patients between 2004 and 2008
    - Eligible provider types: doctors of medicine and osteopathy, chiropractors, acupuncturists, podiatrists, clinical psychologists
    - 809 completed mail/web surveys; contacted between April 2008 and December 2008
    - 28.2% adjusted response rate

SUMMARY OF RESULTS

All-Injury Worker Survey

Fifty-eight percent of the respondents were male, 45% were Latino and 42% were white. The most common injury category was sprain/strain/joint/disc injuries (48%). Over 80% received their care through a Medical Provider Network (MPN).

Access

The All-Injury Worker Survey assessed a number of access indicators pertaining to travel distance, waiting time for appointments, delays or denials of care, language barriers, and other problems in obtaining health care, specifically including physical or occupational therapy (PT/OT), specialty care and/or prescription medications. Key findings of the 2008 survey include:

- 9 out of 10 injured workers (89%) obtained initial care for their injury within 3 days of advising their employer about their injury
- 83% to 86% did not travel further to appointments than the MPN travel distance standard (15 miles or less to initial and main provider and 30 miles or less to specialist)
- 10% of respondents reported barriers obtaining prescription medication, 21% reported problems accessing PT/OT, and 27% reported problems accessing specialist care (percentages are based on those respondents needing the health care service in question)
- 10% of respondents experienced delays or denials of care often or more frequently
- Almost half (47%) of injured workers reported experiencing one or more access barriers at some point during their treatment

Satisfaction, Quality, Recovery and Other Outcomes

We found workers' assessments of quality and satisfaction to be positive: 4 out of 5 respondents (80%) indicated they were satisfied or very satisfied with the care they received and a similar percentage (79%) believed the quality of that care was good to excellent. The care provided to injured workers conformed in some measure with occupational health best practices in a great proportion of cases (over 80% of the time, when applicable).

Less encouraging was the assessment of injured workers in regard to their recovery. At approximately 10 to 12 months after injury, over half (54%) of injured workers had failed to fully recover, and 1 out of 10 workers (12%) reported no improvement. Further, 1 out of 5 workers (21%) reported that their injury was still having a "big effect" on their life. Approximately one quarter of respondents (24%) reported missing more than 30 days of work,

but the great majority (91%) were able to return to work at least temporarily. Of concern, 39% of workers who returned to work at least temporarily and needed job accommodations reported that necessary job accommodations were not made.

Back Disability Worker Survey

Respondents participating in this survey were similar in most respects to respondents in the All-Injury Worker Survey. Sixty-seven percent of the respondents were male, 47% were Latino, and 39% were white. Three out of four injured workers (76%) saw a PT or OT, and 39% saw a specialist. Like injured workers in the All-Injury Worker Survey, the great majority of workers with back sprains/strains (more than 85%) received their health care through a MPN.

Access

The profile of access measures reported by respondents was similar to that reported by respondents in the All-Injury Worker Survey:

- 9 out of 10 injured workers (90%) obtained initial care for their injury within 3 days of advising their employer about their injury
- 82% to 86% did not travel further to appointments than the MPN travel distance standard (15 miles or less to initial and main provider and 30 miles or less to specialist)
- 11% to 29% reported encountering some problem accessing PT/OT care, specialist care or obtaining prescription medication (these percentages are based only on those respondents needing the health care service in question)
- 53% of respondents encountered at least one access barrier

Effect of access on work disability

Workers who experienced one or more access barriers had, on average, approximately 17 more days of compensated time loss 6 months after injury, compared to workers who did not encounter these access barriers. On a relative basis, access barriers increased the duration of compensated time loss by approximately 60%, from 26 days to 43 days. To quantify the impact of access barriers on a population level, we estimated that approximately 3.8 million potentially avoidable days of compensated time loss, representing a cost of $349 million, may be incurred by California workers encountering access barriers during the first year after their injury.

Provider Survey

There were 743 providers who were participating in the WC system at the time of interview. The majority (54%) of providers overall were in solo practice. The great majority of providers indicated that, at least 75% of the time, they understood the physical and mental health demands

of workers' jobs (74%) and discussed work status or return to work (71%), but only 44% reported that they contacted the employer about modified work at least 75% of the time (when applicable). Overall, 45% of providers agreed that injured workers had adequate access to quality health care. Almost all (96%) providers who reported that their WC patients experienced delays or denials of care sometimes or more often felt that these delays or denials interfered with their patients' recovery at least sometimes.

Providers consistently rated delays and denials resulting from UR and administrative burden/paperwork related to UR as the most important barriers interfering with WC health care delivery. Other factors rated important included restrictiveness of ACOEM guidelines and the Medical Treatment Utilization Schedule (MTUS) and administrative burden/paperwork related to reporting requirements.

Ensuring that injured workers have adequate access to quality health care depends critically on the availability of providers and their willingness to treat injured workers. At the time of interview, 66 of the providers surveyed were no longer treating injured workers. The leading reasons they gave were: (1) administrative burden-reporting requirements, (2) payment denials, and (3) denial of treatment due to utilization review. Over half (52%) of the 743 current providers indicated that their WC patient volume had decreased in the past 2 years, and one-third (32%) reported that they intended to decrease WC volume or quit treating WC patients altogether. Of great concern is the fact that 51% of orthopedic surgeons, a key provider group in the WC system, reported that they intended to decrease or quit treating WC patients.

COMPARISONS TO 2006 UCLA STUDY FINDINGS

All-Injury Worker Survey

Similar methodologies enabled comparison of the findings of the 2006 UCLA worker survey with those of the 2008 All-Injury Worker Survey. Findings were quite comparable in terms of worker sociodemographics and degree of recovery. We observed no marked differences from 2006 to 2008 in access to quality care or worker satisfaction, for example:

- 88% of 2006 survey respondents received initial care within 3 days, compared with 89% of 2008 survey respondents.
- Initial care was within 15 miles for 86% of workers in both survey years, and main providers were within 15 miles for 82% of 2006 survey respondents and 83% of 2008 survey respondents.
- 78% of 2006 survey respondents were satisfied or very satisfied with their overall care, as compared with 80% of 2008 survey respondents.

Provider Survey

We compared 2008 to 2006 findings on (1) provider perceptions of the adequacy of access to quality care for injured workers, (2) a decrease in patient volume in the past 2 years, and (3) intent to decrease WC patient volume or quit treating WC patients. The comparisons showed no marked changes in these key measures for all providers as a group. More than half of the surveyed providers continued to perceive access to quality care for injured workers as inadequate. In both surveys, 52% of providers reported a decrease in their WC patient volume in the past 2 years, and approximately one-third of the provider respondents reported intent to decrease WC volume or quit treating WC patients.

Primary care MDs/DOs were the only provider type with a meaningful difference in intent to decrease or quit treating WC patients. Whereas 35% of primary care MDs/DOs reported intent to decrease or quit treating WC patients in 2006, 24% did so in 2008. There were some differences in questions and particularly in sampling procedures from 2006 to 2008, which limits the conclusions that can be drawn from the comparisons presented above.

RECOMMENDATIONS

Based upon the results of our surveys and analyses, we outline several recommendations (not in order of importance) for improving the performance of the California WC system.

Employer Offer of Job Accommodations: The ability and willingness of employers to offer job accommodations to facilitate timely return to work is a critical factor in limiting work disability, promoting improved productivity and health outcomes for injured workers, and reducing employer WC costs. DWC has already initiated public relations efforts to educate employers, especially small employers, about the importance of return to work. In addition, DWC could develop incentives for employers, especially small employers, to develop job accommodation programs. This could involve the creation of a funding pool to provide premium discounts for employers who develop and use job accommodation programs.

Functioning of Utilization Review: Both the earlier 2006 UCLA provider survey and our 2008 worker and provider surveys indicate a need to improve administrative processes related to the functioning of UR programs within the California WC system. Two key problems meriting attention are (1) delays arising from UR and (2) administrative burden associated with UR. We offer two suggestions for reducing delays and improving UR functioning. First, there is an obvious need for better and more detailed information regarding the functioning of UR, the efficiency of the UR review process, and the frequency and timing of UR appeals by the attending provider. This information could possibly be obtained through analysis of

administrative data and/or qualitative data collection, including focus groups. Second, the efficiency of UR may be enhanced by using a "provider targeted" approach to UR. In this form of UR, providers having few UR denials in a specified baseline period are given a waiver for prospective UR review but remain subject to retrospective audit to ensure that the volume of their requests has not increased and that there is no compromise in meeting specified UR criteria for appropriateness. DWC does not have the authority to implement this recommendation, but it could initiate discussions with claim administrators, UR organizations, and physician groups to consider the idea. Ultimately, it would be up to claim administrators to make such a change in UR procedures.

Provider Administrative Burden: Much of the provider discontent captured by our survey relates to UR, but there also appears to be broader dissatisfaction with the general level of administrative burden imposed on providers. Physicians function under an intolerable paperwork burden, largely imposed by payers. To the extent the WC system adds to this burden, it is not surprising that physicians and other providers would give voice to their frustration via our survey. We recommend that DWC establish a task force comprised of appropriate stakeholder groups to identify acceptable approaches for reducing the administrative burden imposed on providers participating in the WC system.

Language Barriers: More than a quarter of workers who did not speak English well reported difficulty understanding their main provider, and language barriers were associated with excess disability burden. Workers who must see an MPN-based provider with whom they cannot communicate should have access to language assistance services. Efforts should be made to close any regulatory gaps that have the effect of a higher prevalence and systemic tolerance of language barriers for workers treated via MPNs (the vast majority). New legislation could mandate that language assistance services be offered through MPNs as a condition of their participation in WC. Employers could be encouraged (or required) to inform injured workers of their rights to appropriate translation services (as a paid benefit of the WC system in particular circumstances), and to consider the language capabilities of providers in conjunction with the languages spoken by their employees when setting up MPNs. We recommend that DWC add translated information about injured workers' rights to interpreters to their website and make links to translated materials more visible. More information should be available in languages common among California workers (in addition to Spanish). All multilingual services provided by DWC should be publicized in a way that is accessible to those injured workers most in need of them. We also recommend that future surveys more specifically address language barriers in order to gain insight into the extent of this problem and its consequences.

Quality Improvement within MPNs: Though MPNs currently may offer only limited formal organization for WC health care delivery, they may have the potential to serve as an organizational locus for improving both quality and injury prevention in the WC system. This

would require at a minimum organized WC quality improvement and assurance programs that do not currently exist. MPNs would seem to be a natural focal point to begin considering how to advance this goal, but doing so would require the strong commitment and leadership of claim administrators, perhaps along with appropriate legislation. MPNs could also play a role in fostering injury prevention, by tailoring patient education and communication about occupational health and injury prevention to address preventable threats to health and safety in the workplace.

DWC-to-Provider Communication: Data gathered by our provider survey indicate that many providers do not rely primarily on the DWC website for communication about WC issues or announcements. Given the choice, more providers stated they would prefer information be mailed or e-mailed to them instead. At a minimum, it would seem desirable to identify approaches to enhancing the utility of the DWC website as a mode of communication with providers. The DWC website could also serve an educational and training function for providers.

Quality Improvement Research and Policy Agenda: Finally, we suggest that DWC develop a quality improvement agenda, building on the findings presented in this report. This will require a clear identification of priorities and goals for improving the future performance of the WC system, along with the development of an integrated research and policy agenda to assess approaches to best accomplish this aim. Ample resources should be directed toward maintaining and fully utilizing DWC's highly valuable Workers' Compensation Information System (WCIS), in order to optimize the extraction of information relevant to such a policy agenda. Experience suggests that such an investment pays important dividends in terms of improving the basis for sound health policy, enabling crucial program evaluation, and developing and continually improving effective programs that meet the health needs of injured workers.

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The recommendations made in this report are intended to encourage policy and programmatic discussion, further investigation, and development of action steps that could mitigate access barriers and improve the performance of California's workers' compensation system for injured workers, employers, health care providers and other system stakeholders. It would be appropriate for the Commission on Health and Safety and Workers' Compensation (responsible to evaluate and recommend improvements to the WC system) to provide resources for and play a leading role in this work, in partnership with the California Division of Workers' Compensation.

CHAPTER 1

INTRODUCTION AND BACKGROUND

INTRODUCTION

This report presents the findings of a study conducted in 2008 by researchers in the Department of Health Services at the University of Washington (UW) School of Public Health to examine access to health care for injured workers in California. The study was funded by the California Division of Workers' Compensation (DWC), Department of Industrial Relations and was mandated by California Labor Code (LC) section 5307.2, which, as added by Senate Bill (SB) 228, directs the Administrative Director (AD) of DWC to "contract with an independent consulting firm…to perform an annual study of access to medical treatment for injured workers." The first access study conducted under LC section 5307.2 was completed in 2006 by the University of California, Los Angeles (UCLA) Center for Health Policy Research.[1] That study was intended to provide a baseline assessment of access to health care within the workers' compensation (WC) system, after the implementation of substantial reforms in 2003 and 2004.

The primary findings that emerged from the 2006 UCLA study provided a mixed picture of access to care for California injured workers. A substantial majority of injured workers reported receiving care within established distance and timing standards, and being satisfied with their care. However, access standards were not met in 13% to 17% of cases, up to 20% of workers had difficulty accessing services to which they were referred, and 18% were not satisfied with their care. In addition, more than half of the providers surveyed disagreed that injured workers had adequate access to quality care. Most importantly, the UCLA study concluded that health outcomes of injured workers needed further improvement, as more than half of the workers were not fully recovered after more than one year. The study provided valuable baseline data but did not assess how access affected recovery and return to work.

The UW and UCLA studies shared the same broad goal of assessing access to health care for injured workers and similarly gathered data from samples of injured workers and providers, but the two studies had important differences. The UCLA study was designed to provide a broad baseline picture of access to health care in the WC system in 2006, and relied primarily on descriptive analyses. The 2008 UW study was also designed to provide a broad assessment of access, and to document important changes in access that occurred since 2006, but it featured a

new design component that linked survey data on access with administrative data on compensated time loss. That feature enabled us to evaluate and quantify the effect of access barriers on work disability. The generation of this additional knowledge was viewed by DWC as important for considering possible policy initiatives aimed at improving WC outcomes by mitigating access barriers.

OBJECTIVES

As discussed earlier, the 2008 UW study was conducted under a statutory mandate (LC section 5307.2 as added by SB 228). Its primary goal was to assess access to health care for injured workers whose treatment was provided through the California WC system. The following specific objectives guided the study:

- Document changes in access that occurred since the first access study in 2006
- Identify specific barriers to access
- Identify subgroups of injured workers most affected by access barriers
- Document injured workers' satisfaction with health care and their perceptions about the quality of that care, and determine factors affecting access and quality
- Assess outcomes pertaining to recovery status and return to work
- Describe the relationship among access to care, quality of care, treatment satisfaction, and health and work outcomes
- Determine the effect of access barriers on work disability, as measured by compensated time loss days
- Ascertain the reasons providers choose not to treat workers' compensation patients or choose to limit the number of workers' compensation patients they treat
- Make recommendations concerning approaches to improving access to health care for injured workers

BACKGROUND

Workers' Compensation: Recent History

Both the UCLA and UW studies grew out of the WC reforms enacted over several years, beginning in 2003. Prior to these reforms, WC premiums were rising rapidly at a rate considered unsustainable, and WC insurers were leaving the California WC insurance market. In response to this widely publicized "cost crisis," the California legislature enacted several laws, including Assembly Bill (AB) 749, AB 227, SB 228 and SB 899, which introduced far-reaching changes in the WC system. This reform legislation was intended to control utilization and contain WC costs by (1) repealing the presumption of correctness of the primary treating physician and tying the definition of medical treatment to the utilization schedule and treatment guidelines adopted by the DWC Administrative Director, (2) reducing payment levels for certain services, (3) introducing explicit caps on selected services, including chiropractic manipulations and physical and occupational therapy visits, and (4) requiring injured workers to obtain care from Medical Provider Networks (MPNs) if the injured worker's employer contracted for care with an MPN. The UCLA report reviewed this legislation in some detail; interested readers should consult that report for further information about the WC reform legislation.

Since the completion of the UCLA report in 2006, additional reform legislation has been passed and related regulations have been adopted. Although these laws and regulations would not necessarily influence the findings reported here, we review them briefly. AB 338, passed in October 2007, extended the temporary disability time cap of 104 days from 2 years to 5 years post injury, beginning with injuries incurred on or after January 1, 2008. However, for assessing change between 2006 and 2008, we relied on our survey of a sample of workers injured prior to January 1, 2008, and thus AB 338 would have little direct impact on the findings reported here. AB 1073, also passed in October 2007, after completion of the UCLA report, exempts post-surgical patients from the 24-visit caps on physical therapy and chiropractic care, if the physical medicine and rehabilitation services comply with post-surgical treatment guidelines established

by the DWC Administrative Director. Since these guidelines were still in development at the time of our study, they also would have little direct impact on our findings.[i]

Regulations adopted since the completion of the UCLA report may have greater impact on our findings. Title 8, Code of California Regulations (CCR) section 9789.11 updated the Official Medical Fee Schedule (OMFS) maximum amount for 10 common Evaluation and Management (E & M) procedure codes for office/outpatient visits effective February 15, 2007, increasing the 1999 payment levels by an average of 20 percent. These 10 updated procedure codes are among the 21 most frequent E & M codes, accounting for approximately 80 percent of all E & M services, according to analysis of WC medical billing data collected by DWC in its Workers' Compensation Information System (WCIS). The increased payment for the E & M codes would likely have the greatest effect on utilization patterns of primary care MDs/DOs, who deliver the majority of E & M health care services, and on the willingness of these physicians to participate in the WC system.

Other regulations with potential to impact the findings of our analysis include Title 8, CCR sections 9792.20 – 9792.23, pertaining to the establishment of the Medical Treatment Utilization Schedule (MTUS). These regulations took effect June 15, 2007 and incorporated evidence-based, peer-reviewed, nationally recognized standards of care that address the frequency, duration, intensity and appropriateness of all treatment procedures and modalities commonly performed in WC cases. Of particular relevance to our study was the inclusion of guidelines for acupuncture treatment. Prior to the adoption of these regulations, the American College of Occupational and Environmental Medicine's Occupational Medicine Practice Guidelines (ACOEM Practice Guidelines) were used to provide the basis of utilization review (UR) to authorize treatment, and they did not include detailed acupuncture treatment guidelines. By incorporating acupuncture guidelines into the MTUS, the regulations could have facilitated access to acupuncture care and enhanced the willingness of acupuncturists to participate in the WC system.

[i] The new guidelines, which are part of the Medical Treatment Utilization Schedule (MTUS), became effective July 2009. The MTUS was also updated at this time to include new chronic pain treatment guidelines and the most recent version of ACOEM's chapter on elbow disorders.

A third set of regulations (Title 8, CCR sections 9792.11 – 9792.15), implemented in June 2007, that has potential relevance to our study relates to enforcement of penalties for noncompliance of review procedures by UR organizations. These UR penalty regulations provide an enforcement mechanism to ensure that UR is conducted in compliance with UR regulations established earlier, in September 2005. The new (penalty) UR regulations did not impose any changes in UR requirements or timeliness, but gave DWC authority to conduct audits and investigations to ensure that claim administrators and UR organizations conduct reviews in compliance with the regulations. Under the regulations, fines of up to $50,000 can be levied by DWC for noncompliance. While it is possible these regulations may result in some favorable change (reduction in delays and denials) in UR operating procedures, any change would likely be modest and occur over time. Nonetheless, our provider and worker surveys do include questions addressing UR-related delays and denials with the potential to capture data suggestive of a change in UR administrative processes in a limited fashion.

Literature Update

The UCLA report included a detailed review of the literature pertaining to access and quality in the WC system. A few additional pertinent studies and reports, most made available after 2006, are reviewed here. Readers interested in more extensive background on this literature are referred to the UCLA report.[1]

After completion of the UCLA report, three articles were published providing further analysis and discussion of the 2006 UCLA study findings. In the most recent of these three articles,[2] the authors report on factors associated with treatment outcomes. The findings suggest that workers who encountered problems accessing PT or OT services or specialist care were less likely to be working or recovered from their injury than other workers, but the way the researchers classified the groups of workers for analysis creates problems for interpreting the study's results. In a second article based on the 2006 UCLA injured worker survey,[3] the authors identify a number of factors associated with higher satisfaction and quality ratings, including: provider's occupational health (OH) orientation and interpersonal behaviors, same-day initial care, and ease of access to specialists.

A third article[4] presents findings from the 2006 UCLA provider survey as concerns factors associated with provider perceptions of access and quality. Providers who reported that utilization review was a barrier to quality care were significantly more likely than other providers to also report that injured workers had inadequate access to quality care and that access and quality had declined between 2004 and 2006. Compared with primary care physicians, chiropractors and acupuncturists were significantly more likely to report declines in access and quality as well as inadequate access to quality care.

Similar concerns on the part of providers were presented in a July 2005 report by the California Medical Association.[5] Based on their survey of 250 physicians, they note that physicians were concerned that the WC health care reforms were more focused on cost avoidance than ensuring appropriate care for injured workers. In particular, physicians felt that the clinical guidelines were inadequate and poorly implemented; that bureaucratic processes wasted time and delayed care; that individuals without necessary clinical training were making treatment decisions; that insurance carriers routinely delayed payments and underpaid claims; and that MPNs required large discounts but had no experience managing WC care. Sixty-three percent of the physicians surveyed indicated intent to leave or decrease participation in the WC program. Although practices with WC making up more than half of their patient volume were more likely to continue participating, 43% of this group planned to stop or decrease participation in WC.

Two additional reports concerning California WC health care reforms were completed during the past couple of years. The first of these presented a RAND Corporation study of utilization, costs, access and quality of medical care for California injured workers.[6] Conducted in 2004, just as major WC health care reforms were being implemented, the study used key informant interviewing and existing data to gather information and make recommendations regarding anticipated impacts of the reforms. Respondents stressed that the application of evidence-based guidelines must leave room for clinical judgment; they expressed additional concerns about dispute resolution, administrative burden, fee discounting, timeliness of payer decision-making, and the contentiousness within the system; and they voiced mixed predictions about the impact of provider networks on access to quality care. The authors conclude with recommendations for

implementation of a performance-monitoring system and experimentation with performance-based payment.

The other recent report concerning California WC health care reforms focused on provider network utilization rates.[7] Conducted by the California Workers' Compensation Institute, this study found that utilization of Medical Provider Networks increased considerably between 2002 and 2007. Early post-reform increases were greater for health care visits after the first 30 days post-injury and more than doubled to 58.7% in 2006. The network utilization rate for visits in the first 30 days of injury increased just over 10%, to 74.3% in 2007.

In addition to California, other states have implemented WC health care reforms in recent years and have evaluated the impacts of these reforms for injured workers, providers, and employers. Reports from two states, Texas[8-11] and Pennsylvania,[12] are particularly relevant to the current study.

Reforms in Texas, similar to those in California, implemented evidence-based treatment guidelines, new fee schedules, and health care networks, in order to improve provider participation and injured worker access to quality health care.[8] Several recent reports describe results of surveys conducted to evaluate the impact of these reforms.[8-11] Survey findings indicated some evidence of post-reform improvement in access to care, but network-treated workers also reported more access problems and lower satisfaction.[8] The authors noted differences in return to work rates among the various provider networks and that return-to-work outcomes are influenced considerably by the existence and effectiveness of employer return-to-work programs.[8] Among those not working at the time of the 2008 injured worker survey, a higher percentage of network-treated injured workers reported that providers had released them to go back to work.[9] Additional findings from a 2007 report[10] on reforms in Texas indicated that among injured workers who returned to work and retained employment for 9 or more successive months, about 25% returned to work with wages less than 70% of their pre-injury wages. Regardless of injury type, it took a year for the median quarterly wages to return to pre-injury levels.

In Pennsylvania, the Department of Labor & Industry conducts an annual study to assess whether the provider fee schedule ensures adequate access to quality health care for injured workers. The 2007 study,[12] which included surveys of injured workers and providers, also examined injured worker satisfaction and provider attrition. The single most reliable predictor of timely access, injured worker satisfaction and positive return-to-work outcomes was whether the worker was informed of rights and benefits at the time of injury. Timely initial care and return to work were found to be related such that the longer the delay in getting initial care, the longer the delay in returning to work. Commonly reported sources of dissatisfaction among workers were difficulties getting bills paid, authorization problems, delays and denials of care, misdiagnoses and premature release to return to work. Among providers serving on employer panels, attrition was attributed mostly to dissatisfaction with payment problems (late and/or improperly reduced payment) and delays in getting such problems resolved, rather than with the fee schedule itself. The authors of this 2007 report stressed the importance of (1) informing injured workers of their rights at benefits at the time of injury and (2) addressing payment-related problems that threaten the available supply of workers' compensation providers.

In summary, recent research provides mixed results about the impact of WC health care reform on access to quality care. Some evidence suggests that reform measures, such as provider networks, can improve access to health care. Other evidence indicates, for example, that injured workers treated within provider networks are less satisfied and experience more access problems than other injured workers, and that reform measures may lead to higher provider attrition from the WC system. The research does provide some support for the link between access to care and treatment outcomes. In addition, study findings reveal that providers and the injured workers they treat identify some of the same sources of access problems (e.g., UR issues) and that providers who experience these problems are more likely to reduce or stop treating injured workers. Finally, recent research reflects the complexity involved in measuring work and recovery outcomes and in relating these to aspects of health care delivery, especially given the roles of claims processing and employer accommodations for return to work. As a whole, this research underscores the importance of continued evaluation of the implementation of WC health care reform measures and the factors associated with positive experiences for injured workers and providers.

REPORT ORGANIZATION

This report consists of four chapters. The next chapter, Chapter 2, discusses the methodology used to conduct a general survey of injured workers and a second survey of injured workers with back sprains/strains, provides descriptive findings from these surveys, and presents the results of statistical analyses conducted on data from the second survey to examine the effect of access barriers on work disability. Chapter 3 describes the methodology used to perform our provider survey and presents the findings of that survey. The final chapter summarizes our overall findings and outlines recommendations DWC may wish to consider to improve the performance of the WC system.

CHAPTER 2

INJURED WORKER SURVEYS: METHODOLOGY AND FINDINGS

INTRODUCTION

The primary goal of the 2008 University of Washington (UW) study was to assess the experience of injured workers in accessing health care through the California workers' compensation (WC) system. To address this goal, we conducted surveys of two different samples of injured workers: (1) a general sample of injured workers that included all injury types and (2) a sample of injured workers with back sprains/strains who had received some compensated time loss (temporary disability). Our aim in conducting the first survey was to assess, from the workers' perspective, whether there was adequate access to quality health care for workplace injuries, and whether access to these services had changed over time. The second survey had a different purpose. It was designed to enable us to assess the effect of access on work disability, measured in terms of compensated time loss. More specifically, we sought to examine whether workers who encountered one or more access barriers, e.g., long travel distance to obtain care or language barriers, were off work and receiving compensated time loss for longer periods. The DWC, as mandated by Labor Code (LC) section 5307.2, has placed high priority on assessing injured workers' access to health care and changes in access to quality care over time. That priority reflects the underlying assumption that barriers to access, e.g., delays or denial of care, may have a potential adverse effect on outcomes.

The two surveys taken together provide an updated and detailed assessment of worker access to quality health care within the California WC system. The analyses presented in this chapter provide information about the extent and type of access barriers encountered by injured workers and their effect on work disability, as measured by days of compensated time loss.

Seven specific objectives guided the development of the worker survey and the analysis of data gathered through it:

1. Describe the characteristics of injured workers receiving health care in the workers' compensation system.

2. Describe the nature and adequacy of access to health care for the total sample and subgroups, and identify any substantial access barriers.

3. Describe the nature and adequacy of quality of care for injured workers and any quality problems that exist for the overall population or subgroups.

4. Identify the factors affecting access and quality of health care.

5. Describe workers' health and work outcomes.

6. Examine the relationships among access, quality, treatment satisfaction and outcomes.

7. Identify changes over time in the nature of access to quality health care for injured workers.

The next section highlights the methods used to design the survey and collect and analyze the data. More detailed information about the methods is provided in a technical appendix at the end of the report (Appendix A). After describing the methods, we present separately the results of the two surveys. The chapter concludes with a brief summary and discussion of the findings. The information gathered through our 2008 worker surveys has relevance for considering possible approaches for improving the performance of the California WC system and enhancing its ability to provide injured workers access to quality health care. We discuss this further in Chapter 4, in making recommendations that build on the findings presented in this chapter.

METHODS

Two separate surveys were conducted among injured workers from May 2008 to July 2008, using two distinct samples. The first survey (hereafter referred to as the 2008 All-Injury Worker Survey, or Survey A) was a random sample of injured workers, similar to the 2006 UCLA worker survey. Workers were surveyed 10 to 13 months after they were injured (11 months on average). The second survey (hereafter referred to as the 2008 Back Disability Worker Survey, or Survey B) was designed to provide a partially prospective examination of factors associated with return-to-work outcomes (using compensated time loss as a proxy for return-to-work). This survey was conducted only among workers with back sprains/strains who had some compensated time loss. Workers were surveyed 2 to 6 months after injury (90% within 2 to 4 months of injury), in order to allow for sufficient experience with the health care system before the interview. For all workers in the Survey B sample, DWC provided administrative data regarding: (1) whether each worker was on or off compensated time loss at 6 months after the date of injury and (2) the number of days of compensated time loss within the full 6-month follow-up period. (DWC gathered this administrative data from the claims administrators involved; see survey sampling section for details.) We begin by describing methods common to both surveys.

Survey Development

The 2008 UW injured worker surveys were very similar to the 2006 survey developed by a research team at UCLA and described in detail in the 2006 UCLA report.[1] We retained most of the items from the 2006 worker survey in order to enable comparisons across surveys. The 2008 worker survey contained 65 questions, covering the following major topics: (1) sociodemographics, (2) injury characteristics and recovery, (3) access to health care (waiting time to see providers, distance to providers, and specific issues with specialists, physical therapy, occupational therapy, and prescription medication), (4) experience with the primary health care provider, (5) quality of health care and satisfaction with care received, and (6) return to work issues, including current work status, job accommodations, return-to-work information, and economic impact. The survey questions are provided in Appendix B.

Survey Administration

The UW subcontracted with the Gilmore Research Group in Seattle, WA to conduct the telephone interviews. All phone interviews were conducted between May 2008 and July 2008. Injured workers were considered ineligible if they: (1) were under age 18 at the time of injury, (2) were unable to complete the phone interview in Spanish or English, (3) were unable to complete the interview due to hearing or comprehension problems, (4) lived or were injured outside California, (5) had not received any health care for their work-related injury, or (6) were deceased. The UW mailed an initial contact letter and an information sheet containing background information in English and Spanish to potential respondents. When necessary, a reminder letter was sent. The research protocol was approved by the California Health and Human Services Agency, Committee for the Protection of Human Subjects and the University of Washington Institutional Review Board.

Survey Sampling and Response Rates

We begin by describing the sample source (common to both surveys), and then provide details of the sampling strategy and response rates for each survey separately. The samples were identified from the state's Workers' Compensation Information System (WCIS), which is maintained by the DWC (LC section 138.6; Title 8, CCR, sections 9701 et seq.). The WCIS claims database is a comprehensive database of nearly all California WC claims with a date of injury since March 1, 2000. It is the only database that exists containing information for nearly the complete population of state workers' compensation claims filed each year, and is representative of the insured and self-insured markets, as well as the private and public sectors.

All-Injury Worker Survey

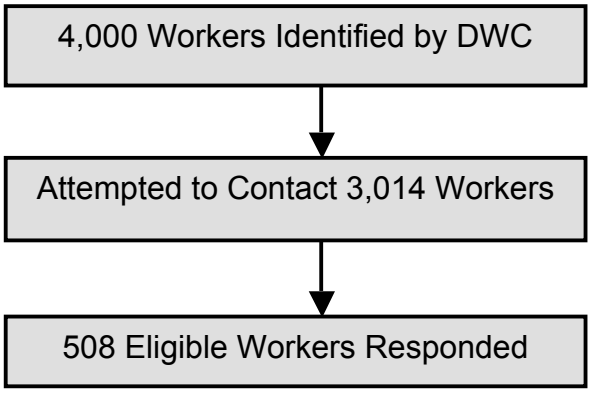
For this survey, DWC provided us with a sample of 4,000 claims selected at random from the 48,916 claims reporting a date of injury during the month of June 2007. This sample included all types of injuries, minor to extensive. The sample was drawn on April 18, 2008. DWC research

staff found the drawn sample to be comparable to all June 2007 claims with regard to age, gender, whether injured in a rural or urban location, employment status, and other factors.

This sample was randomly split into waves, and 986 were never contacted as they were not needed to reach the survey target of 500 eligible completed surveys. Of the remaining 3,014 subjects, 56 were determined to be ineligible based on living or being injured outside California. Another 971 were ineligible because their contact information was missing or incorrect, despite additional postal service and phone number tracking. After applying other eligibility criteria, we obtained 508 eligible surveys (499 declined to participate or did not complete the survey). The adjusted response rate was 28.3%.[i] The response rate reported for the 2006 worker survey was 35.1%. Both rates fall within typical ranges for workers' compensation-related surveys (discussed in detail in the 2006 UCLA report).

Eligible respondents were comparable to the sample population identified for this survey. Of the 508 eligible survey respondents, 93.1% did not refuse to answer any individual question. Only 1.6% refused to answer more than 1 question (maximum was 5).

Exhibit 2.1: Sampling and Participation for All-Injury Worker Survey



[i] Some individuals were determined to be ineligible during telephone interview screening (90.5% were found eligible). The response rate was adjusted to account for the estimated eligibility rate of those not contacted.

Back Disability Worker Survey

DWC provided all 1,719 claims meeting the inclusion criteria for the 2008 Back Disability Worker Survey (Survey B). The sample was drawn in several stages between April 18, 2008 and June 16, 2008. Injured workers qualified for inclusion in this survey if they had a back sprain or strain between December 1, 2007 and April 30, 2008, had received at least some temporary disability compensation, and their claim was managed by one of the 7 claim administrators (large insurance companies and/or third-party administrators) identified for this survey. The claim administrators were selected by DWC based on the quality of their reporting to WCIS and their willingness to cooperate with providing follow-up data on days of compensated time loss. DWC research staff found the sample to be comparable to the overall population regarding age, gender, and other factors.[ii]

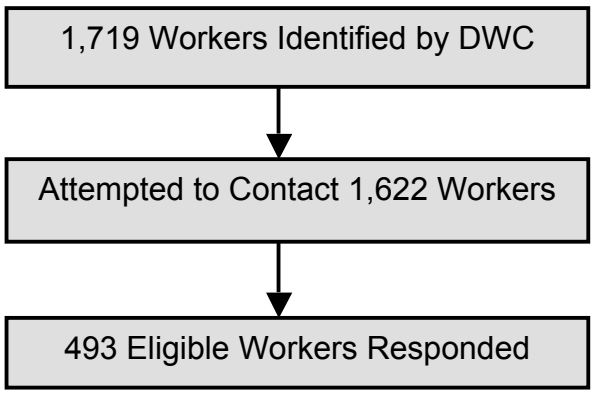
The Survey B sample was randomly split into waves, and 97 were never contacted as they were not needed to reach the survey target of 500 eligible completed surveys, leaving a sample of 1,622. Of those 1,622 subjects, 28 were determined to be ineligible based on living or being injured outside California. Another 251 were ineligible because their contact information was missing or incorrect, despite additional postal service and phone number tracking. After applying other eligibility criteria, we obtained 493 eligible surveys (291 declined to participate or did not complete the survey). The adjusted response rate was 39.2%.[iii] This response rate falls within typical ranges for workers' compensation-related surveys (discussed in detail in the 2006 UCLA report). This response rate was considerably better than the response rate for Survey A, most likely because of improved contact information. (These workers were contacted sooner after claim filing and had all received at least one temporary disability payment.)

[ii] There was a statistically significant difference in average age, but the actual difference was very small (39.4 years of age for the sample vs. 40.1 for the population; p=.02). The sample was less likely to have been employed full-time at injury (79.6% vs. 83.2%, p<.01) and more likely to have been employed part-time (16.8% vs. 13.6%, p<.01), but there was no difference for other employment categories.

[iii] Some individuals were determined to be ineligible during telephone interview screening (93.9% were found eligible). The response rate was adjusted to account for the estimated eligibility rate of those not contacted.

Eligible respondents were comparable to the sample population identified for this survey. Of the 493 eligible survey respondents, 91.5% did not refuse to answer any individual question. Only 0.8% refused to answer more than 1 question (maximum was 5).

Exhibit 2.2: Sampling and Participation for Back Disability Worker Survey



Data Analysis

We used a combination of descriptive, bivariate and multivariate statistical analyses to address the objectives. We used Chi^2 tests to assess differences for categorical variables. Unequal variance T-tests were used for testing differences in means. We used linear regression techniques to generate several estimates of association of particular variables with missed work days or compensated time loss days, controlling for other factors as described where we present the regression results. All statistical tests were two-tailed, with statistical significance defined as $p \leq .05$. We conducted all analyses using Stata/IC 10.1 for Windows (StataCorp LP, College Station, TX).

Disability burden: For the analysis of excess disability burden (conducted for the All-Injury Worker Survey only), we calculated the total missed work days reported by Survey A respondents. We then calculated the percent of that total accounted for by each of a number of access barriers and other selected characteristics (demographics and quality and satisfaction ratings). For each of these measures, we also calculated the percent of the sample represented by

workers having that particular characteristic. The difference between the percent of missed work days accounted for and the percent of the sample accounted for was used as an indication of excess disability burden related to each measure.

Race/ethnicity: The race/ethnicity question allowed for multiple responses. Consequently, there were several decisions made in assigning individuals to mutually exclusive categories. All individuals reporting Latino/Hispanic identification were assigned as such, regardless of other responses. Individuals identifying only as White constituted a second category. Due to small numbers, the 3 response categories of Asian, Other Pacific Islander, and Native Hawaiian were collapsed into a single category. Those individuals reporting identification with more than one of the resulting 5 categories (other than Latino/Hispanic) or reporting a response that could not be recoded into one of those 5 categories were assigned to the "Other" category. This resulted in the 6 categories presented in Exhibits 2.3 and 2.14. For all analyses, these 6 categories were further collapsed to provide adequate numbers for statistical analysis as follows: (1) White, (2) Latino/Hispanic, and (3) Other.

Rural/urban: Rural vs. urban location was defined by linking the zip code for the location of injury in the WCIS database to Rural Urban Commuting Area (RUCA) codes.[iv]

Injury descriptors: Part of body, nature of injury, and cause of injury information obtained from WCIS was collapsed into categories based on those developed by the Workers' Compensation Insurance Organizations (WCIO), a voluntary association of statutorily authorized or licensed rating, advisory, or data service organizations that collect workers' compensation insurance information.

Treatment duration: The duration of treatment for injured workers was calculated using self-reported data. Those injured workers who reported still being in treatment when interviewed (or who reported durations longer than the possible timeframe) were assigned the number of days from the date of injury recorded by WCIS to the interview date.

[iv] Rural Urban Commuting Area Codes (Version 2.0). WWAMI Rural Health Research Center. Available at: http://depts.washington.edu/uwruca/. Accessed March 26, 2009.

Number of missed work days: Similarly, the total number of missed work days was calculated using self-reported data. Those injured workers who had not yet returned to work when interviewed (or who reported durations longer than the possible timeframe) were assigned the number of days from the date of injury recorded by WCIS to the interview date.

Access variables: We combined selected access barriers into summary measures in several ways for particular analyses. Most often, we used a summary measure of whether a respondent reported any access barrier or not. Workers reporting any one or more of the following barriers put them into the "any access barrier" category, and those not reporting any of the following barriers were represented as not having any access barrier using this summary measure:

1. Delay of more than 3 days from injury to first health care visit (unless the worker reported not wanting an earlier appointment)
2. Experienced delays or denials of care at least sometimes
3. Distance to initial health care visit was more than 15 miles
4. Distance to main provider was more than 15 miles
5. Distance to specialist was more than 30 miles
6. Had a hard time understanding main provider due to language barrier
7. Access-related barrier to obtaining physical or occupational therapy (PT/OT)
8. Access-related barrier to obtaining specialty care
9. Access-related barrier to obtaining prescribed medication
10. Stopped obtaining health care for this injury due to an access-related barrier

For some analyses, we combined access barriers that were similar to each other into summary measures. The summary measure for "long travel distance" was based on reporting any of the barriers numbered (3), (4) or (5) in the above list. The summary measure for "problem obtaining medication, PT/OT, or specialist care" was based on reporting any of the barriers numbered (7), (8), or (9).

RESULTS

All-Injury Worker Survey

We begin with a description of the demographic, injury and claim characteristics of the workers, and then describe the nature and extent of treatment services they received for their injuries and how they experienced access to those services. Where access barriers are evident, we examine whether or not these problems are localized to particular segments of the sample. Similarly, we summarize the data from questions about worker perceptions of quality of care and satisfaction with care, and we identify factors associated with more positive and negative perceptions. Next we report on workers' recovery and work outcomes, and identify the subgroups of workers who appear to have a disproportionate number of missed work days due to injury. Finally, we assess the relationships among access, quality, satisfaction and outcomes. After presenting these survey findings, we compare them to the 2006 worker survey findings.

Worker Demographics

As shown in Exhibit 2.3, the workers surveyed were a demographically diverse group. Males made up 58% of the sample and the average age was 40. Close to 90% of those surveyed were either Latino (45%) or white (42%), and the telephone interview was conducted in Spanish for 120 injured workers, 24% of the total sample. Years of education varied considerably, with the largest proportions of workers reporting some college (34%) or a high school diploma (28%). In terms of annual income, 58% were earning less than $35,000, while 23% reported earning $50,000 or more at the time of injury. Most workers (92%) were injured in urban or suburban areas.

Exhibit 2.3: Worker Characteristics (Survey A, N=508)

Characteristic	Number of Cases	Percent
Male (n=508)	294	58%
Age[a] (n=508)		
18–30	139	27%
31–45	183	36%
≥ 46	186	37%
Race/ethnicity (n=501)		
White	208	42%
Latino/Hispanic	223	45%
Black/African American[b]	28	6%
Asian/Pacific Islander[b]	30	6%
Native American/Alaska Native[b]	4	1%
Other	8	2%
Interviewed in Spanish (n=508)	120	24%
English not spoken well or at all (n=507)	87	17%
Worker's annual pre-injury income (n=462)		
< $15,000	100	22%
$15,000–$34,999	165	36%
$35,000–$49,999	89	19%
≥ $50,000	108	23%
Education (n=504)		
< Grade 12	88	17%
High school diploma	141	28%
Some college	173	34%
College degree or post grad work	102	20%
Injured in rural area[a] (n=508)	40	8%

[a] Obtained from administrative claims data provided by DWC.
[b] Due to small numbers, this category was included in "Other" for all analyses presented in this report.

Injury and Claim Characteristics

Injured workers were asked both about the types of injury sustained and about the body parts affected. As shown in Exhibit 2.4, about half of the respondents reported muscle or joint injuries, while close to a quarter of respondents reported cuts, bruises, swelling or rash and 7% reported repetitive stress injuries. The most frequently injured body parts were upper extremities (37%), followed by lower extremities (20%) and back or neck (16%). Six percent of respondents reported multiple types of injury and 16% reported that multiple body parts were affected. The vast majority of workers (83%) were employed full time when their injury occurred, and over a quarter (28%) worked for an employer that was self-insured for workers' compensation. Respondents reported attorney involvement in 12% of the claims.

Exhibit 2.4: Injury and Claim Characteristics (Survey A, N=508)

Measure	Number of Cases	Percent
Type of injury (n=496)		
Sprain/strain/joint/disc	237	48%
Repetitive stress injury	33	7%
Cut/bruise/swelling/rash	102	21%
Other	95	19%
Multiple	29	6%
Body part injured (n=506)		
Back/neck	83	16%
Upper extremity	186	37%
Lower extremity	102	20%
Other	53	10%
Multiple	82	16%
Attorney involved (n=506)	60	12%
Full-time employee[a] (n=464)	385	83%
Self-insured employer[a] (n=508)	140	28%

[a] Obtained from administrative claims data provided by DWC.

Treatment Profile

Workers were asked how many health care visits they had for their injuries, how long their treatment continued, what type of provider they saw for most of their care (their "main provider"), and whether or not they received care within a Medical Provider Network (MPN). Exhibit 2.5 presents the treatment profile of these workers. Roughly one-third reported having 1 to 3 health care visits, another third reported 4 to 9 visits, and the remainder reported 10 or more visits. Almost 1 in 5 workers (19%) was still receiving injury-related health care at interview time (approximately 11 months post injury); and most workers (85%) indicated that their treatment took place within an MPN. In terms of provider type, about 83% of the workers identified their main provider as a doctor of medicine or osteopathy (MD/DO); nurse practitioners (NPs) or physician assistants (PAs) were cited by 7% and chiropractors by 5%.

Workers were also asked about referrals to physical/occupational therapists (PT/OT) and specialists, and about receipt of prescribed medication. Close to half of all workers reported seeing a physical or occupational therapist, more than a third reported seeing a specialist, and about three-quarters indicated they received a prescription for medication. A little over half of

the workers (53%) filled their prescriptions at pharmacies, and nearly all others (46%) obtained prescribed medications at providers' offices.

In sum, the survey respondents present a diverse picture in terms of treatment. More than a third reported no more than a few health care encounters, while many obtained much more extensive treatment involving referrals and multiple providers.

Exhibit 2.5: Treatment Profile (Survey A, N=508)

Measure	Number of Cases	Percent
Total visits to any provider for injury (n=499)		
1–3	181	36%
4–9	151	30%
10+	167	33%
Duration of treatment (n=493)		
1 day	87	18%
> 1 day–1 month	145	29%
> 1 month–6 months	138	28%
> 6 months	123	25%
Main provider type (n=496)		
MD/DO	414	83%
Chiropractor	26	5%
NP/PA	33	7%
Other	23	5%
Workers who saw a physical or occupational therapist (n=507)	226	45%
Workers who saw a specialist (n=503)	185	37%
Workers who received prescription medication for this injury (n=502)	388	77%
Workers still obtaining health care at time of interview (n=508)	98	19%
Care provided within MPN (n=507)		
Yes	430	85%
No	49	10%
Don't know	28	6%

Access to Care

The survey was designed to assess access according to the following criteria, which are related to WC regulatory standards for MPNs (see Title 8, CCR, section 9767.5):

- Initial treatment for injury within 3 days
- Initial care within 15 miles
- Main provider within 15 miles
- Specialty care within 30 miles

Additional measures of access included:

- Problems accessing PT/OT, specialists, and prescribed medication
- Language barriers that made it difficult for workers to understand their main provider
- Frequency of treatment delays or denials

Findings related to these access measures are summarized in Exhibit 2.6. As shown, about two-thirds of the workers received initial care on the day of their injury, and another quarter received care within 1-3 days, leaving 11% who waited more than 3 days for initial care. Of those who waited longer than 3 days for initial care, 46% reported that they wanted to be seen sooner. The great majority of injured workers traveled 15 miles or less for initial care and main provider care, and traveled 30 miles or less for specialty care. However, distances were sometimes longer than desirable:

- 14% of workers traveled more than 15 miles for initial care
- 17% traveled more than 15 miles to see their main provider
- 14% traveled more than 30 miles for specialty care

In terms of access being limited by language barriers, 93% of respondents did not identify this as a problem. However, among the 17% of workers who said they did not speak English well or at all, 27% reported having difficulty understanding their main providers due to language differences.

Most workers reported that they were able to receive needed PT, OT, or specialty care services and prescribed medications without a problem, although some workers had difficulty obtaining these services and medications or were not able to do so at all. We elaborate below.

Exhibit 2.6: Access to Care (Survey A, N=508)

Access Measure	Number of Cases	Percent
Lapsed time from advising employer about injury to first health care visit (n=507)		
Same day (or saw provider before advising employer)	318	63%
1–3 days	134	26%
More than 3 days	55	11%
Distance traveled to obtain initial health care (n=490)		
0–5 miles	274	56%
6–15 miles	149	30%
More than 15 miles	67	14%
Distance traveled to obtain care from main provider (n=495)		
0–5 miles	246	50%
6–15 miles	163	33%
More than 15 miles	86	17%
Distance traveled to see a specialist (n=181)		
0–5 miles	68	38%
6–15 miles	60	33%
16–30 miles	27	15%
More than 30 miles	26	14%
Workers who reported having a hard time understanding main provider due to language barrier (n=506)	37	7%
Workers who experienced problems accessing PT/OT[a] (n=237)	49	21%
Workers who experienced problems accessing a specialist[a] (n=198)	54	27%
Workers who experienced access barriers related to medication prescriptions[a] (n=390)	39	10%
Workers who reported no longer obtaining health care due to access barriers (n=508)	28	6%
How often experienced delays/denials of care (n=502)		
Never/almost never	393	78%
Sometimes	59	12%
Often	18	4%
Always/almost always	32	6%
Workers who reported any access barriers (n=508)	239	47%

[a] The percentage for this line was calculated based only on those workers needing the health care service in question.

PT/OT services: There were 237 workers who needed PT/OT services,[v] and as seen in Exhibit 2.6, 49 (21%) reported having problems accessing these services. This included 38 workers who received PT/OT despite access-related difficulties and 11 workers who wanted these services but were unable to obtain them due to access barriers. Authorization denials was the primary reason cited by about half of the 11 workers who did not receive PT/OT due to access barriers, and the other half cited scheduling issues, not being able to get there, or not being able to take time off work. These problems were similar to the access barriers cited by the other 38 workers who reported encountering access barriers but who received PT/OT. Of these 38 workers:[vi]

- 26% experienced authorization delays
- 24% encountered appointment scheduling issues, such as delays
- 24% reported not being able to get to PT/OT appointments
- 18% cited employer or insurer authorization denials

Specialty care: Looking at access to specialty care (Exhibit 2.6), we observed a similar picture, with slightly greater proportions of workers experiencing access barriers. Of the 198 workers who needed specialty care,[vii] 54 (27%) experienced problems accessing this care, including 11 workers who were referred but did not receive specialty services due to access barriers. These 11 workers most frequently cited authorization denials and scheduling issues as the primary reasons. Of the 185 injured workers who did receive specialty care, 43 (23%) reported problems getting in to see a specialist. Of these 43 workers:[vi]

- 42% encountered appointment scheduling issues, such as delays
- 30% experienced authorization delays
- 21% reported not being able to get to specialist appointments
- 9% cited employer or insurer authorization denials

[v] Workers were counted as needing PT/OT if they received such services or if they reported having been referred for such services (unless they stated that they or their provider did not think they needed this therapy).

[vi] Many workers reported problems in more than one category.

[vii] Workers were counted as needing specialty care if they received specialty care or if they reported having been referred for specialty care (unless they stated that they or their provider did not think they needed this care).

Prescription medications: The majority of injured workers (77%) received prescription medication for their injuries. Most (90%) did not report difficulties filling their prescriptions. However, of the 390 workers who needed prescription medication,[viii] 39 (10%) reported access-related problems. This included 2 workers who reported that they were prescribed but never obtained medication due to financial difficulty (perhaps because of a problem with WC covering the medication, although the underlying causes were not stated). The 37 workers who obtained prescribed medications but had some difficulty doing so cited the following key access barriers:[ix]

- 30% experienced authorization delays
- 27% encountered employer or insurer authorization denials
- 16% reported that the pharmacy would not fill WC prescriptions
- 11% described various forms of miscommunication between providers, insurers, and/or pharmacies

Delays and denials: In addition to questions aimed at identifying delays or denials specific to initial care, PT/OT, specialty care and prescription medications, workers were asked how often they had experienced any delays or denials of care since they were injured and how often those delays or denials interfered with their recovery. As seen in Exhibit 2.6, the majority of workers (78%) reported that they "never or almost never" experienced delays or denials, while 10% said they "often" or "always or almost always" experienced delays or denials. The more often workers experienced delays or denials, the more frequently they tended to experience those delays or denials as interfering with their recovery (correlation coefficient=.56, $p<.01$). Among the 12% of workers who only "sometimes" experienced delays or denials, nearly a third (31%) reported that these access barriers interfered with their recovery "often" or "always or almost always." Of workers who "always or almost always" experienced delays or denials, more than 4 out of 5 (81%) reported that these access issues "always or almost always" interfered with their recovery.

[viii] Workers were counted as needing prescribed medication if they were written a prescription and did not state that either they or a provider thought they did not need the medication.

[ix] Many workers reported problems in more than one category.

In sum, while the general picture presented by the data in Exhibit 2.6 is one of most workers obtaining adequate access to treatment for their injury, some workers reported encountering access barriers that delayed their recovery. Although a surprisingly high 34% of workers who did not report any access barrier stated that they had still not fully recovered from their injury, on average, this number was more than double (77%) among workers who reported **any** of the access barriers we measured ($p<.01$). More than 90% of workers reporting a problem accessing specialty care or needing to travel more than 30 miles to a specialist reported not being fully recovered at the time of the interview (a full 10 to 13 months after they were injured). Further, while more than half (53%) of this sample of injured workers did not report any access-related problems, just under half (47%) did indicate that they encountered at least one barrier to accessing the health services needed to treat their condition. Given this picture, we examined whether there were subgroups of injured workers who were more or less likely to experience access barriers.

Subgroup differences in access: Considering first the individual access variables related to WC regulatory standards, such as initial treatment within 3 days, we found no meaningful pattern of differences in the characteristics of workers who encountered access barriers and those who did not. Next we looked for subgroup differences in the frequency of delays/denials and with regard to several constructed access measures described in the Methods section. Using these access measures, we found no statistically significant relationships with sex, income or education, nor with whether workers had been employed full time, had worked for self-insured employers, were injured in a rural area, or received care through an MPN.[x]

We did, however, observe several significant relationships with other demographic, injury and claim characteristics, including:

- English fluency: Of workers who did not speak English well or at all, 57% reported one or more access barriers, as compared with 45% of other workers ($p=.03$).

[x] Complete results of subgroup analyses using these access indices are found in Exhibit C.1 of Appendix C.

- Body part injured: 66% of workers with injuries to multiple body parts reported having any access barrier, as compared with 51% of workers with back/neck injuries, 42% of workers with upper extremity injuries, 39% of workers with lower extremity injuries, and 43% of workers with other injuries ($p<.01$).

- Attorney involvement: 87% of those with attorneys involved but 41% without attorneys reported having any access barrier; 57% with and 17% without reported delays/denials "sometimes" (or more frequently); 45% with and 17% without reported traveling excessive distances for care; and 58% with and 20% without reported access barriers related to PT/OT, specialty care or prescription medications ($p<.01$ for all).

- Age: Of workers aged 18-30, 37% reported encountering any access barrier, compared with 46% of 31-45 year-olds and 55% of those 46 or older ($p<.01$). There was a similar pattern of age group differences for whether or not workers encountered problems obtaining prescription medication, PT/OT, or specialist care ($p<.02$).

Quality and Satisfaction Ratings

Surveyed workers were asked to rate their satisfaction (overall and with their main provider), and the quality of care they received for their injuries. Providing additional measures of quality, workers agreed or disagreed with four statements about whether their main provider performed each of 4 occupational health (OH) best practices. These included: (1) understanding the physical and mental demands of the worker's job, (2) discussing the need for work restrictions, (3) discussing how to avoid re-injury, and (4) discussing work status and timing of return to work.

Exhibit 2.7, summarizing our findings, reflects generally favorable worker responses. About 4 out of 5 workers rated their care at least "good" and expressed being satisfied or very satisfied with their care. In addition, between 84% and 89% of workers reported that their main provider performed each of 4 OH best practices. Workers who obtained their health care via an MPN reported that their main providers performed the 4 OH best practices with about the same frequency as those who did not. However, some workers responded less favorably to questions about quality of care and satisfaction: 20% were dissatisfied or very dissatisfied with their care

overall, 17% were dissatisfied or very dissatisfied with their main providers, 21% rated their overall care fair or poor. With regard to OH best practices:

- 15% indicated that their main providers did not understand the physical and mental demands of their job
- 11% disagreed that their main provider talked about needed work restrictions [xi]
- 12% indicated that their main provider did not address how to avoid re-injury
- 16% said their main provider did not talk about work status or when they could return to work

Exhibit 2.7: Quality of Care and Satisfaction (Survey A, N=508)

Measure	Number of Cases	Percent
Main provider understood physical and mental demands of job very well or fairly well (n=493)	421	85%
When applicable, main provider talked to worker about whether worker needed any work restrictions (n=433)	384	89%
When applicable, main provider told worker how to avoid re-injury (n=370)	326	88%
Main provider talked about work status or when worker could return to work (n=501)	421	84%
Quality of care rated good, very good, or excellent (n=505)	399	79%
Satisfied or very satisfied with overall care (n=503)	400	80%
Satisfied or very satisfied with care received from main provider (n=501)	415	83%

We found a clear association between workers' reports of OH best practices and their ratings of quality and satisfaction. Of workers who reported that their main providers had a good understanding of their jobs, 87% reported getting good to excellent care and 86% reported being satisfied with care, compared with 36% and 44% of workers who reported that their providers did not have a good understanding of their jobs ($p<.01$ in both cases). Similarly, 83% of workers who reported that providers discussed work status and return to work issues reported getting

[xi] Calculation of percents related to providers' discussion of work restrictions and avoiding re-injury included only those workers who considered these OH best practices applicable to their situations.

good to excellent care and 82% were satisfied with their care, as compared with 60% and 67% of workers reporting that their providers did not discuss those issues ($p<.01$ for both comparisons).

Subgroup differences in quality and satisfaction: Satisfaction and quality ratings did not differ significantly based on age, income or education, or on whether or not workers were injured in rural areas, worked full time, had self-insured employers or received care within an MPN. However, quality and satisfaction ratings were related to some other demographic, injury and claim characteristics.[xii]

- Workers who were interviewed in Spanish were significantly less likely than other workers to rate their care good or better (72% vs. 81%, $p=.02$) and to be satisfied with their care (71% vs. 82%, $p<.01$).

- Injury type and body part injured were significantly related to quality ratings ($p=.02$ and $p<.01$, respectively) and satisfaction ($p=.03$ and $p=.01$, respectively). Of those with injuries to multiple body parts, 63% rated their care good or better, compared with 79% to 86% of workers with other types of injuries. Similarly, 68% of those with multiple injuries were satisfied overall with their care, compared with 73% to 87% of workers with other injury types.

- Of workers who had attorneys involved in their claims, 52% rated their care "good" or better; and 57% were satisfied with their care, as compared with 83% of other workers ($p<.01$).

Recovery and Return to Work

Workers were asked to indicate their "recovery status" (how fully they had recovered) and how much their injury affected their current lives. Other survey questions were designed to explore work-related factors and outcomes: return to work, return to same employer, work days missed, job accommodations made, and change in earnings. Exhibit 2.8 provides a snapshot of recovery status and work-related outcomes at about 11 months post injury.

[xii] See Exhibit C.2 of Appendix C for complete subgroup findings.

Recovery status: In terms of recovery from injuries and impact of injuries on workers' lives:

- Almost half (46%) of the workers reported being fully recovered.
- But 54% reported not being fully recovered, including 12% who reported no improvement in their condition since injury.
- Close to half (46%) of the workers said their injuries were having a "moderate" or "big" effect on their current lives, but about one-third (36%) said "no effect."

Exhibit 2.8: Recovery and Work Outcomes (Survey A, N=508)

Measure	Number of Cases	Percent
Self-reported recovery status (n=502)		
Fully recovered	233	46%
Recovered some but room for improvement	210	42%
No improvement in condition since injury	59	12%
How much injury affects current life (n=508)		
Big effect	106	21%
Moderate effect	127	25%
Very little effect	90	18%
No effect	185	36%
Ever returned to work after injury (n=507)	461	91%
Total days missed from work due to injury (n=494)		
0 days	139	28%
1–3 days	127	26%
4–30 days	110	22%
31–90 days	38	8%
> 90 days	34	7%
Never returned to work	46	9%
Job accommodations made, among those who returned to work (n=455)		
Yes	175	38%
No	111	24%
Not needed for injury	169	37%
Workers who returned to work with same employer, among those who returned to work (n=460)	433	94%
Workers reporting decreased earnings due to injury, among those who returned to work (n=449)	45	10%

Further analysis revealed a significant relationship between recovery status and how much of an effect the injury had on the worker's current life (correlation coefficient=.77, $p<.01$). While only 3% of fully recovered workers said that their injury was having a big effect on their life at the

time of the interview, 23% of workers who reported partial recovery and 81% of workers reporting no improvement said that their injury was having a big effect on their life.

Work outcomes: Most workers (78%) reported working during the 2 weeks prior to the interview. Regardless of whether or not they were currently working, most workers (91%) had returned to work at some point after being injured, and of that 91%, almost all (94%) had returned to the same employer. In addition to the 9% who never returned to work, another 10% (45 workers) reported that they were now earning less on account of their injury than before they were injured. Of workers who had returned to work after being injured, 76% reported either that job accommodations to facilitate return to work were made or that such accommodations were not necessary. However, of the 286 workers who returned to work and needed job accommodations, 111 (39%) indicated that necessary job accommodations were not made. Three out of four workers (76%) reported missing work 30 days or fewer (including 28% who missed none), while 24% missed more than 30 days. Further analyses revealed a significant association between number of missed work days and earning less upon return to work ($p<.01$). Of workers who had 1 to 3 missed work days, about 4% experienced decreased wages, compared with 13% of workers who had 4 to 30 missed work days, and 32% of workers who had more than 30 missed work days (but had returned to work at least temporarily).

Though it is encouraging that 9 out of 10 workers returned to work at some point after their injury and prior to being interviewed approximately 11 months later, it is cause for concern that 4 out of 10 workers who needed a job accommodation to facilitate successful return to work were not given one. As discussed later, this same pattern was observed for workers with back sprains/strains who participated in our Back Disability Worker Survey (Survey B). Forty-two percent of Survey B respondents who had returned at least briefly to work reported needing but not receiving job accommodations.

Employer provision of appropriate job accommodations is a key factor in assisting injured workers to return to work and remain at work.[2] Accordingly, among the 286 workers who had returned to work for any period of time and who reported that job accommodations were

needed,[xiii] we examined whether employer provision of necessary job accommodations was related to remaining at work. We compared (a) workers who reported that they had not worked in the 2 weeks prior to the interview because of their injury to (b) a group consisting both of workers who had worked in the last 2 weeks and those who hadn't worked in the last 2 weeks for a reason other than their injury. We found that 8% of those who did not receive necessary job accommodations were no longer working due to their injury, compared with 7% of those who did receive such accommodations (difference not statistically significant).

We also assessed whether receiving necessary job accommodations was related to the effect that work-related injuries continued to have on workers' lives nearly a year after injury. Of those needing job accommodations, significantly more workers whose employers did not provide accommodations reported that their injury was still having a big or moderate effect on their life at the time of interview, compared with workers for whom such accommodations were made (59% vs. 46%; p=.04).

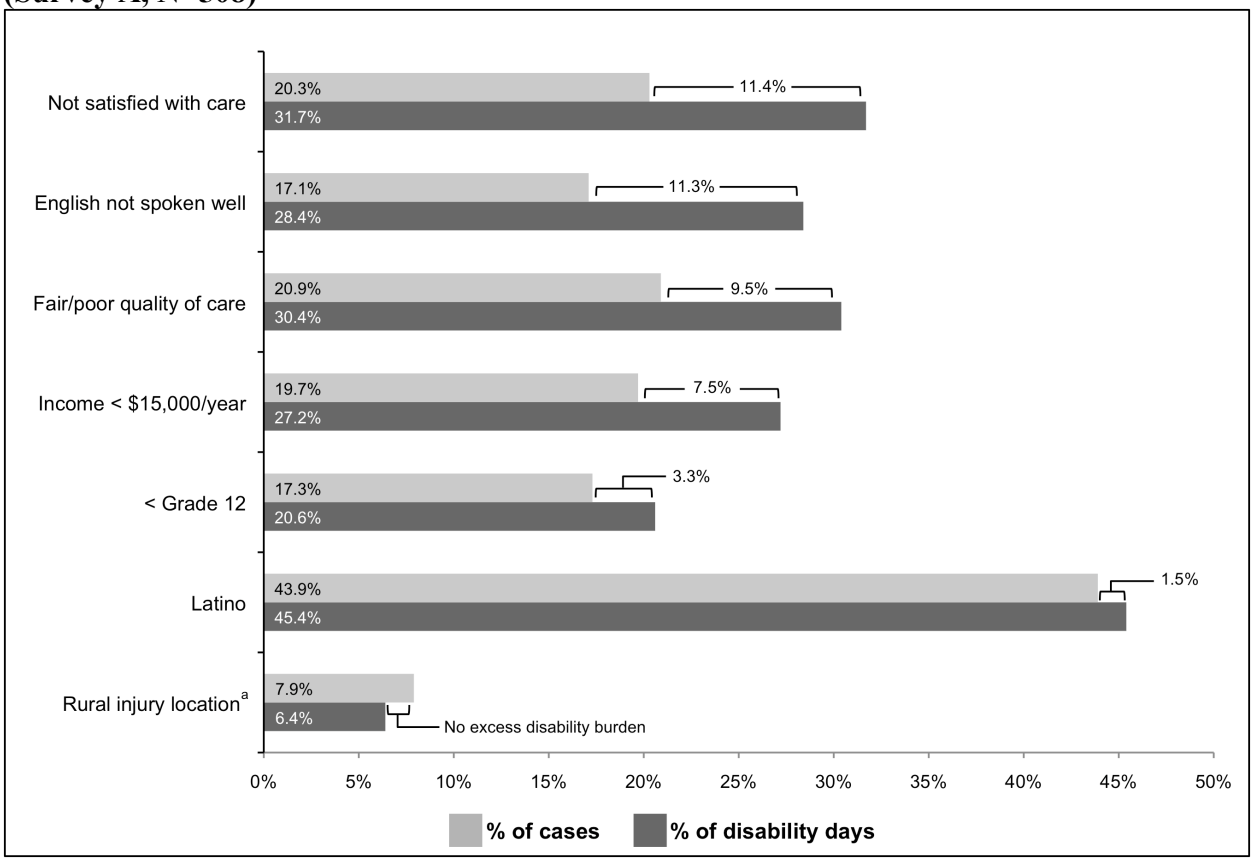
Disability burden: Missed work time due to occupational injury can be viewed as a form of "disability burden." Best viewed as a summary descriptive measure, disability burden can be characterized in terms of aggregate (or sum) missed work days for a group of injured workers treated through the WC system. Other things being equal, one would expect the percent of cases represented by a given worker subgroup in a sample of workers to be similar to the percent of total missed work days for that specific subgroup. Excess disability burden would be indicated by a particular subgroup of workers (e.g., lower-income workers or workers who waited more than 3 days for initial care) having a greater percent of missed work days relative to the percent of cases in the sample represented by that subgroup.

Exhibit 2.9 presents information related to disability burden for subgroups of workers based on demographic factors and worker ratings of care. Exhibit 2.10 does the same for subgroups based on access barriers. In both exhibits, subgroups are listed in descending order, according to the degree of difference between the light bar (percent of cases in the sample accounted for by the

[xiii] Only workers who had returned to work at least briefly were interviewed about job accommodations. There may well have been a number of workers who never returned to work specifically because no job accommodations were made; however those data are not available.

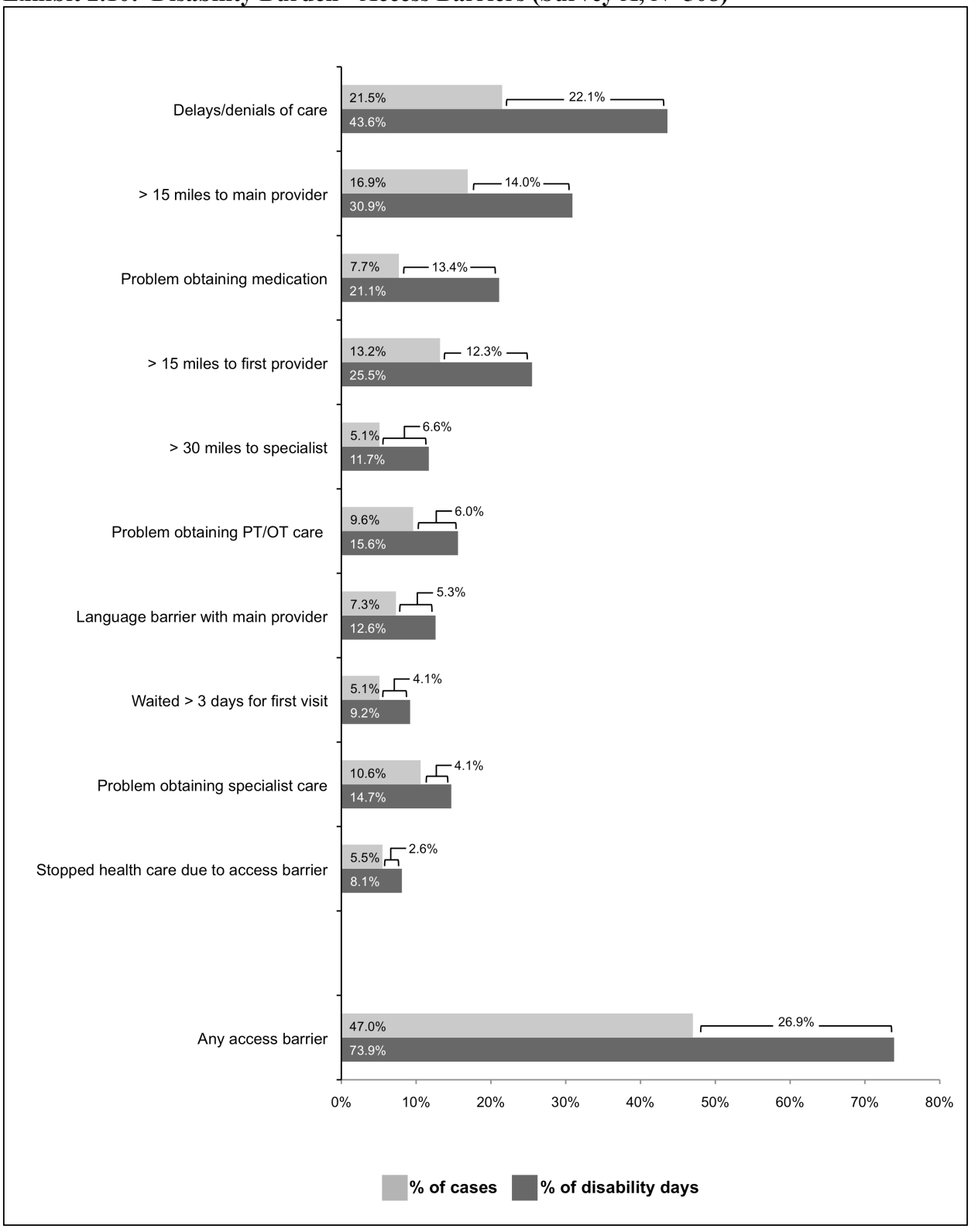
subgroup) and the dark bar (percent of missed work days accounted for by the subgroup). This difference between bars is an indication of excess disability burden for each group.

Exhibit 2.9: Disability Burden - Quality, Satisfaction and Demographics (Survey A, N=508)



Note: Percent within brackets equals excess disability burden.
[a] Obtained from administrative claims data provided by DWC.

Exhibit 2.10: Disability Burden - Access Barriers (Survey A, N=508)



Note: Percent within brackets equals excess disability burden.

Looking first at the subgroups defined by demographics or by quality or satisfaction ratings (Exhibit 2.9), Latino workers and workers with less than a high school education accounted for relatively little excess disability burden. Further, it is interesting to note that we did not find any excess disability burden for workers injured in rural areas; they made up 7.9% of the total sample and accounted for 6.4% of the total disability burden. On the other hand, workers who were dissatisfied with their health care exhibited relatively high excess disability burden, as did workers who reported having limited English speaking ability. While these findings are of interest, none of the groups defined by demographics or ratings of quality and satisfaction exhibit as much excess disability burden as the access-based groups displayed in Exhibit 2.10.

As shown in Exhibit 2.10, for this sample of workers, the single factor that defined the most excess disability burden was encountering frequent delays or denials in seeking care. Workers who experienced delays or denials of care sometimes or more often had the greatest excess disability burden. Whereas this group represented 21.5% of all workers, it accounted for 43.6% of total missed work days. Other access-based groups of workers with relatively high excess disability burden included workers who traveled further than 15 miles for initial and/or main provider health care, and workers who had problems obtaining prescribed medications. Combining all access barriers into an overall access summary measure (bottom bars of Exhibit 2.10), workers who experienced at least one access barrier (of any type that we measured) represented close to half of all workers but accounted for nearly three-quarters of all missed work days.

In sum, we observed a range of excess disability burden among different groups of injured workers. Groups with the most excess disability burden were workers who encountered access barriers, and in particular, workers who sometimes or more frequently experienced delays or denials in their treatment. While this analysis shows that people who experience access barriers tend to have a disproportionate number of missed work days, we cannot yet conclude that access barriers "cause" excess disability burden. Questions about what factors cause or predict work disability will be explored in a subsequent section of this chapter, using the data from our second sample of injured workers, all of whom had back sprains/strains and at least one day of compensated time loss.

Relationships among Access, Quality, Satisfaction, and Outcomes

Strong relationships were observed among worker ratings of access barriers and worker ratings of quality, satisfaction, and outcomes.[xiv] Workers who reported better access to services tended also to rate their care better, to be more satisfied with their treatment, and to have better treatment outcomes, compared with workers who reported having one or more access barriers. Of workers who **did not** report encountering any access barrier:

- 94% rated their care good to excellent, compared with 62% of workers who experienced access barriers ($p<.01$)
- 92% were satisfied or very satisfied with their care, compared with 65% of workers who reported access barriers ($p<.01$)
- 66% reported being fully recovered, compared with 23% of workers who reported access barriers ($p<.01$)

Workers who (1) experienced any access barrier, (2) experienced delays/denials of care, (3) traveled long distances to obtain care, (4) rated their care fair or poor, or (5) were dissatisfied with their care were significantly more likely to report:[xv]

- Injury having a moderate to big effect on their current life at the time of the interview
- More missed work days
- Having never returned to work
- Earning less now than pre-injury, due to the injury (among those who had returned to work)

Compared with other workers, workers who reported only fair or poor quality of care were more likely (83% vs. 45%) to report not being fully recovered ($p<.01$). Similarly, of workers who were dissatisfied with their care, 89% were not fully recovered, compared with 44% of those

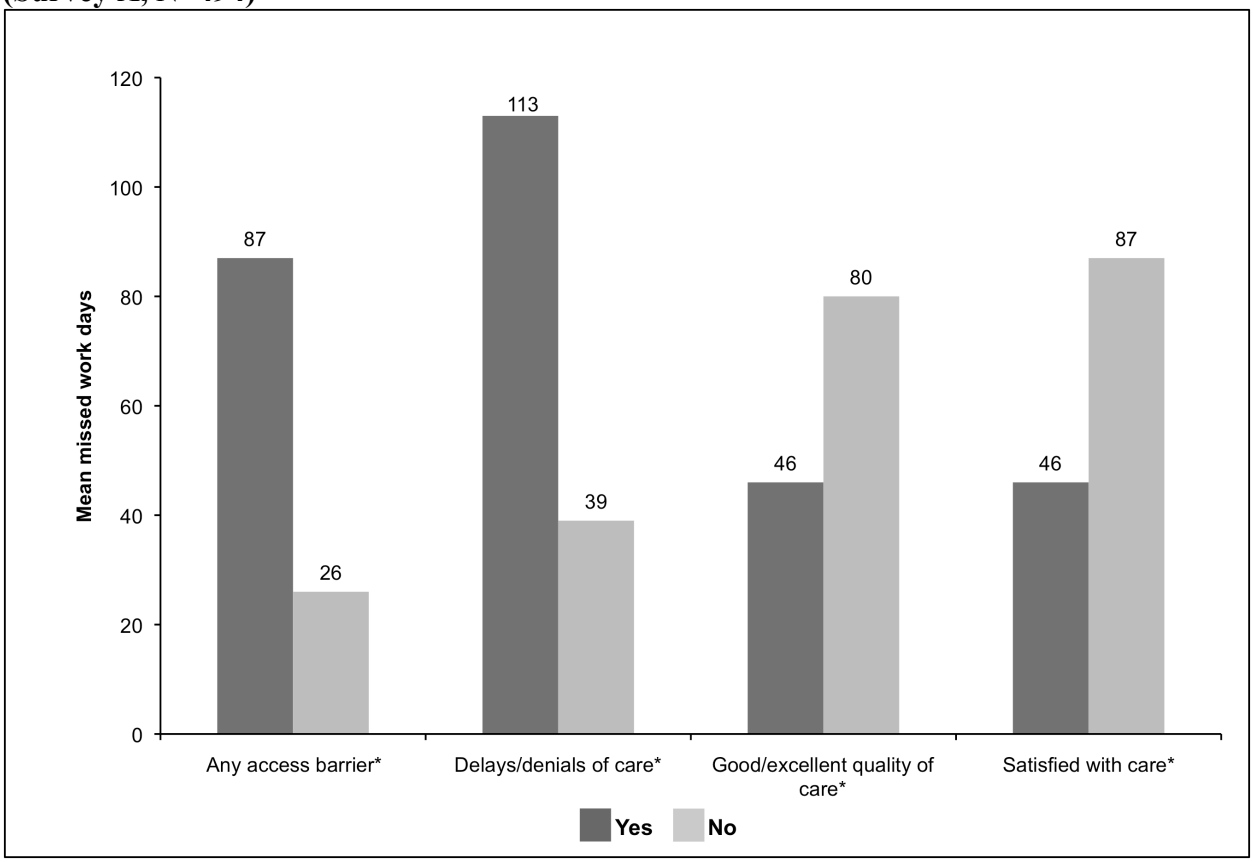
[xiv] See Exhibits C.2, C.3 and C.4 of Appendix C for complete findings of subgroup analyses discussed in this section.

[xv] The five comparisons within each of the 4 bullet points each had a p-value of .01 or smaller.

who were satisfied with their care ($p<.01$). Readers are reminded that these comparisons are based on cross-sectional data; therefore, caution should be used in interpreting them and drawing conclusions about their meaning. However, as shown later, we observed similar relationships in the Back Disability Worker Survey (Survey B), and as discussed below, we found important differences in missed work days in relation to access barriers and ratings of satisfaction and quality. These findings provide a hint of the broader impact of WC health care on outcomes and the workers' well being. When health care does not promote full recovery from injury either because of access barriers or other reasons, the personal and economic well being of workers suffers.

Exhibit 2.11 further illustrates how access, quality of care, and satisfaction with care are each related to missed work days. As shown, (1) workers who experienced any access barriers had, on average, 87 missed work days, compared with 26 days for workers who did not experience access barriers ($p<.01$); (2) workers who experienced delays or denials at least sometimes had, on average, 113 missed work days, compared with 39 for workers who "never or almost never" experienced delays or denials ($p<.01$); (3) workers who reported receiving good to excellent care for their injuries had, on average, 46 missed work days, compared with 80 days for workers who rated their care fair or poor ($p=.01$); and (4) workers who were satisfied with their care had, on average 46 missed work days, compared with 87 days for workers who were dissatisfied with their care ($p<.01$).

Exhibit 2.11: Missed Work Days in Relation to Access, Quality and Satisfaction (Survey A, N=494)



* Statistically significant difference in means (unadjusted).

Finally, recovery status was associated with number of missed work days, as well as with satisfaction and quality ratings. While fully recovered workers had, on average, 14 missed work days, partially recovered workers had 70 and workers with no improvement had 155. Not surprisingly, compared with other workers, workers who reported being fully recovered were much more likely to rate their care good to excellent and to be satisfied with their care ($p<.01$ for both comparisons; see Exhibit C.3 of Appendix C for details).

In summary, our findings indicate that workers' experiences of access, satisfaction, quality, and recovery are highly interrelated. Given the nature of these data, however, we cannot make causal inferences. While logically it seems reasonable to surmise that better access leads to better care, which leads to higher satisfaction and more positive outcomes, it is also possible that other factors affect outcomes and those outcomes then affect workers' ratings of satisfaction, quality and access. Survey and administrative data from our Back Disability sample of injured workers,

reported later in this chapter, allow us to more fully explore which factors are predictive of positive treatment outcomes.

Changes over Time in Access to Quality Health Care

In order to consider how access to quality health care for injured workers may have changed over time, we examined both a 1998 study of injured worker satisfaction with care[3] and the 2006 UCLA worker survey. The 1998 study examined worker satisfaction with care, reports of provider behaviors, and outcomes after injury. It found that 77% of workers had no trouble at all getting care when they were first injured, and the same percentage was somewhat or very satisfied with overall care received. However, this study did not assess access against specific measures, such as time from injury to initial care, or miles traveled to providers. The overall methodology of that study, as well as the sample inclusion criteria, survey questions, and sample characteristics were so different from the current study that there is little basis for valid comparison.

There is a much clearer basis for comparison between the findings of the 2006 UCLA survey and those of the 2008 All-Injury Worker Survey. Although the timing of the two surveys was somewhat different (2008 survey respondents were interviewed 10 to 13 months post injury, while the 2006 survey respondents were interviewed 12 to 18 months post injury) and some individual questions differed, the overall study methodologies were equivalent and the samples were quite comparable in terms of demographics and recovery status (Exhibit 2.12).

Exhibit 2.12: Worker Characteristics – 2006 and 2008 Surveys

Characteristic	2006	2008
Male	54%	58%
Age[a]		
18–30	26%	27%
31–45	34%	36%
≥ 46	40%	37%
Race/ethnicity		
White	40%	42%
Latino/Hispanic	45%	45%
Other	15%	14%
Interviewed in Spanish	20%	24%
Worker's annual pre-injury income		
< $15,000	23%	22%
$15,000–$34,999	32%	36%
$35,000–$49,999	17%	19%
≥ $50,000	28%	23%
Education		
< Grade 12	17%	17%
High school diploma	31%	28%
Some college	33%	34%
College degree or post grad	19%	20%
Attorney involved	11%	12%
Recovery status		
Fully recovered	45%	46%
Partially recovered	45%	42%
No improvement since injury	10%	12%

[a] Obtained from administrative claims data provided by DWC.

Considering the 2006 and 2008 survey responses to questions concerning access to quality care and worker satisfaction with care (Exhibit 2.13), we observed no marked differences, and the patterns of worker responses are very similar. For example:

- 88% of 2006 survey respondents received initial care within 3 days, compared with 89% of 2008 survey respondents.
- Initial care was within 15 miles for 86% of workers in both survey years, and main providers were within 15 miles for 82% of 2006 survey respondents and 83% of 2008 survey respondents.

- Of those workers needing PT/OT in 2006 or 2008, 95% received it in each year; and of those workers, 16% in 2006 and 17% in 2008 experienced difficulties in accessing the services.

- 78% of 2006 survey respondents were satisfied or very satisfied with their overall care, as compared with 80% of 2008 survey respondents.

Exhibit 2.13: Access and Satisfaction – 2006 and 2008 Surveys

Measure	2006	2008
Time from employer notification to initial visit ≤ 3 days	88%	89%
Initial provider within 15 miles	86%	86%
Main provider within 15 miles	82%	83%
Specialist within 30 miles	83%	86%
Yes, language barrier	3%	7%
Of those needing specialty care, % who did not see a specialist	8%	7%
Of those who saw specialists, % reporting:		
Any access barrier	20%	23%
Authorization delays	9%	7%
Authorization denials	6%	2%
Scheduling problems	7%	10%
Problem getting to provider	3%	5%
Of those needing PT/OT, % who did not get PT/OT	5%	5%
Of those who saw PT/OT, % reporting:		
Any access barrier	16%	17%
Authorization delays	7%	4%
Authorization denials	5%	3%
Scheduling problems	4%	4%
Problem getting to provider	5%	4%
Very satisfied/satisfied overall	78%	80%

While slightly higher proportions of workers interviewed in 2008 reported problems accessing PT/OT and specialty care, problems specifically related to obtaining authorization for care were less frequently reported. These differences in findings are small and could be the result of random variation or a change in the structure of relevant questions from the earlier survey to the later survey. The access measure showing the biggest change from 2006 to 2008 is the percentage of workers who experienced a language barrier in talking with their main provider: 3% in 2006 vs. 7% in 2008. This difference might be attributable to a higher percentage of

Spanish-speaking workers in the 2008 survey, when the survey was conducted in Spanish for 24% of workers, as compared with 20% in 2006.

Given the similarity between the 2006 and 2008 survey findings with regard to access and satisfaction, it is not surprising to see similar outcome findings as well. As shown in Exhibit 2.12, the distribution of workers who reported full, partial, or no recovery in 2006 (45%, 45% and 10%) was very close to the respective percentages observed in 2008 (46%, 42% and 12%).

Back Disability Worker Survey

The previous sections of this chapter presented findings of the All-Injury Worker Survey. This section extends the results presented earlier by examining the relationship of access barriers to work disability for workers with back sprains/strains who had at least one day of compensated time loss. This analysis is useful for understanding the importance of access, quality and satisfaction in relation to work disability. We begin by describing the demographic, injury and claim characteristics of the workers and the type and extent of treatment services they received for their injuries. Next we describe workers' ratings of access to care, quality of care and satisfaction with care. Finally, we summarize survey and administrative claims data on outcomes (recovery and return to work); we examine how access, quality and satisfaction are related to outcomes; and we use regression analysis to identify which of these factors are associated with compensated time loss duration.

Worker Demographic, Injury and Claim Characteristics

As described in the Methods section, for our Back Disability sample, we: (1) included only workers who had back sprains/strains and had at least one day of compensated time loss; (2) interviewed them closer to the time of injury (2 to 6 months post injury); and (3) correlated their self-report data with administrative claims data. We took this approach in order to better understand how access and quality of care may affect work disability.

Exhibits 2.14 and 2.15 summarize worker, injury and claim characteristics. As shown, this sample was two-thirds male, the majority had at least a high school education, and most earned under $35,000 annually. Average age (not shown) was 39. Almost half of the workers identified as Latino, and about one-quarter were interviewed in Spanish. Just over three-quarters of the

workers (77%) reported experiencing sciatica symptoms (an indicator of injury severity) within the first week after being injured.[xvi] The majority of workers (78%) were full-time employees when their injuries occurred, and relatively few (12%) had self-insured employers. Of the total sample, about 11% reported having attorneys involved in their WC cases.

Exhibit 2.14: Worker Characteristics (Survey B, N=493)

Characteristic	Number of Cases	Percent
Male (n=493)	332	67%
Age[a] (n=493)		
18–30	146	30%
31–45	182	37%
≥ 46	165	33%
Race/ethnicity (n=485)		
White	189	39%
Latino/Hispanic	226	47%
Black/African American[b]	22	5%
Asian/Pacific Islander[b]	31	6%
Native American/Alaska Native[b]	5	1%
Other	12	2%
Interviewed in Spanish (n=493)	132	27%
English not spoken well or at all (n=492)	120	24%
Worker's annual pre-injury income (n=422)		
< $15,000	123	29%
$15,000–$34,999	159	38%
$35,000–$49,999	72	17%
≥ $50,000	68	16%
Education (n=485)		
< Grade 12	106	22%
High school diploma	165	34%
Some college	152	31%
College degree or post grad work	62	13%
Injured in rural area[a] (n=493)	41	8%

[a] Obtained from administrative claims data provided by DWC.
[b] Due to small numbers, this category was included in "Other" for all analyses presented in this report.

[xvi] This percentage was higher than expected. The question wording may have been confusing for some respondents (see Appendix B). Nevertheless, we retained the question for use as a control variable because workers reporting baseline sciatica symptoms had more than twice as many compensated time loss days (69 days for those reporting baseline sciatica, 32 days otherwise, $p<.01$).

Exhibit 2.15: Injury and Claim Characteristics (Survey B, N=493)

Measure	Number of Cases	Percent
Sciatica symptoms within 1 week of injury (n=492)	378	77%
Full-time employee[a] (n=487)	378	78%
Self-insured employer[a] (n=493)	61	12%
Attorney involved (n=489)	56	11%

[a] Obtained from administrative claims data provided by DWC.

Treatment Profile

As shown in Exhibit 2.16, half of the workers reported more than 10 treatment visits, 64% had treatment extending over more than a month, and close to half were still seeking care for their injuries at the time of their interviews (2 to 6 months after injury). Typically care took place within an MPN. The vast majority of Survey B respondents (84%) saw a doctor of medicine or osteopathy (MD/DO) as their main provider; most (96%) received prescription medication; about three quarters had physical or occupational therapy, and far fewer (39%) had any visits with specialists. Overall, these data reflect a fairly high intensity of service utilization, with care extending longer than a month and involving referrals and prescription medication.

Exhibit 2.16: Treatment Profile (Survey B, N=493)

Measure	Number of Cases	Percent
Total visits to any provider for injury (n=487)		
1–3	69	14%
4–9	176	36%
10+	242	50%
Duration of treatment (n=486)		
1 day	31	6%
> 1 day–1 month	145	30%
> 1 month–6 months	310	64%
Main provider type (n=478)		
MD/DO	400	84%
Chiropractor	34	7%
NP/PA	28	6%
Other	16	3%
Workers who saw a physical or occupational therapist (n=489)	370	76%
Workers who saw a specialist (n=485)	188	39%
Workers who received prescription medication for this injury (n=493)	472	96%
Workers still obtaining health care at time of interview (n=493)	224	45%
Care provided within MPN (n=493)		
Yes	436	88%
No	24	5%
Don't know	33	7%

Access to Care

Like injured workers in the All-Injury sample, workers in the Back Disability sample were asked specifically about the following aspects of access to care:

- Time elapsed between date of injury and initial treatment visit
- Distances traveled to initial visit, to main provider, and to specialists
- Problems accessing PT/OT, specialists, and prescribed medication
- Language barriers that made it difficult to understand their main provider
- Frequency of delays or denials experienced

Findings summarized in Exhibit 2.17 reflect an overall positive picture of access to care. As shown, workers generally received timely initial care, with more than half being treated on the day of their injury. The great majority of injured workers also: (1) obtained initial and main provider care within 15 miles and specialty care within 30 miles; (2) obtained PT/OT, specialty care and prescription medications without problems; (3) did not have difficulty understanding their provider because of language differences; and (4) reported "never or almost never" experiencing delays or denials of care. However, for some workers access was more problematic:

- 10% waited longer than 3 days and 14% traveled more than 15 miles for initial care
- 18% traveled more than 15 miles to see their main provider
- 15% traveled more than 30 miles for specialty care
- 9% had difficulty understanding their main provider due to language differences
- 19% of those needing PT/OT had problems accessing PT/OT [xvii]
- 29% of those needing specialty care had problems accessing specialty care[xviii]
- 11% of those workers prescribed medication encountered problems obtaining it
- 10% often, almost always or always experienced treatment-related delays or denials
- 3% stopped seeking care because of access barriers

[xvii] This included 64 workers who did see a physical or occupational therapist and another 10 workers who needed but were not able to access PT/OT.

[xviii] This included 40 workers who did see a specialist and another 22 workers who needed but were not able to access specialty care.

Exhibit 2.17: Access to Care (Survey B, N=493)

Access Measure	Number of Cases	Percent
Lapsed time from advising employer about injury to first health care visit (n=492)		
Same day (or saw provider before advising employer)	266	54%
1–3 days	179	36%
More than 3 days	47	10%
Distance traveled to obtain initial health care (n=472)		
0–5 miles	250	53%
6–15 miles	158	33%
More than 15 miles	64	14%
Distance traveled to obtain care from main provider (n=478)		
0–5 miles	226	47%
6–15 miles	168	35%
More than 15 miles	84	18%
Distance traveled to see a specialist (n=183)		
0–5 miles	66	36%
6–15 miles	62	34%
16–30 miles	28	15%
More than 30 miles	27	15%
Workers who reported having a hard time understanding main provider due to language barrier (n=492)	42	9%
Workers who experienced problems accessing PT/OT[a] (n=380)	74	19%
Workers who experienced problems accessing a specialist[a] (n=213)	62	29%
Workers who experienced access barriers related to medication prescriptions[a] (n=472)	51	11%
Workers who reported no longer obtaining health care due to access barriers (n=493)	16	3%
How often experienced delays/denials of care (n=485)		
Never/almost never	382	79%
Sometimes	57	12%
Often	23	5%
Always/almost always	23	5%
Workers who reported any access barriers (n=493)	262	53%

[a] The percentage for this line was calculated based only on those workers needing the health care service in question.

Overall, just over half the workers experienced one or more of the above access barriers in seeking care for their injuries. Most of the difficulties workers encountered in accessing PT/OT were authorization delays/denials and scheduling problems. Of the 64 workers who received PT/OT despite encountering barriers, 50% reported authorization delays, 19% reported authorization denials, and 17% each reported scheduling difficulties, and not being able to get to

providers.[xix] Of the 10 workers who needed and wanted PT/OT but did not receive it, 60% reported scheduling problems and 40% reported authorization denials as the primary reason.

The same types of access barriers were encountered more frequently by workers attempting to access specialty care, though fewer workers needed specialty care than PT/OT. Of the 40 workers who received specialty care despite access barriers, 30% reported authorization delays, 25% reported authorization denials, and 43% reported scheduling problems.[xix] Of the 22 workers who needed and wanted specialty care but did not receive it, 59% reported authorization denials, 32% reported scheduling problems, and 9% reported not being able to get to the appointment.

Finally, among the 51 workers who obtained prescription medication but encountered difficulties: 33% experienced authorization delays, 24% cited employer or insurer authorization denials, 14% reported encountering pharmacies that would not fill WC prescriptions, 12% described various forms of miscommunication between providers, insurers, and/or pharmacies, and 12% cited other forms of confusion or hassle.[xix] Problems obtaining prescription medications were particularly apparent for workers injured in rural areas; 23% of them encountered difficulties in obtaining prescription medications, as compared with 10% of those injured in non-rural areas ($p=.01$).

The general picture presented by the individual access-related measures is one of most workers obtaining adequate access to treatment for their injuries. However, about 10% reported "often" or "always or almost always" experiencing delays or denials of care and about half of workers who reported at least sometimes experiencing delays or denials also indicated that these delays or denials "often" or "always or almost always" interfered with their recovery, suggesting that substantial access problems do exist for a subset of these injured workers. Further, while almost half of this sample of injured workers with back sprains/strains did not report any access-related problems, just over half did indicate that they encountered at least one barrier to accessing the health services needed to treat their condition.

[xix] Workers could report problems in more than one category.

Quality and Satisfaction Ratings

Exhibit 2.18 summarizes workers' responses to questions about satisfaction with care, quality of care, and occupational health (OH) best practices. Ratings were generally positive. Three-quarters of the workers rated the quality of their care "good" or better, and nearly four-fifths reported that they were "satisfied" or "very satisfied" with their main provider and with their care overall. On the other hand, 24% of workers rated their care "fair" or "poor" and 21% were "dissatisfied" or "very dissatisfied" with care overall and care received from their main provider.

In terms of OH best practices, most injured workers reported that their main provider: (1) understood the physical and mental demands of their job "very well" or "fairly well," (2) discussed work status and timing of return to work, (3) discussed any necessary work restrictions, and/or (4) discussed how to avoid re-injury.[xx] However, a substantial number of workers (9% to 18%) stated that their main provider did not provide care consistent with these OH best practices. Workers who obtained their health care via an MPN reported that their main providers performed the 4 OH best practices with about the same frequency as those who did not.

Exhibit 2.18: Quality of Care and Satisfaction (Survey B, N=493)

Measure	Number of Cases	Percent
Main provider understood physical and mental demands of job very well or fairly well (n=486)	398	82%
When applicable, main provider talked to worker about whether worker needed any work restrictions (n=470)	429	91%
When applicable, main provider told worker how to avoid re-injury (n=415)	358	86%
Main provider talked about work status or when worker could return to work (n=486)	401	83%
Quality of care rated good, very good, or excellent (n=489)	373	76%
Satisfied or very satisfied with overall care (n=482)	382	79%
Satisfied or very satisfied with care received from main provider (n=486)	383	79%

[xx] Calculation of percents related to providers' discussion of work restrictions and avoiding re-injury included only those workers who considered these OH best practices applicable to their situations.

Recovery and Return to Work

Survey data: Survey findings, summarized in Exhibit 2.19, reflect a fair amount of variation in workers' progress toward recovery and resumption of employment. In interpreting these findings, readers should keep in mind that: (1) the survey consisted of workers with back sprains/strains with at least one day of compensated time loss and (2) interviews were conducted for many of these workers rather early in the claim (90% were interviewed within 2 to 4 months after injury). Most typical was the worker who had recovered partially and whose injury still had a moderate to big impact on his or her life at time of interview; 41% fit this category. A quarter of the workers reported being fully recovered, while at the other end of the continuum, 17% reported no improvement at all in their condition. Of those workers surveyed, 390 (79%) had returned to work at some point before they were interviewed (but may or may not have continued working); and of those workers, most (97%) returned to the same employer. Among the 289 who returned to work and needed job accommodations, 42% reported that necessary job accommodations were not made. About a quarter of workers who had returned to work reported that they were now earning less than before they were injured on account of the injury.

Exhibit 2.19: Short Term Recovery and Work Outcomes at Time of Interview (Survey B, N=493)

Measure	Number of Cases	Percent
Self-reported recovery status (n=488)		
Fully recovered	128	26%
Recovered some but room for improvement	275	56%
No improvement in condition since injury	85	17%
How much injury affects current life (n=491)		
Big effect	176	36%
Moderate effect	133	27%
Very little effect	101	21%
No effect	81	17%
Ever returned to work after injury (n=492)	390	79%
Job accommodations made, among those who returned to work (n=389)		
Yes	168	43%
No	121	31%
Not needed for injury	100	26%
Workers who returned to work with same employer, among those who returned to work (n=389)	378	97%
Workers reporting decreased earnings due to injury, among those who returned to work (n=383)	91	24%

Approximately 65% of workers reported working sometime during the two weeks prior to interview. But workers were much more likely to have worked if they were fully recovered. Almost all (91%) of the workers who were fully recovered reported working during the two-week period preceding the interview. In contrast, 65% of workers who were somewhat improved were working, while 26% of those reporting no improvement were working ($p<.01$). Thus it appears that, among this sample of workers with back sprains/strains, a sizeable proportion return to work less than fully recovered, perhaps with some level of continuing disability. Further, it is troubling that 4 out of 10 workers (42%) who returned to work and needed job accommodations reported that the necessary job accommodations were not made.

As in the All-Injury Worker Survey (Survey A), we observed strong and consistent associations among the different outcome measures, for example, between extent of recovery and how much the injury affected the worker's current life (correlation coefficient=.66, $p<.01$); and between extent of recovery and earning less due to injury, among those returning to work at least temporarily (correlation coefficient=.46, $p<.01$). Of fully recovered workers, 7% reported that

the injury was having a big effect on their current life, as compared with 34% of partially recovered workers and 87% of those with no improvement in their injuries. And of workers with no improvement, 69% reported that their earnings decreased because of their injury, as compared with 28% of partially recovered workers and less than 1% of fully recovered workers (among workers who had returned to work at least temporarily). As noted earlier, these data serve to remind us of the broader impact WC health care has on outcomes and on the well being of injured workers. When health care does not promote full recovery from injury either because of access barriers or other reasons, the adverse impact of the injury may be prolonged at the expense of workers' personal and economic well being.

As with the All-Injury sample, we examined whether employer provision of job accommodations was related to remaining at work among the 289 workers who had returned to work for any period of time and who reported that job accommodations were needed.[xxi] We compared workers who reported that they had not worked in the 2 weeks prior to the interview because of their injury to a group consisting both of workers who had worked in the last 2 weeks and those who had not worked in the last 2 weeks for a reason other than their injury. We found that 23% of those who did not receive necessary job accommodations were no longer working due to their injury, compared with 13% of those who did receive such accommodations ($p=.02$).

We also assessed whether receiving necessary job accommodations was related to the effect that work-related injuries continued to have on workers' lives at the time of interview. Of those needing job accommodations, significantly more workers whose employers did not provide accommodations reported that their injury was still having a big or moderate effect on their life at the time of interview, compared with workers for whom such accommodations were made (71% vs. 54%; $p<.01$).

Administrative data: For this sample of injured workers, we supplemented the survey data with administrative claims data on duration of compensated time loss. While most of the interviews (90%) were conducted 2 to 4 months post injury, the administrative data were

[xxi] Only workers who had returned to work at least briefly were interviewed about job accommodations. There may well have been a number of workers who never returned to work specifically because no job accommodations were made, however those data are not available.

collected 6 months post injury for all workers, so that the collection of data on measures of access and quality would precede in time the measurement of time loss. The claims data allow us to see how many compensated time loss days each worker had accumulated, and how many workers were on time loss at 6 months post injury. As displayed in Exhibit 2.20, a quarter of the workers were on compensated time loss at 6 months post injury, half of the workers had 1 to 30 compensated time loss days and half had more than 30 days. As would be expected, average time loss days for workers who reported being fully recovered at time of interview (13 days) was far less than the average for partially recovered workers (64 days) and workers who reported no improvement at all (120 days).

Exhibit 2.20: Compensated Time Loss, 6 Months after Injury (Survey B, N=493)

Measure	Number of Cases	Percent
On time loss 6 months after injury[a] (n=493)	125	25%
Compensated time loss[a] (n=493)		
1–5 days	93	19%
> 5 days–1 month	153	31%
> 1 month–3 months	95	19%
> 3 months–5 months	75	15%
> 5 months	77	16%

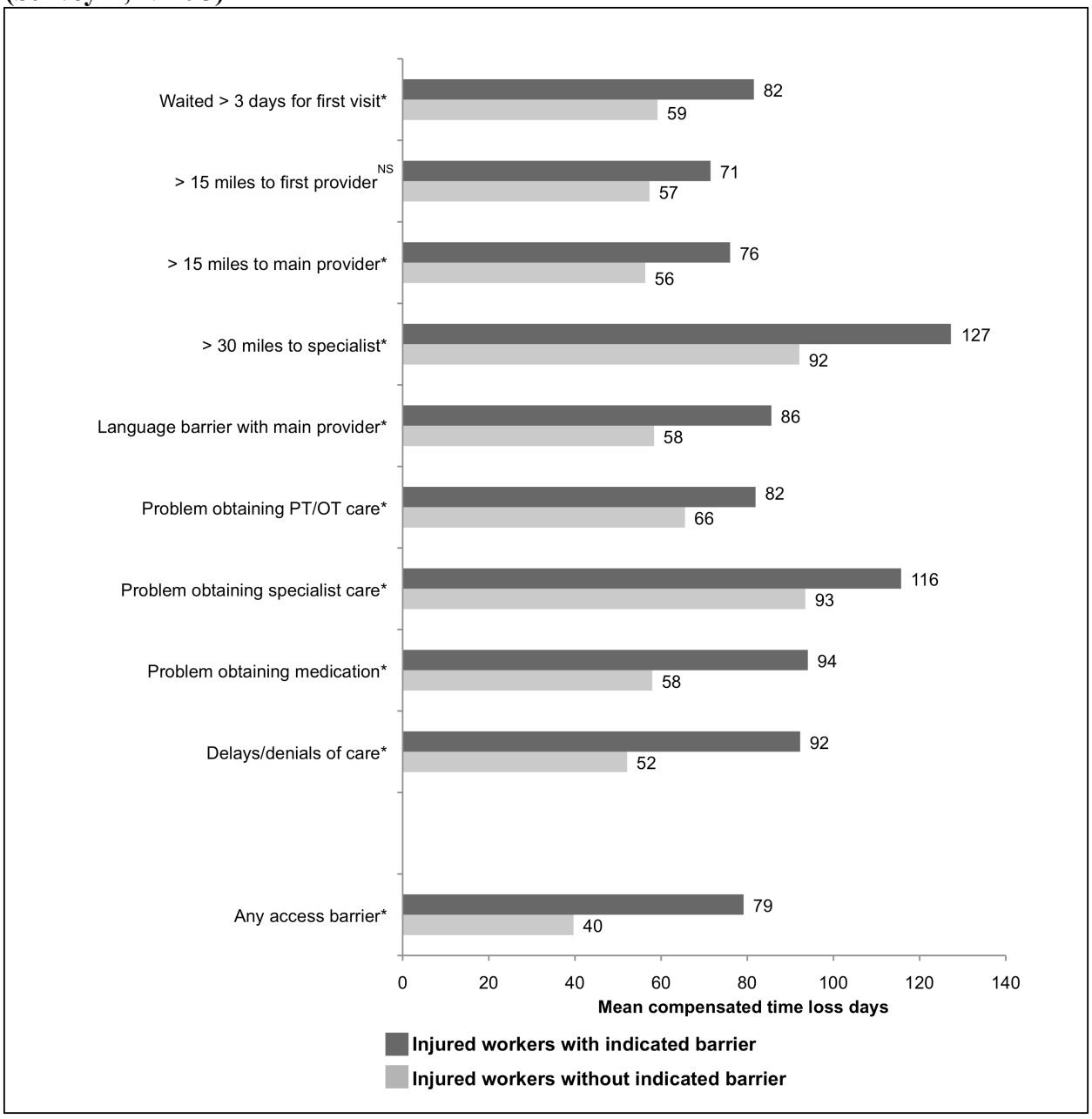
[a] Obtained from administrative claims data provided by DWC.

Relationships among Access, Quality, Satisfaction and Outcomes

In order to understand the relationships among access, quality, satisfaction and outcomes, we first examined how work disability (measured using compensated time loss days) varied in relation to the presence or absence of access barriers. Exhibit 2.21 displays selected measures of access with the average time loss days for workers who did and did not report encountering each access barrier. The difference between a pair of dark and light bars reflects the average difference in time loss days between workers who encountered that access barrier and workers who did not. For most but not all of the access measures, these differences in average time loss days are statistically significant (as noted in the exhibit). For example, workers who reported "never or almost never" experiencing delays or denials of care had, on average, 52 time loss days (6 months post injury), while workers who reported more frequent delays or denials had 92 time loss days, a difference of 40 days ($p<.01$). Workers who received specialty care within 30 miles had, on average, 92 time loss days, while workers who traveled more than 30 miles to see

specialists had 127 time loss days, a difference of 35 days (p<.01). Finally, workers who reported any of these access barriers had, on average, 79 time loss days, while those reporting no barriers had 40, a difference of 39 days (p<.01).

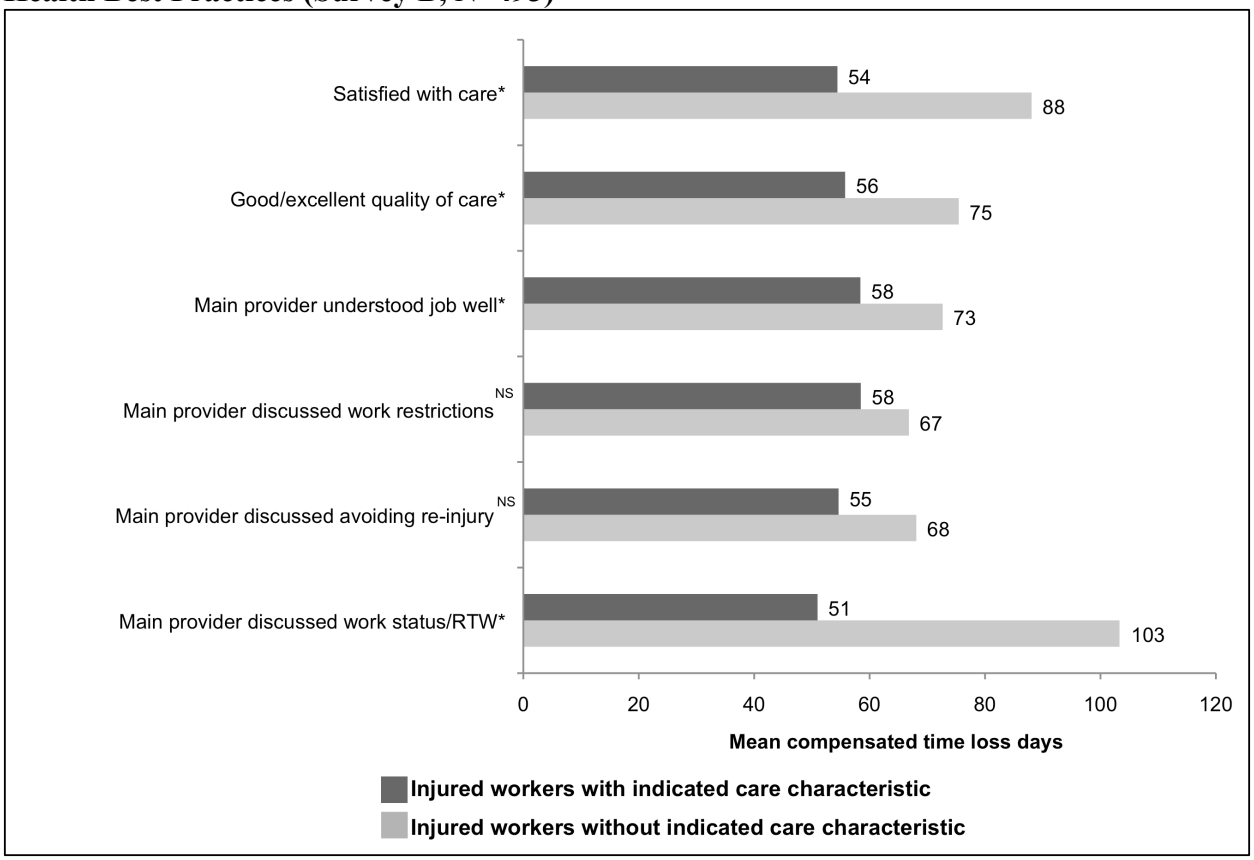
Exhibit 2.21: Compensated Time Loss Days by Selected Access Barriers (Survey B, N=493)



Note: Each comparison includes only those respondents for whom the particular barrier was applicable.
* Statistically significant difference in means (unadjusted).
NS Difference in means not statistically significant.

In a similar fashion, we examined worker ratings of quality and satisfaction in relation to time loss. Exhibit 2.22 summarizes our findings for the overall quality and satisfaction measures and for each of the occupational health (OH) best practice measures. Compared with other workers, workers who rated their care good or better had, on average, 19 fewer days of compensated time loss ($p<.01$), and workers who were satisfied with their care had, on average 34 fewer days of time loss ($p<.01$). Workers who reported that their main providers met the OH best practice criteria had, on average, fewer time loss days than other workers. Workers who reported that their main provider discussed work status and timing of return to work had, on average, 51 time loss days, compared with 103 time loss days for other workers ($p<.01$). Workers who reported that their main provider understood their job had, on average, 15 fewer time loss days than those reporting otherwise ($p=.05$). The other 2 OH best practice measures were not significantly related to time loss.

Exhibit 2.22: Compensated Time Loss Days by Quality, Satisfaction, and Occupational Health Best Practices (Survey B, N=493)



Note: Each best practice comparison includes only those respondents for whom the particular best practice was applicable.
* Statistically significant difference in means (unadjusted).
NS Difference in means not statistically significant.

These mean differences in duration of compensated time loss are of interest because they suggest that access barriers, poorer quality of care and dissatisfaction with care are linked to, but do not necessarily "cause," longer time loss duration. Since, however, the mean differences are not adjusted for other factors that might affect compensated time loss, we cannot be confident that it is access barriers, for example, and not some other unmeasured factor that affects time loss. In order to obtain more reliable estimates of the independent effect of access, quality and satisfaction on work disability (measured using compensated time loss days), we conducted a series of statistical (regression) analyses. These are described below, along with our findings.

Predicting Time Loss Using Regression Analysis

First, we assessed the relationship of quality and satisfaction to compensated time loss, using linear regression in which we controlled for worker, claim and treatment characteristics, as well as time elapsed between injury and interview.[xxii] To examine whether or not the following quality and satisfaction factors were associated with compensated time loss duration, we estimated separate regression models for each variable listed below:

- Rated overall quality of care as good, very good or excellent (vs. fair or poor)
- Were satisfied or very satisfied with overall care (vs. dissatisfied or very dissatisfied)
- Provider understood the physical and mental demands of worker's job very well or fairly well (vs. not well or not at all)
- Provider discussed whether or not work restrictions or job modifications were needed (vs. did not)
- Provider discussed how to avoid re-injury (vs. did not)
- Provider discussed work status and return to work (vs. did not)

[xxii] The following variables were included in these regression models: the predictor of interest, age category (18-30, 31-45, ≥46), sex, race/ethnicity, high school education, English fluency, urban/rural injury location, whether working full-time when injured, whether worked for a self-insured employer when injured, MPN status, presence of baseline sciatica symptoms, number of health care visits (1-3, 4-9, ≥10), whether still receiving treatment when interviewed, and time elapsed between injury and interview.

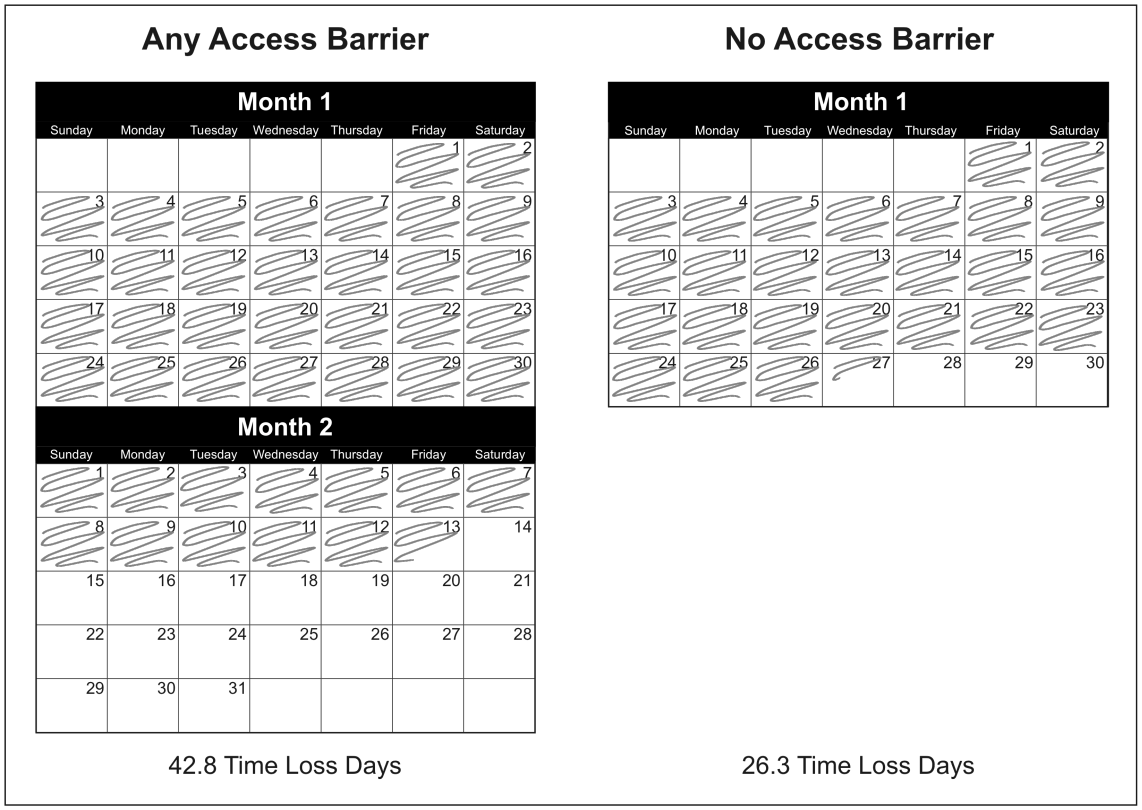
With the exception of one OH best practice measure, we found no statistically significant relationships between the above measures and duration of compensated time loss. As discussed earlier, we observed significant (unadjusted) differences in several measures pertaining to satisfaction and quality (Exhibit 2.22). However, our regression analyses indicate that once other factors are accounted for, these significant differences do not hold. Nor do the regression analyses provide evidence of a relationship between 3 of the OH best practices and compensated time loss. However, workers who reported that their main providers talked about work status and when they could return to work had 21 fewer time loss days on average than those whose providers did not ($p<.01$). Possibly the discussion of work status and return to work facilitated getting the worker off time loss and back to work, though it is also possible that the topic of work status and return to work tended to be discussed when workers were more recovered and able to return to work.

Next we assessed the relationship of access to compensated time loss, again controlling for worker, claim and treatment characteristics, as well as time elapsed between injury and interview. For this regression analysis we used the summary access measure of whether a respondent reported any access barriers or not. (As described in the Methods section, this measure takes into account delays and denials of care, excessive travel distances, language barriers, and other problems specific to accessing specialty care, PT/OT and prescribed medications.) This analysis allowed us to compare time loss duration of workers who reported one or more access barriers to that of similar workers who did not encounter access barriers.

Results of this regression analysis indicate that workers who encountered one or more access barriers were significantly more likely ($p<.01$) to have more compensated time loss days at 6 months. On average, injured workers who reported having at least one access barrier had an estimated 16.5 days more of compensated time loss compared to workers who did not report having an access barrier (the estimated coefficients and confidence intervals for this analysis are shown in Exhibit D.1 in Appendix D). Exhibit 2.23 uses information generated by the analysis to depict the total (predicted) days of compensated time loss that a typical but hypothetical worker experiencing some access barrier would have, compared with a worker who did not

encounter any of the access barriers we measured.[xxiii] As the exhibit illustrates, a worker who **did not** report any access barriers would have an estimated 26.3 days of compensated time loss, while a worker with the same characteristics who **did** report an access barrier would have an average of 42.8 days of compensated time loss, or 16.5 more days.

Exhibit 2.23: Compensated Time Loss Days for Typical Workers[a] who Did and Did Not Encounter Access Barriers (Survey B, N=468)



[a] These estimates are based on the most common value for each variable in the regression; see footnote xxiii.

This relationship between access barriers and compensated time loss days held even after we controlled for the number of missed work days that workers reported at the time of their interview. In effect, this further analysis is a rough estimate of differences in compensated time loss occurring after the interview and up to six months post injury. This approach would tend to conceal any effect that access barriers had on time loss earlier on, before the interview, and it

[xxiii] These estimates are based on the most common value for each variable in the regression: male, Latino, age 31-45, having at least a high school education, spoke English well, was injured in an urban area, worked full time when injured, did not work for a self-insured employer, was treated in an MPN, reported baseline sciatica symptoms, had 10 or more health care visits, was no longer receiving treatment when interviewed, and was interviewed at 111 days after injury (the average).

likely underestimates the actual effect. Even with this additional constraint, we found that workers with one or more access barriers had, on average, approximately 9 days more compensated time loss than workers who reported having no access barriers ($p<.01$).

The findings from our regression analyses reinforce the importance of access in promoting desirable outcomes (less disability) within the California WC system. Injured workers who encountered access barriers had, on average, significantly more days (16.5) of compensated time loss than workers who did not encounter such barriers. Further, access to WC health care takes on even more importance when one considers that time loss is related to other measures of worker health and well-being. Researchers in Washington State found strong relationships between the duration of compensated time loss at 6 months post injury and health status measures, including measures of pain intensity, role functioning, physical functioning and mental health.[4] Workers on time loss at 6 months after injury had significantly worse health status and greater functional impairment than workers whose time loss ended prior to that time.

Unlike access, our analysis of satisfaction and quality measures did not show significant differences in compensated time loss, after controlling for other factors. Workers who were less satisfied with their care or who felt the care they received was of lower quality did not appear to have more days of compensated time loss than workers who were more satisfied or who reported receiving higher quality of care. But readers should not interpret these findings as suggesting that satisfaction with care or quality of care is unimportant. Indeed, these measures are widely acknowledged as critical to the functioning of any well performing health care system. In the particular sample of injured workers we studied, using the measures we analyzed, these variables were not found to be related to days of compensated time loss. Researchers using other samples of injured workers or different satisfaction or quality measures have found different results. For example, a recent study in Washington State found satisfaction and quality to be closely related to workers' treatment experience, which, in turn, was related to being off work and receiving compensated time loss at either 6 or 12 months.[5]

SUMMARY AND DISCUSSION

This chapter presented the results of two surveys we conducted on injured workers. The first survey, referred to as the All-Injury Worker Survey or Survey A, gathered information from a random sample of 508 injured workers whose injury occurred in June 2007. This sample can be considered broadly representative of injured workers treated within the WC system; it included workers with minor injuries requiring minimal treatment, as well as workers with more serious injuries that required more extensive treatment. As mandated by LC section 5307.2, the primary intent of this survey, like the previous 2006 survey conducted by UCLA, was to assess workers' access to health care and changes in access to quality care over time. We found little meaningful change from the earlier 2006 survey in access measures, measures of satisfaction or quality, or in outcome measures pertaining to recovery or work status.

The 2008 UW study added a second, new survey of 493 injured workers with back sprains/strains who had at least one day of compensated time loss. We refer to this survey as the Back Disability Worker Survey or Survey B. The primary objective of Survey B, which was identical to Survey A except for a few questions, was to examine access barriers in relation to work disability, as measured by days of compensated time loss. By collecting information on this sample of workers, we sought to answer the question: Do workers who experience one or more access barriers while obtaining WC health care have, on average, more work disability than workers who do not experience such barriers? This question has obvious policy relevance for developing approaches and options for improving the functioning of the California WC system.

Our surveys assessed a number of access barriers pertaining to lapsed time from injury to initial treatment, distance traveled to obtain care, language barriers, problems workers experienced accessing different forms of health care (PT/OT, specialty care, prescription medications), and delays and denials of care. The two surveys provided a similar picture of access, with approximately 10% to 20% of the workers reporting that they encountered each specific barrier. For example, 14% of the workers in each survey reported having to travel more than 15 miles to obtain care from their main provider; and of those who received specialty care, 14% of Survey A and 15% of Survey B workers had to travel more than 30 miles. A somewhat greater percentage

(19% to 29%) of workers referred for PT/OT or specialty care reported encountering problems accessing these health care services. Ten percent of the workers in both surveys reported experiencing delays or denials of care often or more frequently, and approximately half the workers in each survey encountered at least one of the access barriers we measured.

General patient surveys typically find that most patients are satisfied with the health care they receive and believe that care is of high quality.[6] Our surveys revealed similar levels of satisfaction and perceived quality, with roughly 4 out of 5 workers reporting they were satisfied with the care they received and rating that care as good to excellent.

Workers participating in Survey A reported on their recovery status and work outcomes 10 to 13 months after being injured. Because workers participating in Survey B provided this same information earlier on (2 to 6 months after injury), we focus here on the outcomes for Survey A respondents. The results of Survey A can be viewed as providing either "good news" or "bad news." The "good news" is that almost half (46%) of Survey A respondents reported being fully recovered from their injury at the time of interview; the "bad news" is that 42% reported being somewhat recovered but having room for improvement, and 12% reported they had no improvement at all in their condition since injury. Similarly, about half (54%) of the workers reported that their injury was having either no effect or very little effect on their current life, but 21% reported that their injury was still having a big effect on their life. The substantial majority of workers (76%) reported missing 30 or fewer work days as a result of their injury, but 7% reported missing more than 90 days, and 9% reported never returning to work.

Both surveys provided evidence for the importance of job accommodations. In both surveys, workers who reported that their employers did not provide necessary job accommodations were more likely to report that their injury was still having a big or moderate effect on their life. Survey B also provided evidence that workers who did not receive necessary job accommodations were more likely to have stopped working again due to their injury. Survey A showed a similar trend, but it was smaller and not statistically significant. This difference between surveys is likely due to the timing of the surveys and/or the nature of the samples involved. Survey B included more workers who had returned to work at least briefly but due to

their injury were no longer working when interviewed, 13% compared with 5% in Survey A. It is also not surprising that there would be a stronger relationship between job accommodations and work status for those interviewed closer in time to their injury (having less time to recover), and for those with back injuries (which tend to involve intermittent relapse/re-injury). But, as noted earlier (see footnote xxi), our analysis no doubt underestimates the effect of job accommodation on return to work because workers who never returned to work were not queried about whether they were offered job accommodations.

As part of the analytical work we performed on data gathered through Survey A, we assessed the extent of disability burden among workers experiencing access barriers. Recall that disability burden is a summary descriptive measure that represents the percent of total missed work days among a specified group of workers compared to the percent of cases in the sample represented by that group. Thus, if a group represents 15% of all workers in a sample but accounts for 35% of the total missed work days in the total sample, one might view that group as having excess disability burden. In contrast, if a group represents 20% of all cases and accounts for 20% of the total missed work days one could conclude that group does not have excess disability burden.

Four access barriers were found to account for a relatively high level of excess disability burden. The excess disability burden was highest among the group of workers who reported experiencing any delays or denials. This group accounted for 21.5% of all Survey A cases but 43.6% of all missed work days. The next three access barriers (ranked by amount of excess disability burden) were: (1) having to travel more than 15 miles to the main provider, (2) problems obtaining prescribed medication, and (3) having to travel more than 15 miles to the initial provider. We also examined the disability burden among workers who experienced any one or more of the access barriers we measured. This group accounted for 47% of all Survey A respondents but 74% of the total missed work days.

Our analysis of disability burden implies that access barriers may be important factors contributing to work disability. Our regression analysis of data gathered through Survey B, representing workers with back sprains/strains and some work disability, provides further insight into the relationship of access barriers to work disability. Workers who reported experiencing

any of the specific access barriers we measured, had, on average, 16.5 days more of work disability (compensated days of time loss) than workers who did not encounter any of the access barriers. What does this increase in work disability represent on a relative basis? A hypothetical injured worker with characteristics typical of workers participating in Survey B and encountering one or more access barriers would have 63% more days of work disability than the same worker who encountered no access barriers (see Exhibit 2.23).

What do the results of our analysis imply when one considers access barriers and work disability on a population basis? In 2007, there were approximately 640,000 nonfatal WC claims filed and accepted in California.[xxiv] We used information gathered through Survey A, which can be considered broadly representative of the general WC injured worker population, to perform further statistical analysis (using the same regression model as described earlier) to estimate the effect of having any access barrier on missed work days (for Survey A respondents we collected data on missed work days but we did not have administrative data on compensated time loss). This analysis indicated that the average worker having one or more access barriers would have approximately 19 days of added missed work days ($p=.04$) compared to workers not reporting any access barriers (full regression results are presented in Appendix C, Exhibit C.5). Recall that 47% of Survey A respondents reported having at least one access barrier. We can use this information to estimate the expected number of missed work days for a hypothetical sample of 1,000 injured workers, assuming 47% of these workers encountered some access barrier.

Our analysis suggests this sample of 1,000 workers would incur 8,930 additional missed work days the year after injury as a result of these access barriers. Extrapolating this figure to the population of injured workers filing claims in California suggests that in a given year injured workers treated through the WC system in California could incur as many as 5.7 million additional missed work days as a result of access barriers, or approximately 15,660 missed years of work. Readers should use caution in interpreting this extrapolated population estimate in part because this estimate is not very precise (the estimated coefficient from the regression model had

[xxiv] This number was calculated based on (1) the number of filed claims less (2) the number of denied claims. The data are available on the DWC website (1: http://www.dir.ca.gov/dwc/WCIS/WCC-PartOfBody.pdf; 2: http://www.dir.ca.gov/dwc/wcis/WCIS_tables/Table13.pdf).

a wide confidence interval). Nonetheless, the estimate demonstrates the significant consequences of access barriers for work disability when viewed from a population perspective.

One can also consider the enormous, and largely hidden, economic implications of our analysis. Given the average weekly wage of California workers (for the period ending March, 2008) and the percentage used to calculate WC wage replacement, it seems likely that for every day of compensated time loss in 2007, the average worker would have received approximately $92. We estimated that as many as 5.7 million additional days of missed work time occurred in 2007 as a result of access barriers. Not all of this would have been subject to WC wage replacement. We had no way of directly estimating how many days of compensated time loss would have been incurred as a result of these missed work days. Research has shown there can be a large discrepancy between self-reported duration of work disability and compensated time loss days.[7] As a first approximation, we assumed that 100 missed work days would translate into 67 days of compensated time loss. On this basis, the 5.7 million lost work days would translate into approximately 3.8 million days of compensated time loss. At a wage replacement rate of $92 per day, these 3.8 million time loss days would represent an economic cost of $349 million. While the precise size of this estimate could be challenged, our survey results and analysis suggest the economic impact of access barriers encountered by injured workers is real and very large. This impact has gone largely unnoticed by employers who pay the wage replacement bill and by state agencies that regulate or administer the California workers' compensation system.

The estimates generated by our analysis, when considered on a population basis, point up the very significant economic loss and potential impact on work disability of access barriers. On the flip side of the coin, however, effective program and policy initiatives that mitigate these barriers may reduce this economic loss and also improve the work productivity and well being of injured workers who receive WC health care in California. In the final chapter of the report, we discuss a set of recommendations that address some of the problems identified by our worker surveys.

CHAPTER 3

PROVIDER SURVEY:
METHODOLOGY AND FINDINGS

INTRODUCTION

An important component of the 2008 University of Washington (UW) study was a survey of providers treating injured workers through the California workers' compensation (WC) program. This chapter presents the results of the 2008 provider survey. Our intent in conducting the survey was to assess the experience of providers in treating injured workers within the regulatory and administrative environment of the California WC system. Nine specific objectives guided the development of the provider survey and the analysis of data gathered through it:

1. Describe the characteristics of providers who have recently stopped participating in the WC system.

2. Identify reasons for providers' decisions to stop treating injured workers in the WC system.

3. Describe the characteristics of providers currently participating in the WC system.

4. Describe self-reported provider performance with regard to occupational health best practices.

5. Examine how providers currently participating in the WC system perceive the adequacy of access to quality care for injured workers. Describe any variation in such perceptions by provider type, specialty, and volume of injured workers seen per week.

6. Identify the barriers interfering with the delivery of quality care to injured workers.

7. Describe provider reports of past reductions in WC participation and future intent to reduce WC participation.

8. Identify factors associated with providers' past reductions in WC participation and future intent to reduce WC participation.

9. Identify changes over time in providers' perceptions of access to quality care, barriers interfering with care of WC patients, and past or planned reductions in participation in the WC system.

The next section highlights the methods used to design the survey and collect and analyze the data. More detailed information about the methods is provided in Appendix A. After describing the methods, we present the results of the survey in a series of exhibits organized according to the 9 objectives listed above. The chapter concludes with a brief summary and discussion of the findings. The information gathered through the 2008 provider survey points to several key issues we believe need to be addressed to improve the performance of the California WC system and to enhance its ability to provide injured workers access to quality health care. These issues are outlined in the chapter summary and provide the basis for some of the recommendations presented in Chapter 4.

METHODS

Survey Development

The 2008 provider survey was designed to gather information regarding the practice, experiences, and opinions of providers who had participated in California's WC system between 2004 and 2008. The 2008 provider survey was very similar to that developed for the 2006 University of California, Los Angeles (UCLA) study, and survey development was described in detail in the 2006 UCLA report.[1] We retained most of the items from the 2006 UCLA provider survey in order to enable comparisons across surveys. The final survey instrument consisted of 40 questions gathering descriptive information about each provider and their WC practice, reasons for any decrease in participation with the WC system, adherence to selected occupational health best practices, and perceptions of barriers to providing care and of access and quality of care issues for injured workers. The survey was also designed to capture responses from those providers who no longer participated in the WC system at the time the survey was administered. The survey questions are provided in Appendix E.

Survey Administration

Providers selected for this survey were contacted by mail between April 2008 and December 2008. The initial recruitment letter (on UW letterhead) included the paper survey and information about a secure internet option for survey completion. No sooner than one month after the first survey packet was mailed, a reminder letter that included the same materials as the first survey packet was sent to those who had not yet returned the survey. We sent up to 3 reminder letters. The research protocol was approved by the California Health and Human Services Agency, Committee for the Protection of Human Subjects and the UW Institutional Review Board.

Survey Sampling and Response Rates

The study population was defined to include California licensed providers eligible to function as treating physicians under California WC law (Labor Code section 3209.3) and who treated at least 1 injured worker within the California WC system in 2004 or later. Eligible provider types

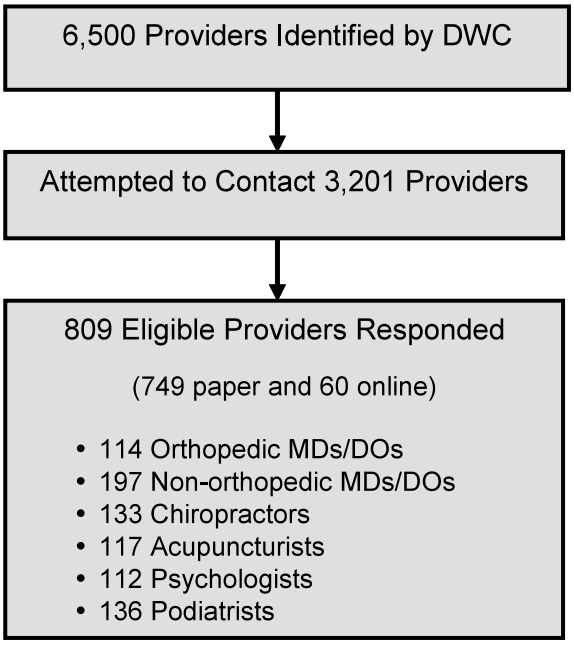
included doctors of medicine and osteopathy (MDs/DOs), chiropractors (DCs), acupuncturists (LAcs), podiatrists (DPMs), and clinical psychologists (PhDs/PsyDs). Dentists and optometrists were not included because they do not account for a large volume of WC care as primary treating providers.

California Division of Workers' Compensation (DWC) staff randomly (or completely, in the case of psychologists and podiatrists) sampled providers in the eligible categories, using medical billing data contained in the Workers' Compensation Information System (WCIS) database. Orthopedic surgeons were sampled as a provider type category distinct from other MDs/DOs. Only providers with at least one bill for WC health care services in the WCIS database by November 27, 2007 (the sample download date) were identified for inclusion in the sample. The sample was stratified by the 6 resulting provider type categories and WC claim volume, and was designed to include at least 100 eligible completed surveys from each provider type (and up to 300 from non-orthopedic MDs/DOs). Although the survey was designed to capture adequate responses from each of the targeted provider types, it was not designed to provide representative samples with respect to the underlying population of such providers. The underlying population of providers who participate in the WC system has not been completely identified or enumerated, due to incomplete reporting to WCIS.

Ultimately, DWC provided the UW research team with contact, license, and specialty information for a sample of 6,500 California licensed health care providers. The available sample consisted of 605 orthopedic MDs/DOs, 3,999 non-orthopedic MDs/DOs, 414 chiropractors, 320 acupuncturists, 627 clinical psychologists, and 535 podiatrists. Of the 6,500 providers in the sample provided by DWC, 3,299 were never contacted as they were not needed to meet the survey target (800 eligible completed surveys overall). We attempted to contact 3,201 providers: 520 orthopedic MDs/DOs, 1,130 non-orthopedic MDs/DOs, 400 chiropractors, 320 acupuncturists, 350 clinical psychologists, and 481 podiatrists. Of those 3,201 attempted contacts, 124 had no usable address, 78 were ineligible either because they were located outside California (27) or because they had not treated injured workers since 2003 (51). Three providers actively declined to participate, and 6 respondents returned unusable and incomplete surveys.

We received usable surveys from 809 eligible providers (749 returned paper surveys and 60 used the online option). The adjusted response rate for this survey was 28.2%.[i] The response rate reported for the 2006 UCLA survey was 24.5%. Both rates fall within typical ranges for WC-related surveys (discussed in detail in the 2006 UCLA report). Exhibit 3.1 presents a summary of survey sampling and participation.

Exhibit 3.1: Sampling and Participation for Provider Survey



Data Analysis

We used a combination of descriptive, bivariate and multivariate statistical analyses to address the objectives. We used Chi^2 tests to assess differences for categorical variables and used logistic regression techniques to generate predicted probabilities. All statistical tests were two-tailed, with statistical significance defined as $p \leq .05$.

Recoding procedures were used to construct several variables from the information gathered through the survey, and in some cases we created new categories for existing variables. We

[i] Some individuals were determined to be ineligible based on their survey responses (93.8% of those responding were found eligible). The response rate was adjusted to account for the estimated eligibility rate of those not contacted.

report results for 8 provider types, based on self-reported type and specialty information: (1) Occupational Medicine (MDs/DOs who listed occupational medicine as their primary area of specialization), (2) Primary Care (MDs/DOs who reported family medicine, internal medicine, emergency medicine, urgent care, or preventive medicine as their primary or secondary area of specialization, and who did not qualify for the occupational medicine or orthopedic surgery categories), (3) Orthopedic Surgery (MDs/DOs reporting orthopedic surgery as their primary or secondary area of specialization), (4) Other Specialties (all other MDs/DOs), (5) Chiropractor, (6) Acupuncturist, (7) Psychologist, and (8) Podiatrist.

Rural versus urban provider location was defined using self-reported practice zip codes in combination with Rural Urban Commuting Area (RUCA) codes.[ii] We used provider county information provided by DWC to locate providers within a geographic region of California, using the same county-to-region mapping as was done in the 2006 UCLA study.

The survey included 3 questions pertaining to occupational health best practices: (1) understanding the worker's job, (2) discussing work status or return to work, and (3) contacting the employer about time off work or modified duty when necessary. We transformed the data gathered for these 3 questions into 3 binary variables, based on whether a somewhat arbitrarily defined benchmark was achieved. We considered a benchmark to be achieved if the provider reported performing the particular best practice for at least 75% of their WC patients. We report the percentage of providers that achieved each of the 3 benchmarks. Similarly, we recoded information concerning the amount of time new WC patients had to wait for non-emergency care. The benchmark here was set at 3 days or less, loosely reflecting regulations pertaining to Medical Provider Network (MPN) access standards in Title 8, California Code of Regulations, section 9767.5(f). We report data for both the percentage of providers meeting the appointment time benchmark and for average waiting times.

[ii] Rural Urban Commuting Area Codes (Version 2.0; Categorization C). WWAMI Rural Health Research Center. Available at: http://depts.washington.edu/uwruca/. Accessed March 26, 2009.

RESULTS

Eight percent (n=66) of the 809 providers responding to the survey reported that they no longer participated in the California workers' compensation (WC) system; that is, they had treated injured workers between 2004 and 2008, but no longer did at the time of the survey (we refer to these as "past providers"). Ninety-two percent of the survey respondents (n=743) reported current participation in the California WC system (defined as accepting or treating injured workers at the time of the survey; we refer to these as "current providers"). The results of the provider survey are summarized in 2 major sections. The first section presents information on past providers and their reported reasons for no longer treating injured workers. The second section focuses on current providers. It provides information on their characteristics, their performance related to selected occupational health best practices and their perceptions about (1) the adequacy of access to quality care for injured workers and (2) barriers in providing quality care to injured workers. We also report on current providers' past and planned reductions in WC patient volume. Finally, we compare the findings of the current survey with the earlier 2006 UCLA provider survey.

Past Providers

Provider and Practice Characteristics

Exhibit 3.2 provides information on selected characteristics for the 66 past providers. Overall, providers reported having been licensed health care providers for an average of 20 years and having treated WC patients for an average of 12 years. Almost 1 in 5 providers (18%) reported that more than 25% of their practice consisted of WC patients. Almost all MD/DOs (91%) and more than two-thirds of podiatrists (70%) reported being board certified (not shown in Exhibit 3.2). More than half of past providers (56%) stopped treating injured workers in 2007 or 2008; only 8% of past providers reported any intent to treat injured workers in the future.

Exhibit 3.2: Characteristics of Past Providers (N=66)

Provider type (n=66)	
Occupational medicine	0%
Primary care	11%
Orthopedic surgery	14%
Other MD/DO specialties	11%
Chiropractor	15%
Acupuncturist	17%
Psychologist	18%
Podiatrist	15%
Region (n=64)	
Northern and Sierra Counties	3%
Greater Bay Area	31%
Sacramento Area	2%
San Joaquin Valley	8%
Central Coast	14%
Los Angeles	30%
Other Southern Counties	13%
Year in which provider last treated WC patients (n=66)	
2008	20%
2007	36%
2006	23%
2005	15%
2004	6%
Years as a licensed health care provider (n=65)	
Mean	20
Range	(2, 50)
Years treating WC patients (n=65)	
Mean[a]	12
Range	(<1, 47)
Percent of WC patients in practice (n=66)	
≤ 1	8%
2-5	38%
6-25	36%
> 25	18%
WC payment levels (n=65)	
At the fee schedule or higher	22%
A discounted rate of 1% to 15% off the fee schedule	26%
A discounted rate of > 15% off the fee schedule	31%
Don't know	22%
Provider plans to see WC patients again in future (n=66)	
Yes	8%
No (and stopped treating WC patients because retiring/moving/changing practice)	6%
No (and stopped treating WC patients for WC-related reasons[b])	64%
Undecided	23%

Note: Percents may not add up to 100% due to rounding.
[a] Mean calculated by recoding 4 responses of "Less than one year" as .5 year.
[b] WC-related reasons include all reasons listed in Exhibit 3.3 with the exception of the last two (retiring/moving/changing practice).

Reasons for No Longer Treating Injured Workers

Past providers were asked to select and rank the 3 most important reasons for no longer treating injured workers from a list (most important, second most important and third most important reason). Exhibit 3.3 shows the rankings of the most important reason and the top 3 reasons.

- "Administrative burden-reporting requirements" was ranked as the most important reason for opting out of the WC system by 23% of providers, and it was also the reason most frequently ranked in the top 3 (38%). More generally, 37% of providers ranked one of the 3 administrative burden/paperwork-related factors (first 3 rows in Exhibit 3.3) as the most important reason for no longer treating injured workers.

- "Payment denials" was the second most important reason providers quit the WC system. Twelve percent of providers ranked it as the most important reason for quitting, and 26% of providers ranked it among the top 3 reasons for quitting. More generally, 21% of providers ranked one of the payment-related factors (inadequate fee schedule, discounting, or payment denials) as the most important reason for no longer treating injured workers.

- "Denial of treatment due to utilization review" was cited by 9% of providers as the most important reason for quitting.

- As seen in Exhibit 3.3, all other reasons were ranked as most important by less than 9% of providers, but some of these were more commonly ranked among the top 3 reasons. These included "ACOEM guidelines/Medical Treatment Utilization Schedule being too restrictive" (26%), "Administrative burden/paperwork-billing" (25%) and "Administrative burden/paperwork-utilization review" (25%).

Exhibit 3.3: Past Providers' Reasons for No Longer Treating Workers' Compensation Patients (N=65[a])

	Most important reason[b]	Reason cited in top 3 reasons[c]
Administrative burden/paperwork-reporting requirements	23%	38%
Administrative burden/paperwork-billing	8%	25%
Administrative burden/paperwork-UR	6%	25%
Delay in treatment due to UR	2%	17%
Denial of treatment due to UR	9%	18%
ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive	5%	26%
Inadequate physician fee schedule	6%	22%
Discounting by WC MPNs	3%	9%
Payment received late	0%	6%
Payment denials	12%	26%
Difficult claim adjusters or insurers	2%	15%
Difficult employers	2%	3%
Difficult patients	2%	12%
Legal involvement such as depositions, hearings, litigation	2%	9%
Unfamiliar with workers' compensation laws and regulations	3%	9%
Unfamiliar with the AMA Guides to the Evaluation of Permanent Impairment	2%	5%
Unable to get into WC MPNs	5%	9%
Decreased or no referrals	3%	5%
Retired/planning on retiring	2%	3%
Moved or changed practice/planning on moving or changing practice	6%	9%

[a] 65 of the 66 past providers reporting past decreases in WC volume provided a reason(s).
[b] Each provider reported no more than one most important reason. Due to rounding, percents do not add up to exactly 100%.
[c] Each provider may have reported up to 3 reasons (most important, second most important, third most important), therefore percents add up to more than 100%.

Current Providers

Provider and Practice Characteristics

Exhibit 3.4 presents information about the 743 providers who were still treating WC patients when they completed the survey. The current provider sample includes:

- 288 (39%) MDs/DOs
- 123 (17%) chiropractors
- 106 (14%) acupuncturists
- 100 (13%) psychologists
- 126 (17%) podiatrists

As shown in Exhibit 3.4, the average current provider had been a licensed health care provider for 21 years at the time of the survey, though there were differences by provider type. On

average, acupuncturists had been licensed for 15 years (the shortest), and orthopedic surgeons for 25 years (the longest). Providers reported having treated WC patients for 16 years on average. Almost all MD/DOs (89%) and more than three-fourths of podiatrists (78%) reported being board certified (not shown in Exhibit 3.4). The great majority of respondents (96%) practiced in an urban location. Overall, 29% of providers practiced in the Greater Bay Area, 25% in Los Angeles, and 7% in the Sacramento area.

Exhibit 3.5 highlights some key practice characteristics of current providers:

- Almost 1 out of 3 providers (31%) reported that injured workers constituted more than 25% of their practice, but a somewhat larger number (41%) indicated that injured workers constituted 5% or less of their practice.
- 56% of providers treated 5 or fewer WC patients per week, while 22% reported treating more than 20 patients per week.
- Almost all providers (90%) reported that they were accepting new injured workers as patients.
- 3 of 4 providers (76%) indicated that their practice had some language capability in addition to English, and 66% indicated their practice or office had a Spanish language capability.
- 54% of all providers reported being in solo practice. Only 11% of occupational medicine MDs/DOs were in solo practice, while 70% or more of psychologists, chiropractors and acupuncturists were in solo practice.
- The majority of providers (59%) reported receiving fees discounted from those in the Official Medical Fee Schedule (OMFS) promulgated by DWC.
- Overall, 62% of providers reported currently contracting with an MPN; this ranged from 42% for acupuncturists to 91% of occupational medicine MD/DOs.

Provider-Reported Occupational Health Best Practices

Occupational health best practices are an integral part of providing appropriate care to injured workers within the WC system.[2,3] As described in the Methods section, the provider survey included 3 questions that allowed us to assess how consistently providers followed best practices related to:

- understanding physical and mental demands of the worker's job,
- discussing work status or return to work, and
- contacting the employer about modified work if applicable.

We set the benchmark for these practices at 75% (e.g., providers reported meeting the criterion for at least 75% of applicable patients). We show in Exhibit 3.6 the percentage of providers who met these benchmarks in their practice. In addition, we provide information on 2 related measures pertaining to: (1) provider attendance at lectures, conferences or training related to occupational health care or WC in the last 5 years, and (2) the provider being able to see a new workers' compensation patient within 3 days for non-emergency care.

As shown in Exhibit 3.6, the great majority of providers met the benchmark for (1) understanding the physical and mental health demands of workers' jobs (74%) and (2) discussing work status or return to work (71%). But less than half (44%) met the benchmark for contacting the employer when applicable. There were wide variations by provider type. Most notably, occupational heath MDs/DOs more often met the benchmark for all 3 measures. Acupuncturists and psychologists least frequently discussed work status/return to work (48% and 52%, respectively) or contacted the employer if applicable (14% and 38%, respectively).

Exhibit 3.4: Characteristics of Current Providers (N=743)

	Overall	Occupational medicine	Primary care	Orthopedic surgery	Other MD/DO specialties	Chiropractor	Acupuncturist	Psychologist	Podiatrist
Sample size (N)	743	37	80	105	66	123	106	100	126
Provider type: percent of sample (n=743)		5%	11%	14%	9%	17%	14%	13%	17%
Years as a licensed health care provider (n=737)									
Mean	21	22	22	25	24	19	15	21	20
Range	(1, 53)	(3, 46)	(3, 53)	(3, 51)	(2, 52)	(4, 48)	(3, 50)	(1, 40)	(3, 40)
Years treating WC patients (n=740)									
Mean	16	15	16	20	16	18	11	15	16
Range	(<1, 48)	(3, 33)	(2, 47)	(2, 48)	(<1, 42)	(2, 44)	(1, 32)	(1, 32)	(<1, 38)
Urban practice location (n=722)	96%	100%	94%	97%	95%	92%	98%	96%	98%
Region (n=720)									
Northern and Sierra Counties	3%	0%	3%	3%	3%	5%	3%	4%	2%
Greater Bay Area	29%	36%	26%	16%	38%	28%	39%	29%	28%
Sacramento Area	7%	15%	3%	5%	11%	7%	5%	3%	10%
San Joaquin Valley	6%	12%	1%	2%	3%	11%	3%	6%	9%
Central Coast	8%	0%	9%	8%	6%	8%	8%	11%	6%
Los Angeles	25%	15%	30%	32%	20%	22%	25%	27%	24%
Other Southern Counties	23%	21%	29%	34%	20%	20%	17%	20%	20%

Note: Percents may not add up to 100% due to rounding.

Exhibit 3.5: Practice Characteristics of Current Providers (N=743)

	Overall	Occupational medicine	Primary care	Orthopedic surgery	Other MD/DO specialties	Chiropractor	Acupuncturist	Psychologist	Podiatrist
Percent of WC patients in practice (n=743)									
≤ 1	13%	0%	22%	3%	29%	12%	13%	3%	20%
2–5	28%	3%	38%	12%	24%	33%	42%	14%	40%
6–25	28%	3%	16%	38%	26%	30%	24%	38%	32%
> 25	31%	95%	25%	47%	21%	24%	22%	45%	9%
Number of WC patients in a typical week (n=741)									
< 1	21%	0%	29%	3%	46%	15%	30%	10%	32%
1–5	35%	3%	34%	19%	26%	39%	47%	43%	42%
6–20	22%	3%	13%	35%	18%	24%	11%	33%	21%
> 20	22%	95%	25%	43%	9%	22%	11%	14%	6%
Currently accepting new WC patients (n=740)									
Yes, both new and established patients	90%	100%	84%	93%	86%	89%	95%	87%	93%
Yes, established patients only	5%	0%	10%	6%	6%	5%	2%	6%	4%
No	4%	0%	6%	1%	8%	7%	3%	7%	3%
Practice setting (n=728)									
Solo practice	54%	11%	18%	47%	42%	72%	78%	70%	51%
Group practice	37%	64%	49%	50%	44%	26%	22%	23%	42%
Hospital, clinic, community health center, public clinic or other[a]	9%	25%	32%	4%	14%	2%	0%	6%	7%
Provider/office has any language capability in addition to English (n=743)	76%	95%	86%	84%	80%	72%	75%	46%	85%
Provider/office has Spanish language capability (n=743)	66%	92%	80%	82%	64%	68%	36%	42%	79%
Provider/office dispenses any medication to WC patients (n=736)	27%	64%	44%	44%	21%	9%	29%	3%	27%
WC payment levels (n=733)									
At the fee schedule or higher	15%	9%	9%	21%	20%	15%	14%	21%	9%
A discounted rate of 1% to 15% off the fee schedule	30%	29%	16%	46%	20%	31%	34%	27%	31%
A discounted rate of > 15% off the fee schedule	29%	11%	10%	16%	25%	46%	34%	39%	32%
Don't know	25%	51%	65%	16%	35%	8%	17%	13%	28%
Currently contracted with MPN vs. not (n=600; 133 marked “Don’t know”)	62%	91%	55%	74%	54%	72%	42%	51%	62%

Note: Percents may not add up to 100% due to rounding.
[a] One percent or less of responses were “Other” open-ended responses of “Company.”

Exhibit 3.6: Provider-Reported Occupational Health Best Practices (N=743)

	Overall	Occupational medicine	Primary care	Orthopedic surgery	Other MD/DO specialties	Chiropractor	Acupuncturist	Psychologist	Podiatrist
% of providers who reported meeting criteria below for ≥ 75% of their WC patients[a]									
Understand physical and mental demands of job (n=737)	74%	89%	65%	73%	62%	85%	69%	87%	70%
Discuss work status or return to work (n=739)	71%	97%	91%	90%	66%	64%	48%	52%	79%
Contact employer about modified work (if applicable) (n=733)	44%	84%	53%	46%	40%	54%	14%	38%	48%
% attending lectures, conferences, training related to occupational health or WC in last 5 years (n=741)	69%	100%	43%	82%	44%	80%	70%	74%	66%
Appointments for WC patients within 3 days[b] (n=672)	55%	92%	85%	23%	23%	90%	76%	15%	48%
Days a new WC patient has to wait for a non-emergency appointment[b] (n=672)									
Mean	7	1	2	12	13	2	5	12	5
Range	(0, 150)	(0, 20)	(0, 15)	(0, 100)	(0, 150)	(0, 60)	(0, 90)	(0, 90)	(0, 15)

[a] These 3 measures were created based on providers' self-reported behaviors for at least 75% of their WC patients.
[b] Regulations pertaining to MPN access standards mandate that injured workers should be seen within 3 days for non-emergency initial treatment, and within 20 days for non-emergency specialist referrals.

Studies have demonstrated both that there is a relationship between patient volume and quality indicators, [4,5] and that seeing a high volume of patients is associated with better outcomes.[6] Therefore, we also examined whether seeing a high volume of WC patients (defined as seeing 6 or more WC patients per week) was related to more consistent performance of occupational health best practices. Higher volume providers more often met the benchmark for each of the 3 occupational health best practices:

- 79% of higher volume providers compared with 71% of lower volume providers met the benchmark for understanding physical and mental demands of the worker's job ($p=.02$)
- 77% of higher volume providers compared with 66% of lower volume providers met the benchmark for discussing work status or return to work ($p<.01$)
- 53% of higher volume providers compared with only 37% of lower volume providers met the benchmark for contacting the employer about modified work when applicable ($p<.01$)

We also examined whether being contracted with a MPN was related to meeting these benchmarks. We found significant relationships for 2 of the 3 benchmarks. Compared to providers not contracted with a MPN, providers in a MPN were more likely to meet the benchmarks for discussing work status or return to work (76% vs. 62%, $p<.01$) and for contacting the employer about modified work when applicable (51% vs. 35%, $p<.01$). However, because a majority of providers in MPNs were also high volume providers (65%), it is not clear whether most of the observed differences were related to being a high-volume provider or being contracted with an MPN.

In terms of recent education or training, 69% of the respondents reported attending lectures, conferences, or training related to occupational health or WC in the last 5 years. Occupational medicine MDs/DOs had the highest reported rates (100%), while primary care MDs/DOs and MDs/DOs with other specialties had the lowest reported rates (43% and 44%, respectively).

Overall, 55% of providers reported that non-emergency appointments for new WC patients were available within 3 days. Occupational medicine MDs/DOs, chiropractors, and primary care MDs/DOs had the highest rates (92%, 90% and 85%, respectively) while psychologists had the

lowest rates (15%) on this measure. Occupational medicine MDs/DOs, primary care MDs/DOs, and chiropractors had average wait times of 1 to 2 days (those for other providers types were longer), though the range of wait times reported was generally quite wide.

Perceptions of Access to Quality Care

One important component of the 2008 provider survey was a series of questions related to providers' perceptions of injured worker access to care and perceived barriers to care. We sought to understand how providers currently perceive access to quality care for injured workers within California's WC system and how that might vary for provider subgroups. In the next section we delve into specific barriers to care.

Exhibit 3.7 presents information regarding provider perceptions of access to care and the effect of access problems (delays or denials of care) on recovery. Provider perceptions varied considerably by provider type.

- Fewer than half of all providers (45%) agreed or strongly agreed that injured workers have adequate access to quality care. Approximately 70% of occupational medicine and primary care MDs/DOs agreed or strongly agreed that injured workers have adequate access to quality care. In contrast, only 12% of chiropractors, and 14% of psychologists agreed or strongly agreed with this statement.

- Only 8% of all current providers reported that their WC patients never or almost never experienced delays or denials of care, but this ranged from 0% for occupational medicine MDs/DOs to 21% for primary care MDs/DOs and 23% for MDs/DOs with other specialties.

- Among providers who reported that their WC patients experienced delays or denials of care "sometimes," "often," or "always/almost always," almost all (96%) reported that the delays or denials at least sometimes interfered with their patients' recovery, and 62% reported that such interference occurred often, always, or almost always.

Looking to understand variations in provider perceptions of access to quality care for injured workers, we considered 4 factors: provider type, rural/urban practice location, high/low volume of WC patients, and whether the provider was contracted with an MPN. We examined these factors for all current providers and, if sample size allowed, for provider subgroups. Key findings of this analysis were:

- Perceptions about access to quality care varied by provider type ($p<.01$). Chiropractors and psychologists were least likely to report that access to quality care was adequate.
- Providers in rural areas were significantly less likely to report that access to quality care was adequate than providers in urban areas (18% vs. 45%, $p<.01$).
- High volume providers did not differ significantly from low volume providers in whether they reported that injured workers had adequate access to quality care. However, they were more likely than low volume providers to report that their WC patients experienced delays or denials often, always or almost always (71% vs. 50%, $p<.01$).
- Providers contracted with MPNs did not differ significantly from those not contracted with MPNs in whether they reported that injured workers had adequate access to quality care. However, they were more likely to report that their WC patients experienced delays or denials often, always or almost always (65% vs. 57%, $p=.05$).

Exhibit 3.7: Provider Perceptions of Access to Quality Workers' Compensation Health Care (N=743)

	Overall	Occupational medicine	Primary care	Orthopedic surgery	Other MD/DO specialties	Chiropractor	Acupuncturist	Psychologist	Podiatrist
Injured workers have adequate access to quality care (n=729)									
Strongly agree	11%	35%	19%	12%	17%	1%	4%	2%	15%
Agree	34%	35%	53%	37%	43%	11%	35%	12%	52%
Don't know/No opinion	3%	0%	0%	3%	6%	0%	9%	0%	3%
Disagree	28%	22%	21%	31%	20%	31%	31%	39%	25%
Strongly disagree	25%	8%	6%	18%	14%	58%	22%	46%	5%
Provider's own WC patients experience delays or denials of care (n=735)									
Never or almost never	8%	0%	21%	1%	23%	1%	8%	4%	10%
Sometimes	33%	54%	43%	20%	39%	22%	33%	25%	48%
Often	36%	32%	25%	48%	25%	40%	40%	41%	31%
Always or almost always	23%	14%	11%	31%	14%	37%	20%	30%	12%
Delays/denials of care interfere with provider's WC patients' recovery[a]									
Never or almost never	4%	8%	5%	2%	17%	3%	1%	0%	7%
Sometimes	34%	49%	58%	27%	44%	19%	33%	15%	51%
Often	40%	41%	30%	50%	25%	45%	42%	43%	31%
Always or almost always	22%	3%	7%	21%	15%	34%	24%	43%	11%

Note: Percents may not add up to 100% due to rounding.
[a] Was not asked of providers reporting that their WC patients never or almost never experienced delays or denials of care.

Barriers Interfering with Delivery of Workers' Compensation Health Care

Providers in the past have voiced concern about some of the reforms related to utilization review, ACOEM/MTUS guidelines, and caps on visits enacted to curb excessive utilization and contain costs.[7,8] Physicians in general have expressed opposition to the use of utilization management techniques by public and private payers seeking to curb inappropriate utilization and control costs.[9] The 2006 UCLA report[1] and a subsequent article published by the UCLA research team[10] indicated broad concern among providers treating injured workers regarding recent reforms enacted to limit excess utilization through utilization review, the use of the ACOEM guidelines as presumptively correct and discounted payment rates for physician services. Our survey queried providers about the barriers that interfered with their delivery of WC health care.

Providers rated the extent to which each of a list of potential issues interfered with providing care to their WC patients. Each barrier could be rated as having "no interference," "some interference" or "a lot of interference."

We used the ratings to rank barriers based on the average level of interference. Ranks were assigned by calculating the mean level of interference separately for each barrier (0 for "no interference," 1 for "some interference," and 2 for "a lot of interference"), and then ordering all barriers from high to low mean interference. A rank of 1 indicates the barrier with the highest average interference rating compared with other barriers in the list.

Exhibit 3.8 shows the level of reported interference with patient care for each barrier, as well as each barrier's rank. The barriers ranked as the top 3 were all related to utilization review. These included (1) delay in treatment due to utilization review, (2) denial in treatment due to utilization review and (3) administrative paperwork due to utilization review. The 4th and 5th ranked barriers were "ACOEM guidelines/Medical Treatment Utilization Schedule being too restrictive" and "administrative burden/paperwork-reporting requirements."

All barriers ranked in the top 5 were rated by at least 40% of all providers as causing "a lot of interference." In contrast, a substantial percentage of providers reported that the following factors did not interfere with caring for WC patients: "difficult employers," "difficult patients," "legal involvement" (e.g., depositions), "unfamiliarity with workers' compensation laws and regulations," and "unfamiliarity with the AMA Guides to the Evaluation of Permanent Impairment."

Exhibit 3.8: Barriers Interfering with Care of Workers' Compensation Patients (N=743)

	No interference	Some interference	A lot of interference	Rank[a]
Administrative burden/paperwork-reporting requirements (n=729)	13%	45%	42%	**5**
Administrative burden/paperwork-billing (n=719)	22%	46%	32%	10
Administrative burden/paperwork-UR (n=713)	10%	33%	57%	**3**
Delay in treatment due to UR (n=723)	9%	31%	60%	**1**
Denial of treatment due to UR (n=725)	10%	30%	61%	**2**
ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive (n=712)	15%	40%	45%	**4**
Inadequate physician fee schedule (n=715)	24%	44%	32%	11
Discounting by WC MPNs (n=701)	19%	39%	42%	7
Payment received late (n=714)	20%	43%	37%	9
Payment denials (n=713)	17%	41%	42%	6
Difficult claim adjusters or insurers (n=721)	15%	50%	36%	8
Difficult employers (n=714)	51%	41%	8%	14
Difficult patients (n=718)	46%	45%	9%	13
Legal involvement such as depositions, hearings, litigation (n=717)	44%	44%	12%	12
Unfamiliarity with workers' compensation laws and regulations (n=715)	57%	38%	6%	16
Unfamiliarity with the AMA Guides to the Evaluation of Permanent Impairment (n=709)	56%	36%	8%	15

[a] Ranks were assigned by calculating the mean level of interference separately for each of these barriers ("no interference" = 0, "some interference" = 1, "a lot of interference" = 2), and then ordering all barriers from high to low mean interference. A rank of 1 indicates the barrier with the highest average interference rating compared with other barriers in this list. Ranks 1 through 5 are emphasized in bold.

Exhibit 3.9 depicts the ranking of each barrier shown in Exhibit 3.8 by provider type. Utilization review consistently ranked highly for all provider types. Additionally, "ACOEM guidelines/Medical Treatment Utilization Schedule being too restrictive" and "Administrative burden/paperwork-reporting requirements" ranked highly for several provider types. Payment-related barriers (discounting by Medical Provider Networks, payment received late, payment denials and difficult claim adjusters or insurers) also tended to be highly ranked.

Exhibit 3.9: Factors Interfering with Care of Workers' Compensation Patients, by Provider Type (N=743)

	Overall	Occupational medicine	Primary care	Orthopedic surgery	Other MD/DO specialties	Chiropractor	Acupuncturist	Psychologist	Podiatrist
Administrative burden/paperwork-reporting requirements (n=729)	**5**	7	**2**	**4**	**1**	8	8	10	**4**
Administrative burden/paperwork-billing (n=719)	10	12	6	7	9	10	10	11	7
Administrative burden/paperwork-UR (n=713)	**3**	**2**	**1**	**3**	**3**	**3**	**4**	**5**	**2**
Delay in treatment due to UR (n=723)	**1**	**1**	**4**	**1**	**2**	**2**	**3**	**2**	**1**
Denial of treatment due to UR (n=725)	**2**	**3**	**3**	**2**	**5**	**1**	**1**	**1**	**3**
ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive (n=712)	**4**	**4**	8	**5**	10	**4**	**2**	9	11
Inadequate physician fee schedule (n=715)	11	6	**5**	8	6	11	11	8	10
Discounting by WC MPNs (n=701)	7	9	9	6	**4**	7	9	6	**5**
Payment received late (n=714)	9	13	11	9	7	9	6	7	6
Payment denials (n=713)	6	11	10	11	11	**5**	**5**	**3**	8
Difficult claim adjusters or insurers (n=721)	8	**5**	7	10	8	6	7	**4**	9
Difficult employers (n=714)	14	8	16	14	16	14	15	13	15
Difficult patients (n=718)	13	10	12	12	13	16	16	16	12
Legal involvement such as depositions, hearings, litigation (n=717)	12	14	15	13	12	12	13	12	13
Unfamiliarity with workers' compensation laws and regulations (n=715)	16	16	13	16	14	15	14	14	14
Unfamiliarity with the AMA Guides to the Evaluation of Permanent Impairment (n=709)	15	15	14	15	15	13	12	15	16

[a] Ranks were assigned by calculating the mean level of interference separately for each of these factors ("no interference" = 0, "some interference" = 1, "a lot of interference" = 2), and then ordering all factors from high to low mean interference. A rank of 1 indicates the factor with the highest average interference rating compared with other factors in this list. Ranks 1 through 5 are emphasized in bold.

Reductions in Workers' Compensation Participation

An important objective of the 2008 provider survey was to determine whether provider participation in the WC system had changed or whether it might change in the future. Factors such as administrative reporting burden, use of utilization review and recent WC system reforms could motivate providers to withdraw from the WC system, thereby decreasing provider availability and impeding access to timely care. Collecting information on providers' past and planned reductions in WC participation is necessary to help DWC identify potential problems in the current provision of care, anticipate potential problems in ensuring adequate numbers of

providers to care for injured workers, and to consider potential solutions. We asked providers two questions pertaining to participation in the WC system:

1) whether the percent of WC patients they saw in the past 2 years had decreased, increased, or remained the same, and

2) whether they were thinking about or planning to decrease, increase, or maintain at the same level the volume of WC patients in their practice.

Approximately half of providers (52%) reported that their WC patient volume had decreased in the past 2 years, and approximately one-third (32%) reported intent to decrease or quit treating WC patients (Exhibit 3.10). Chiropractors and acupuncturists were more likely than other providers to report past decreases in WC patient volume (88% and 69%, respectively). Chiropractors were also more likely to report future intent to decrease or quit treating WC patients (38%), along with orthopedic surgeons (51%) and psychologists (45%).

Exhibit 3.10: Past and Planned Decreases in Workers' Compensation Patient Volume (N=743)

	Overall	Occupational medicine	Primary care	Orthopedic surgery	Other MD/DO specialties	Chiropractor	Acupuncturist	Psychologist	Podiatrist
Decreased WC patient volume in the past 2 years (n=739)	52%	19%	34%	52%	30%	88%	69%	46%	38%
Intends to decrease volume or quit seeing WC patients in the future (n=737)	32%	14%	24%	51%	30%	38%	16%	45%	26%

Factors Associated with Reductions in Workers' Compensation Participation

Because it is important to DWC to retain providers in order to maintain adequate access to care for injured workers, we also explored factors that might be related to providers' past or planned reductions in WC participation. We did this by:

- identifying providers' reported reasons for past decreases in WC participation, and
- examining whether particular provider characteristics or certain potential sources of friction or interference with WC patient care might be related to provider intent to decrease or quit treating WC patients.

Providers who reported that their WC patient volume had decreased in the past 2 years (n=381, 52% of all current providers) were asked to select and rank the 3 most important reasons for the decrease from a list (most important, second most important and third most important reason).[iii] Exhibit 3.11 shows the rankings for the most important reason and the top 3 reasons (results by provider type are available in Appendix F).

- Nearly 1 in 4 providers (23%) who reported decreased WC patient volume cited "denial of treatment due to utilization review" as the most important reason for the decrease. Almost half of providers (48%) ranked this same utilization review factor among their top 3.
- 16% of providers cited "decreased or no referrals" as the most important reason for decreased WC patient volume, and 30% of providers cited this same reason among their top 3.
- For 11% of providers, "ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive" was the most important reason for decreased WC patient volume.
- While not ranked as often as the most important reason, several factors were commonly ranked within the top 3 reasons. These included: (1) administrative burden/paperwork-reporting requirements, (2) delay in treatment due to utilization review, (3) inadequate

[iii] Of the 381 providers who reported that their WC patient volume had decreased in the past 2 years, 361 provided a reason(s) for the decrease.

physician fee schedule, (4) payment denials, and (5) being unable to get into Medical Provider Networks (MPNs).

Exhibit 3.11: Reasons for Past Decreases in Workers' Compensation Patient Volume (N=361[a])

	Most important reason[b]	Reason cited in top 3 reasons[c]
Administrative burden/paperwork-reporting requirements	10%	21%
Administrative burden/paperwork-billing	1%	7%
Administrative burden/paperwork-UR	6%	19%
Delay in treatment due to UR	7%	28%
Denial of treatment due to UR	23%	48%
ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive	11%	29%
Inadequate physician fee schedule	4%	19%
Discounting by WC MPNs	3%	14%
Payment received late	1%	5%
Payment denials	2%	11%
Difficult claim adjusters or insurers	3%	21%
Difficult employers	0%	2%
Difficult patients	1%	4%
Legal involvement such as depositions, hearings, litigation	<1%	3%
Unfamiliar with workers' compensation laws and regulations	<1%	3%
Unfamiliar with the AMA Guides to the Evaluation of Permanent Impairment	0%	2%
Unable to get into WC MPNs	10%	25%
Decreased or no referrals	16%	30%
Retired/planning on retiring	1%	2%
Moved or changed practice/planning on moving or changing practice	1%	3%

[a] 361 of the 381 current providers reporting past decreases in WC volume provided a reason(s).
[b] Each provider reported no more than one most important reason. Due to rounding, percents do not add up to exactly 100%.
[c] Each provider may have reported up to 3 reasons (most important, second most important, third most important), therefore percents add up to more than 100%.

We examined whether 3 provider/practice characteristics (solo provider, contracted with MPN, and years treating WC patients) were related to intent to treat fewer WC patients or quit the system. Thirty-four percent of solo providers reported that they intended to decrease or quit treating WC patients, compared with 31% of other providers (this difference was not statistically significant). Thirty-one percent of providers contracted with an MPN reported that they intended to decrease or quit treating WC patients, compared with 37% of other providers (again, this difference was not statistically significant). However, providers reporting intent to decrease or quit treating WC patients had been treating WC patients significantly longer (17 years vs. 15 years, $p<.01$).

We also explored whether barriers perceived by providers as interfering with patient care were related to their intent to treat fewer WC patients or to quit the system altogether. Exhibit 3.12 shows the predicted probability (from logistic regression models) of provider intent to decrease or quit treating WC patients by level of perceived interference of various barriers. The barriers are the same as those presented in Exhibit 3.8, except that we combined closely related barriers to simplify the analysis (see Exhibit A.1 in Appendix A for details). A separate logistic regression model was run for each barrier, each time including the same control variables: solo/group/clinic practice, MPN participation, and years of experience treating WC patients. Probabilities vary for provider subgroups defined by the control variables included in the logistic regression models. We compared the probability of intent to decrease or quit treating WC patients for a typical provider[iv] when a particular barrier was rated as "no interference" to the probability when that barrier was rated as "high interference."

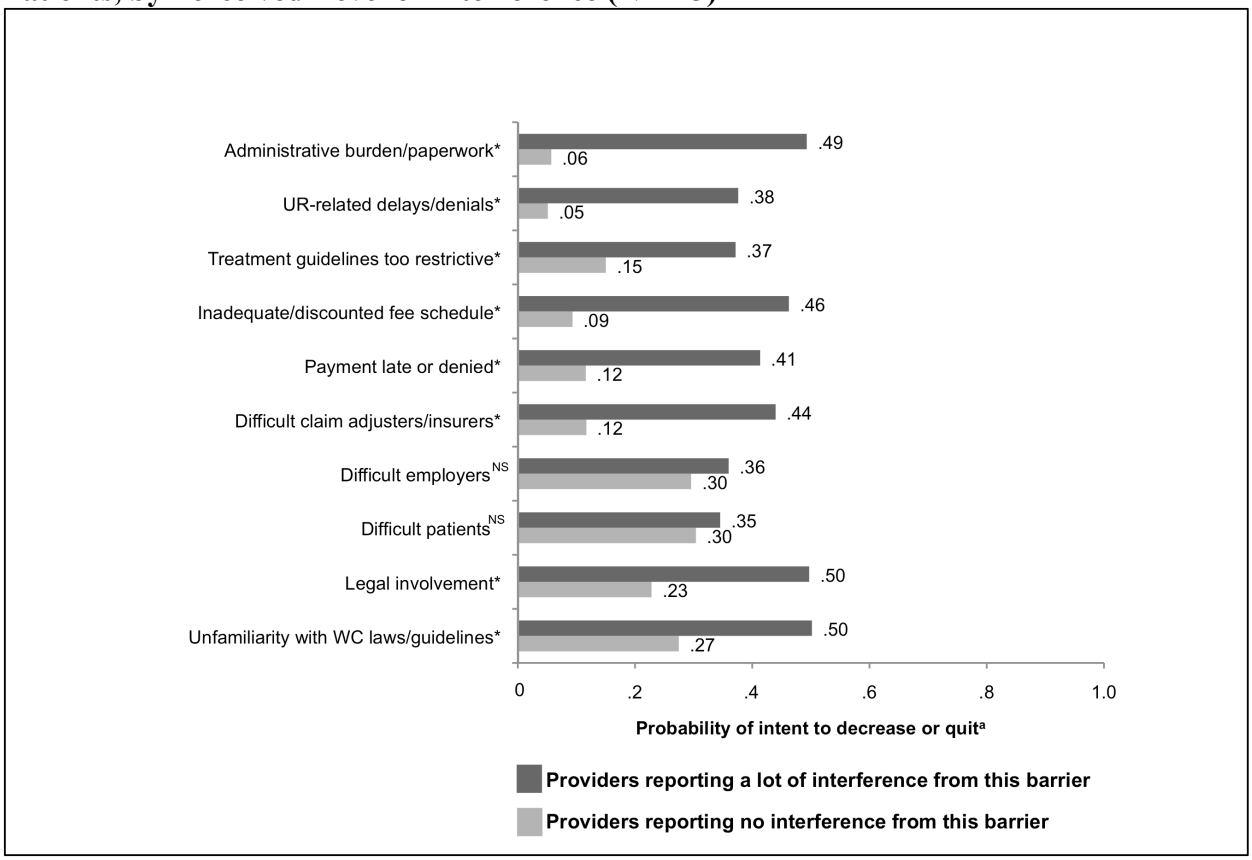
For example, a typical provider reporting that administrative burden/paperwork caused a lot of interference with WC patient care had a .49 probability of intent to decrease or quit treating WC patients. In contrast, a similar provider reporting that administrative burden/paperwork caused no interference had only a .06 probability of intent to decrease or quit treating WC patients.

As shown in Exhibit 3.12, a number of barriers potentially interfering with WC health care delivery were found to be associated with an increase in the probability of provider intent to decrease or quit treating WC patients. These included: (1) administrative burden/paperwork, (2) utilization review (UR)-related delays or denials, (3) treatment guidelines being too restrictive, (4) inadequate/discounted fee schedule, (5) late or denied payment, (6) difficult claims adjusters or insurers, (7) legal involvement, and (8) unfamiliarity with WC laws or guidelines (all significant at $p<.01$). For most barriers noted above and shown in Exhibit 3.12, we observed large differences in the probability of intent to decrease or quit treating WC patients. In fact, only two barriers shown in Exhibit 3.12 ("difficult employers" and "difficult patients") were not significantly associated with intent to decrease or quit treating WC patients.

[iv] A typical provider is characterized here as a solo provider (most common), contracted with an MPN (most common), and having 15 years experience treating WC patients (the median).

Because unfamiliarity with WC laws and guidelines emerged as important in this analysis, we examined providers' answers to questions about receiving information from DWC. Of current providers, 74% reported that they would find it helpful to receive more information on WC laws and regulations. That subgroup was asked about their preferred formats or modes for receiving such information (multiple answers were allowed). The 2 most frequently cited modes were communication by mail (51%) and communication by e-mail (44%). The DWC website was the informational mode least frequently cited as preferred (17%).

Exhibit 3.12: Probability of Intent to Decrease or Quit Treating Workers' Compensation Patients, by Perceived Level of Interference (N=743)



[a] Probabilities vary for each subgroup of providers. The predicted probabilities presented here are for solo providers (most common) contracted with an MPN (more common than not) and having 15 years experience treating WC patients (the median).
* Significantly associated with intent after controlling for practice setting, MPN, years treating WC patients.
NS Not significantly associated with intent after controlling for practice setting, MPN, years treating WC patients.

Exhibit 3.13 provides information similar to Exhibit 3.12 but for selected provider characteristics or perceptions. A separate logistic regression model was run for each characteristic, each time

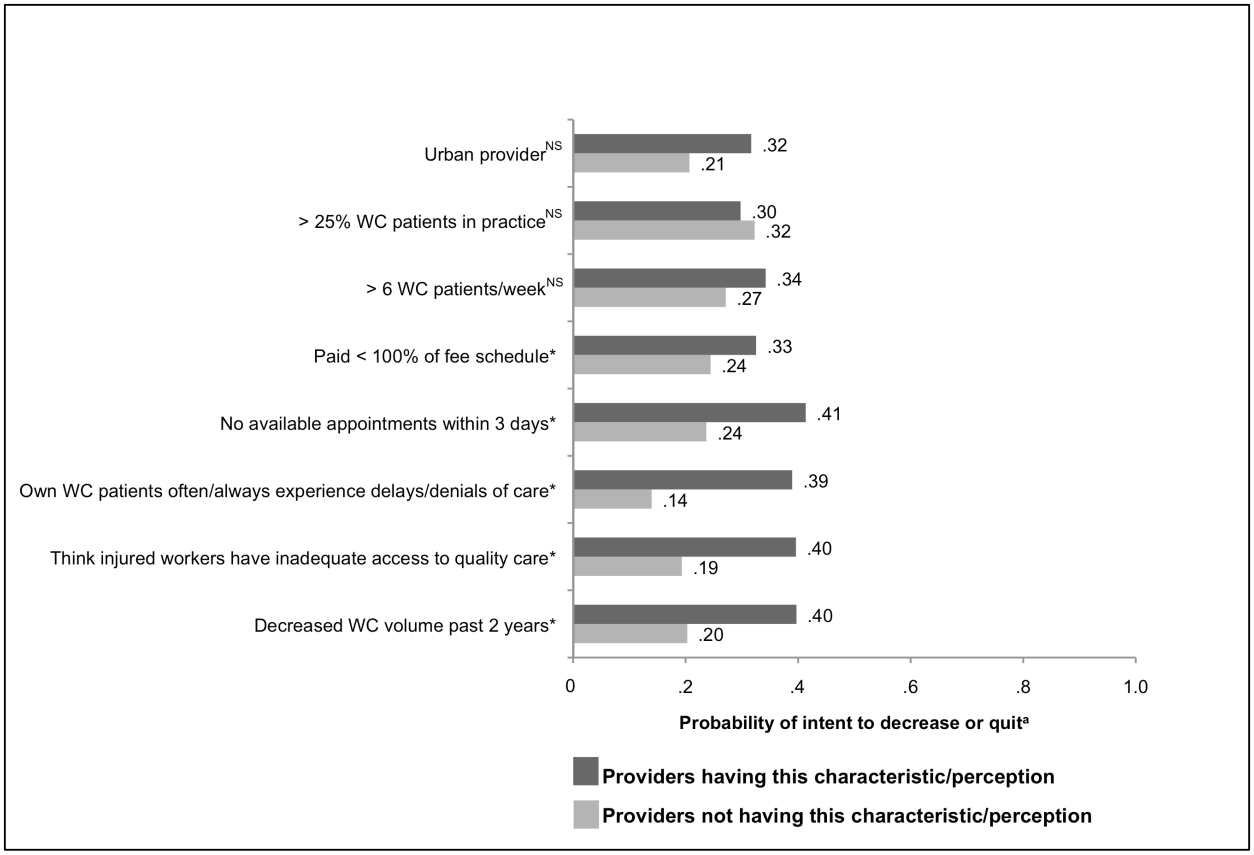
including the same control variables as in the previous analysis: solo/group/clinic practice, MPN participation, and years of experience treating WC patients. Again, we compared the probability of intent to decrease or quit treating WC patients for a typical provider when a particular provider characteristic or perception was present to the probability when that characteristic or perception was absent.

For example, a typical provider reporting that injured workers have inadequate access to quality care had a .40 probability of intent to decrease or quit treating WC patients. In contrast, a similar provider reporting that injured workers have adequate access to quality care had only a .19 probability of intent to decrease or quit treating WC patients.

Five of the 8 factors shown in Exhibit 3.13 were associated with the probability of intent to decrease or quit treating WC patients, including: (1) being paid less than 100% of the fee schedule ($p=.03$), (2) not having appointments available within 3 days, (3) perceiving that their own patients often or always experience delays or denials of care, (4) perceived inadequate access to quality care, and (5) decreased WC patient volume in the past 2 years (all but the first significant at $p<.01$). Somewhat surprisingly, neither geographic location nor WC caseload (either number of WC patients or percent of practice accounted for by WC) were significantly related to intent to decrease WC patient volume or quit treating WC patients.

In sum, our survey revealed important findings about reductions in WC patient volume and providers' intentions regarding future participation in the WC system. Most striking were the strong effects of administrative burden, delays and denials related to utilization review, restrictiveness of treatment guidelines, and problems related to inadequate, late or denied provider payment.

Exhibit 3.13: Probability of Intent to Decrease or Quit Treating Workers' Compensation Patients, by Presence of Selected Provider and Practice Characteristics (N=743)



[a] Probabilities vary for each subgroup of providers. The predicted probabilities presented here are for solo providers (most common) contracted with an MPN (more common than not) and having 15 years experience treating WC patients (the median).
* Significantly associated with intent after controlling for practice setting, MPN, years treating WC patients.
[NS] Not significantly associated with intent after controlling for practice setting, MPN, years treating WC patients.

Comparisons to 2006 UCLA Study Findings

Since the 2006 UCLA study, WC regulatory changes were adopted in California to improve access for injured workers by improving payment to providers and removing barriers to appropriate health care utilization. Two key regulations were particularly relevant to WC providers and the health care of injured workers:

- Effective February 15, 2007, the Official Medical Fee Schedule (OMFS) was updated to increase the maximum reimbursable amount for 10 common Evaluation and Management (E & M) procedure codes for office/outpatient visits for new and established patients by

approximately 20 percent on average (Title 8, CCR, section 9789.11 and Addendum to Table A).

- Effective June 15, 2007, the DWC Administrative Director adopted a Medical Treatment Utilization Schedule (MTUS) that incorporates evidence based, peer-reviewed, nationally recognized standards of care and that addresses, at a minimum, the frequency, duration, intensity and appropriateness of all treatment procedures and modalities commonly performed in workers' compensation cases (Title 8, CCR, sections 9792.20-9792.23). These regulations adopted into the MTUS the ACOEM guidelines (already assumed to be presumptively correct since March 2004 under Labor Code section 4600(b)) and the Acupuncture Medical Treatment Guidelines, the latter of which are largely unaddressed in the ACOEM guidelines.

In order to understand whether and how such recent WC regulations may have affected providers, we compared selected 2008 findings to the findings of the 2006 UCLA provider survey. As previously discussed in the Methods section, the current survey was very similar to the earlier survey. However, there were some differences between the two surveys in the type and format of certain questions, and particularly in sampling procedures. The 2008 survey used a stratified sampling approach that yielded greater numbers of non-MDs/DOs than the 2006 survey. Due to such differences, limited conclusions can be drawn from the comparisons presented in this section. Accordingly, all comparisons in this section are based solely on observed percentages and no statistical testing was performed.

Comparison of past providers in 2006 and 2008: Compared to 2006, a smaller proportion of the 2008 sample of respondents were past providers (8% vs. 16%). Past providers in 2008 consisted of a smaller proportion of MDs/DOs than in 2006 (36% vs. 73%). Both surveys assessed reasons for no longer treating injured workers, but direct comparisons cannot be made because of differences in methodology. In 2006, providers were asked to provide an open-ended response, which was then coded into broad areas (e.g., paperwork or administrative issues, payment issues, etc.). The 2008 survey asked providers to select and rank the 3 most important reasons from a list. Despite differences in methods, the following reasons for providers no

longer treating WC patients continued to rank highly: paperwork and administrative issues, utilization review-related issues, and payment-related issues.

Comparison of current providers in 2006 and 2008: As previously noted, a smaller proportion of 2008 survey respondents no longer treated injured workers, compared with 2006 respondents, yielding a larger proportion of current respondents for the 2008 survey (92% vs. 84%). As shown in Exhibit 3.14, current providers in 2008 also included a smaller proportion of MDs/DOs (38%[v] vs. 64% in 2006) and greater proportions of acupuncturists, psychologists and podiatrists. Current provider respondents in 2008:

- were similar to providers surveyed in 2006 in terms of the number of years as a licensed provider (21 years), practice setting, and urban location;
- treated more patients in a typical week than respondents in 2006 (22% vs. 11% treated > 20 patients per week);
- were more likely to practice in an office that had Spanish language capability (66% vs. 51%); and
- were more likely to be contracted with an MPN (62% vs. 54%).

[v] This differs slightly from the 39% reported earlier for 2008 due to rounding differences for the slightly different provider type groups presented in this section.

Exhibit 3.14: Comparison of Provider Characteristics, 2006 and 2008 Surveys

	2006	2008
Sample Size (N)[a]	917	743
Provider type		
Primary Care	16%	11%
Orthopedic surgery	18%	14%
Other surgical specialties	16%	4%
Other non-surgical specialties (includes occupational medicine)	14%	9%
Chiropractor	21%	17%
Acupuncturist	6%	14%
Psychologist	6%	13%
Podiatrist	3%	17%
Years as a licensed health care provider, mean	21	21
Percent of WC patients in practice, mean	15%	26%
Number of WC patients in a typical week		
< 1	37%	21%
1-5	33%	35%
6-20	20%	22%
> 20	11%	22%
Primary Practice Setting		
Solo practice	55%	54%
Group practice	36%	37%
Hospital, clinic, community health center or public clinic, other	9%	9%
Provider/office has any language capability in addition to English	76%	76%
Provider/office has Spanish language capability	51%	66%
Urban practice location	91%	96%
Region		
Northern and Sierra Counties	5%	3%
Greater Bay Area	21%	29%
Sacramento Area	7%	7%
San Joaquin Valley	8%	6%
Central Coast	9%	8%
Los Angeles	23%	25%
Other Southern Counties	27%	23%
Contracted with MPN	54%	62%

Note: Percents may not add up to 100% due to rounding.
[a] Includes only providers participating in the WC system at the time of each survey.

Although the two surveys were structured and worded differently, which limited direct comparisons of findings, both surveys found similar factors were cited for past decreases. Authorization/utilization review factors, administrative/paperwork issues and payment continued to be broad areas contributing to past decreases in WC patient volume.

We also compared 2008 to 2006 findings on (1) provider perceptions of the adequacy of access to quality care for injured workers and (2) intent to decrease WC patient volume or quit treating WC patients (Exhibit 3.15). The comparisons showed no marked changes in these key measures. More than half of the surveyed providers continued to perceive access to quality care for injured workers as inadequate and 52% of providers in both surveys reported a decrease in their WC patient volume in the past 2 years. In both surveys, approximately one-third of the provider respondents reported intent to decrease WC volume or quit treating WC patients.

Exhibit 3.15: Indicators of Access and Provider Participation, 2006 and 2008 Surveys

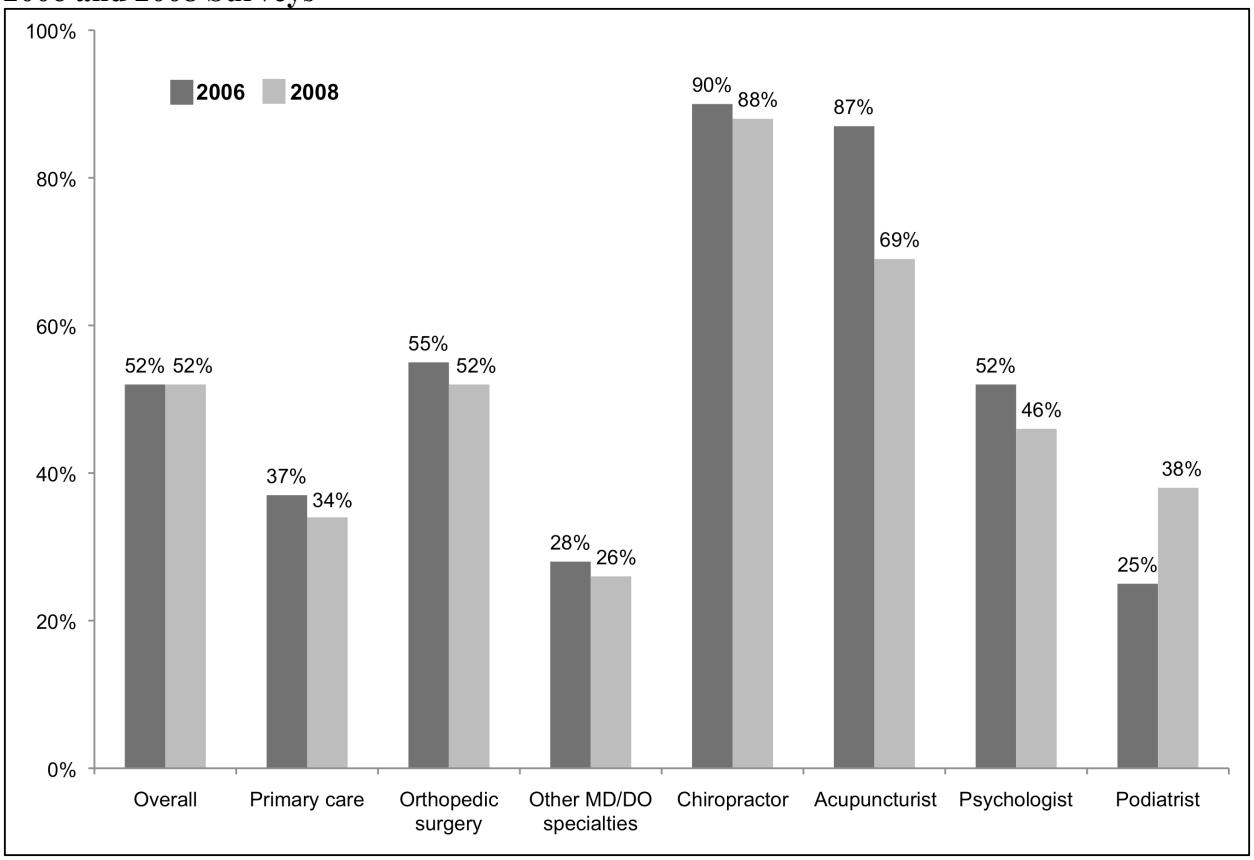
	2006	2008
Strongly disagree or disagree that injured workers have adequate access to quality health care	55%	53%
Decreased WC patient volume in the past 2 years	52%	52%
Intent to quit or decrease seeing WC patients in the future	35%	32%

We then assessed the comparisons shown in Exhibit 3.15 with regard to provider type. Exhibits 3.16 and 3.17 present the results of these comparisons. A smaller proportion of acupuncturists reported a past decrease in WC patient volume in 2008 compared with 2006 (69% vs. 87%) but the opposite was true for podiatrists (38% vs. 25%, Exhibit 3.16). Primary care MDs/DOs were the only provider type observed to have a meaningful difference in intent to decrease or quit treating WC patients (Exhibit 3.17). Whereas 35% of primary care MDs/DOs reported intent to decrease or quit treating WC patients in 2006, 24% did so in 2008.

The 2006 study reported that acupuncturists were having trouble getting WC patients, getting into MPNs, and getting care authorized. In 2008, acupuncturists most frequently cited denial of treatment due to UR (33%) and ACOEM/MTUS being too restrictive (23%) as the most important reasons for past decreases in WC patient volume (Exhibit F.1 of Appendix F). The adoption of the MTUS incorporating the Acupuncture Medical Treatment Guidelines may have contributed to the change in past decreases in WC patient volume noted between the two surveys. However, there was essentially no change in the proportion of acupuncturists reporting intent to decrease volume or quit seeing WC patients from 2006 to 2008.

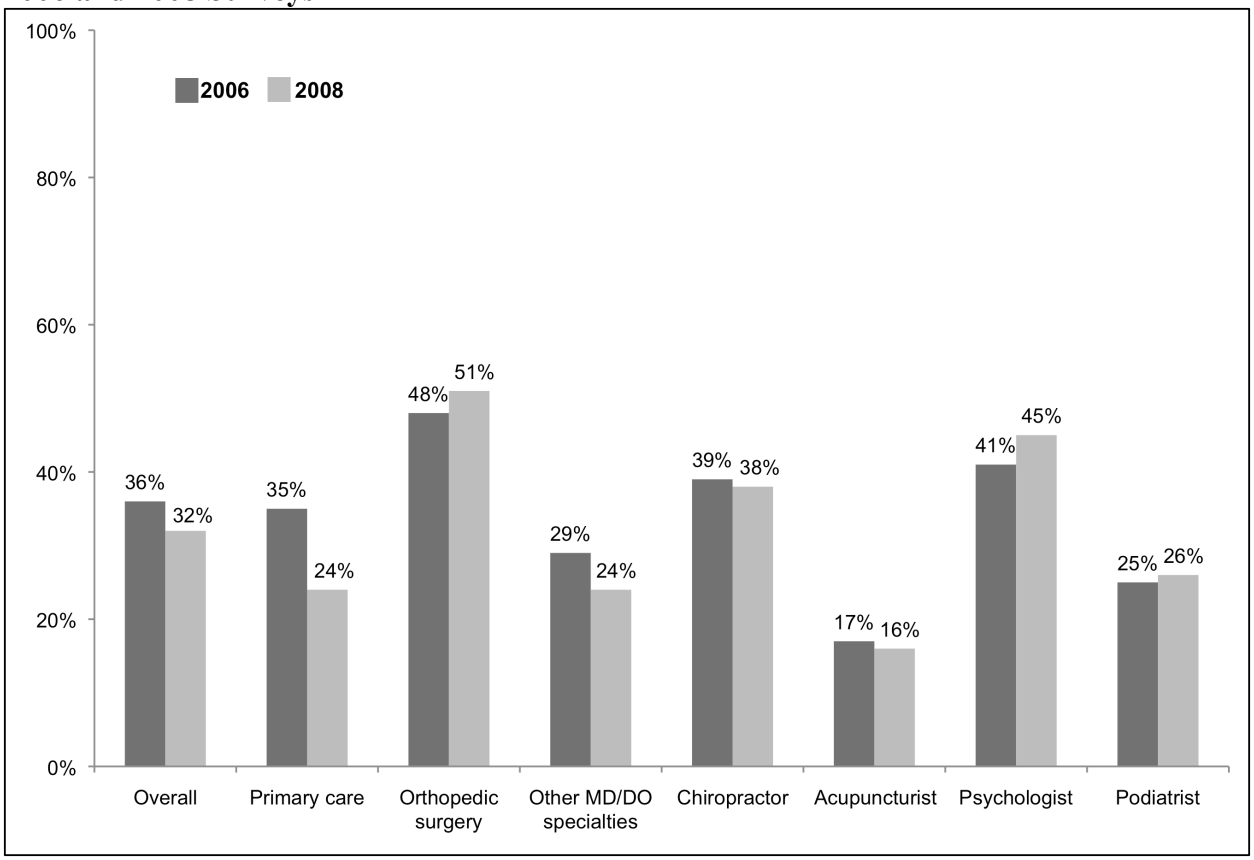
Additionally, it is possible that the fee increases for the 10 common E & M procedures, which most directly impacted primary care MDs/DOs, could have accounted for some of the observed change shown in Exhibit 3.17 for this provider group.

Exhibit 3.16: Decreased Workers' Compensation Patient Volume in Past 2 Years, 2006 and 2008 Surveys



Note: In order to enable rough comparison across the 2006 and 2008 surveys, "Other MD/DO specialties" was expanded to include occupational medicine and both surgical and non-surgical MD/DO specialties not otherwise noted (see Appendix A for details).

Exhibit 3.17: Intent to Decrease or Quit Treating Workers' Compensation Patients, 2006 and 2008 Surveys



Note: In order to enable rough comparison across the 2006 and 2008 surveys, "Other MD/DO specialties" was expanded to include occupational medicine and both surgical and non-surgical MD/DO specialties not otherwise noted (see Appendix A for details).

SUMMARY AND DISCUSSION

This chapter presented key findings of the 2008 provider survey. A total of 809 providers participated in the survey. While these respondents do not constitute a true representative sample of all providers treating injured workers in California, the samples for each of the included provider types can be viewed as reasonably representative of providers who submitted bills to the WCIS. The response rate obtained for the survey (28%) is within the typical range of response rates obtained for similar mailed surveys.

A small percentage of providers (8%) reported no longer treating injured workers and quitting the WC system by the time of the survey. "Administrative burden-reporting requirements" was ranked as the most important reason for opting out of the WC system, and it was also the reason most frequently ranked in the top 3. More generally, all three administrative burden/paperwork-related reasons were frequently cited as important reasons that providers stopped treating injured workers.

The survey revealed a number of important features regarding the WC system and providers working in that system that have important implications for quality improvement and system performance. First, as is true in many WC systems, a large proportion of providers treat only a small number of WC patients. Over half of the providers surveyed (56%) indicated they treated 5 or fewer WC patients per week and a similar number (54%) reported working in solo practice settings. As discussed later in Chapter 4, these features of the WC system pose significant challenges to improving quality and system performance.

Second, providers gave a rather sobering assessment of whether workers have adequate access to quality care and about the implications of this for recovery. Fully 53% of the providers surveyed disagreed or strongly disagreed with the statement that injured workers have adequate access to quality care in the WC system. Further, almost 6 of every 10 providers (59%) reported that their own patients often experienced delays or denials of care and a similar proportion (62%) reported that delays or denials of care often interfered with their patients' recovery.

Information gathered through the survey also raised important questions about system administrative and reporting requirements. Physicians and other providers in the U.S. health care system function under a crushing burden of paperwork and reporting requirements. Our survey suggested deep concern among providers about utilization review requirements, reporting requirements and, in general, the administrative burden imposed by the California WC system.

The barriers ranked most highly in importance for interfering with provider care of WC patients related to utilization review, ACOEM guidelines/MTUS and administrative burden or paperwork reporting requirements. Sixty percent of providers indicated delays in treatment or denials of care due to utilization review created "a lot of interference" with WC patient care. These concerns were not limited to one or two types of providers; providers in all of the groups and specialties surveyed were equally concerned about the degree of interference posed by utilization review, administrative burden and reporting requirements.

Perhaps of greater concern, however, was information gathered through the survey pertaining to providers' past decreases in WC patient volume or their intent to do so in the future. Over half of all providers surveyed (52%) indicated that their WC patient volume had decreased in the past 2 years and almost one-third (32%) indicated they were thinking about or intended to decrease WC patient volume in the future or quit the WC system altogether. The provider group with the greatest proportion of survey respondents intending to decrease WC patient volume or quit the WC system was orthopedic surgeons (51%). Given the central role orthopedic surgeons play in providing specialty surgical care for many WC patients, this raises concern for adequate access to such care in the future.

Providers were asked the reason for the decrease in their WC patient volume and were queried about the importance of a number of patient care barriers that could affect their intent to continue participation in the WC system. Information gathered through the survey and our analyses again highlight the importance of perceived problems related to utilization review, administrative burden and reporting requirements. Of the 361 providers whose WC patient volume had decreased in the past 2 years, almost 1 in 4 providers (23%) indicated denial of treatment due to utilization review as the most important reason.

Our analysis revealed important differences in the probability of provider intent to decrease or quit treating WC patients in relation to these factors. For example, the predicted probability of intent to decrease or quit treating WC patients was .49, if that provider believed administrative burden or paperwork interfered a lot with his or her care of WC patients. In contrast, if a provider believed administrative burden or paperwork did not interfere with WC patient care, the probability of that provider intending to decrease or quit treating WC patients was only .06. Similar patterns were found for other barriers, including denials or delays related to utilization review, restrictiveness of treatment guidelines, and problems related to inadequate, late or denied provider payment. These findings highlight the importance of the WC regulatory environment and administrative procedures for the performance of the system and its ability to provide injured workers adequate access to quality health care.

Finally, we found no meaningful differences between the earlier 2006 provider survey and the current 2008 survey with regard to provider perceptions about the adequacy of patient access to quality health care, past decreases in WC patient volume, or provider intent to decrease WC patient volume or quit treating WC patients altogether. In both surveys, approximately half of the providers indicated that access to quality health care was not adequate and an equal number indicated they had at least some reduction in WC patient volume in the past 2 years (providers were not queried about how much their WC patient volume had decreased). One-third of the providers in both surveys reported they intended to reduce the volume of injured workers they treat or stop treating injured workers altogether.

The findings of the 2008 provider survey summarized in this chapter, along with findings from the injured worker survey reported in the previous chapter, provide the basis for recommendations (presented in Chapter 4) to address problems and issues that affect the performance of the California WC system.

CHAPTER 4

SUMMARY AND RECOMMENDATIONS

SUMMARY OF SURVEY FINDINGS

This study, commissioned by the California Department of Industrial Relations, Division of Workers' Compensation (DWC) and conducted by researchers at the University of Washington (UW) School of Public Health, was designed to evaluate the adequacy of access to quality health care delivered to injured workers through the workers' compensation (WC) system in California. Like the 2006 study conducted by the Center for Health Policy Research at UCLA, this study was mandated by Labor Code (LC) section 5307.2, as added by SB 228, and included statewide surveys of injured workers and providers in 2008. In this chapter, we summarize key findings of the UW study and present recommendations for improving the performance of the California WC health care system.

Although the 2006 UCLA and 2008 UW surveys contained many similar questions, making it possible to assess changes over time, the 2008 study was designed somewhat differently. In addition to a provider survey, it included two injured worker surveys: (1) the All-Injury Worker Survey, and (2) the Back Disability Worker Survey. The All-Injury Worker Survey was designed to assess access to health care among the general population of injured workers. The Back Disability Worker Survey was designed to examine the effect of access barriers on work disability. This survey was conducted only among workers with back sprains/strains who had had at least one day of compensated time loss. The two worker surveys gathered information from injured workers via telephone interviews. Taken together, they provide a detailed assessment of the state of access to health care for injured workers in California in 2008 and the effect of access barriers on work disability.

All-Injury Worker Survey

Respondents in the All-Injury Worker Survey represented a diverse group of 508 injured workers; some needed relatively little care for their injuries (18% had only 1 day of treatment), others required more extensive treatment with multiple providers over several months or more (25% were treated for longer than 6 months). Respondents were interviewed 10-13 months after their injury (11 months on average). The adjusted response rate for this survey was 28.3%. Fifty-eight percent of the respondents were male, and close to 90% of those surveyed were either

Latino (45%) or white (42%). The most common injury category reported was sprain/strain/joint/disc injuries (48%).

Access

The All-Injury Worker Survey assessed a number of access indicators pertaining to travel distance, waiting time for appointments, delays or denials of care, language barriers, and other access problems in obtaining health care, specifically including physical or occupational therapy (PT/OT), specialty care and/or prescription medications. To simplify some of our analyses, we created a summary access indicator which enabled us to place survey respondents into one of two groups: (1) those workers who reported encountering one or more access barriers, and (2) those who did not encounter any access barrier. Selected key findings of the 2008 survey include:

- 9 out of 10 injured workers (89%) obtained initial care for their injury within 3 days of advising their employer about their injury
- 83% to 86% did not travel further to appointments than the MPN travel distance standard (15 miles or less to initial and main provider and 30 miles or less to specialist)
- Language barriers were reported infrequently (7%), but this may reflect the fact that persons who did not speak English or Spanish were excluded from the survey
- 10% of respondents reported barriers obtaining prescription medication, 21% reported problems accessing PT/OT, and 27% reported problems accessing specialist care (these percentages are based only on those respondents needing the health care service in question)
- 10% of respondents experienced delays or denials of care often or more frequently

Authorization delays were frequently cited as a major reason injured workers needing PT/OT or specialist care either did not receive such care or encountered problems accessing that care.

Almost half (47%) of injured workers reported experiencing one or more access barriers at some point during their treatment. These access barriers appear to be widely dispersed; we found little evidence of a meaningful pattern of differences in the frequency of access barriers among specific subgroups of injured workers.

Satisfaction, Quality, Recovery and Other Outcomes

Like the UCLA survey, we found workers' assessments of quality and satisfaction to be positive: 4 out of 5 respondents (80%) indicated they were satisfied or very satisfied with the care they received and a similar percentage (79%) believed the quality of that care was good to excellent. Our study included questions designed to elicit information about whether the care received by injured workers was consistent with occupational health best practices, as indicated, for example, by the worker's main provider talking about work status or when the worker could return to work. The findings were encouraging, revealing that care delivered to injured workers conformed in some measure with occupational health best practices in a great proportion of cases (ranging from 84% to 89% of the time, when applicable, for each of 4 OH best practices).

Less encouraging was the assessment of injured workers in regard to their recovery. At approximately 10 to 12 months after injury, over half (54%) of injured workers had failed to fully recover, and 1 out of 10 workers (12%) reported no improvement in their condition. Further, 1 out of 5 workers (21%) reported that their injury was still having a "big effect" on their life at the time of interview.

Approximately one quarter of respondents (24%) reported missing more than 30 days of work, but the great majority of workers (91%) were able to return to work at least temporarily. Our survey asked workers who had returned to work whether they had had an offer of job accommodation from their employer. Job accommodation is known to reduce work disability and help promote return to work.[1] Of particular concern, 39% of workers who returned to work at least temporarily and needed job accommodations indicated that necessary job accommodations were not made. Because injured workers who never returned to work were not asked if they were offered any job accommodation, this figure no doubt understates the extent to which the lack of job accommodation represents a barrier to return to work.

As part of our study, we examined the degree of excess "disability burden" for different groups of workers, for example, workers living in rural areas, workers less satisfied with their care, and workers encountering access barriers. Disability burden can be characterized in terms of aggregate (or sum) missed work days for a group of injured workers treated through the WC system. Other things being equal, one would expect the percent of cases represented by a given worker subgroup in a sample of workers to be similar to the percent of total missed work days for that specific subgroup. Excess disability burden would be indicated by a particular subgroup of workers (e.g., lower-income workers or workers who waited more than 3 days for initial care) having a greater percent of missed work days relative to the percent of cases in the sample represented by that subgroup. In general, we found that access barriers accounted for a good deal of excess disability burden. Injured workers who encountered any access barrier represented 47% of the sample but accounted for 74% of total missed work days—an excess disability burden of 27%.

The findings of our All-Injury Worker Survey suggest that access barriers play an important role in increasing missed work time and prolonging work disability. Our Back Disability Worker Survey provides further evidence of the importance of access barriers and their effect on work disability.

Back Disability Worker Survey

This survey gathered information from 493 injured workers with back sprains/strains and at least one day of compensated time loss. Workers were interviewed 2 to 6 months after their injury (90% within 2 to 4 months of injury). The adjusted response rate for this survey was 39.2%. Information gathered through the survey was then linked to administrative data on compensated time loss covering 6 months after the date of injury. The data set constructed from the survey allowed us to perform a series of statistical (regression) analyses to examine the effect of access barriers on work disability, measured in terms of compensated time loss days.

Respondents participating in this survey were similar in most respects to respondents in the All-Injury Worker Survey. Sixty-seven percent of the respondents were male and most were either Latino (47%) or white (39%). Three out of four injured workers (76%) saw a PT or OT, and 39% saw a specialist. Like injured workers in the All-Injury Worker Survey, the great majority of workers with back sprains/strains (more than 85%) received their health care through a MPN.

Access

The profile of access measures reported by respondents was similar to that reported by respondents in the All-Injury Worker Survey:

- 9 out of 10 injured workers (90%) obtained initial care for their injury within 3 days of advising their employer about their injury
- 82% to 86% did not travel further to appointments than the MPN travel distance standard (15 miles or less to initial and main provider and 30 miles or less to specialist)
- 11% to 29% reported encountering some problem accessing PT/OT care, specialist care or obtaining prescription medication (these percentages are based only on those respondents needing the health care service in question)
- 53% of respondents encountered at least one access barrier

Effect of access on work disability

Our analysis of access barriers encountered by injured workers with back sprains/strains reinforced our findings regarding disability burden. Workers who experienced one or more access barriers had, on average, approximately 17 more days of compensated time loss 6 months after injury, compared to workers who did not encounter these access barriers. On a relative basis, access barriers increased the duration of compensated time loss by approximately 60%, from 26 days to 43 days. Mitigating access barriers may help reduce work disability[2] and perhaps therefore improve workers' health and well being more generally.[3]

Our findings take on added importance when considered on a population basis. For California, we estimated that approximately 3.8 million potentially avoidable days of compensated time

loss, representing a cost of $349 million, may be incurred by workers encountering access barriers during the first year after their injury. Furthermore, we did not account for lost productivity or other indirect economic and social costs borne by injured workers or employers (e.g., out-of-pocket costs, mental health and family stressors, decrements to vocational and/or daily living functioning, training costs for replacement workers).[4,5] Had we done so, our estimate of the impact of access barriers would surely have been much larger. While one might challenge the precise size of our estimates, the results of our analysis imply that the impact of access barriers on work disability and associated economic costs are enormous.

Our findings make a compelling case for deliberative action, on both policy and programmatic levels, to develop strategies to mitigate access barriers that can prolong work disability. Such action could not only reduce work disability and promote improved health among injured workers, but could also save employers substantial WC costs that they now incur for potentially avoidable work disability.

Provider Survey

Another major component of our study was a provider survey that gathered data from 809 licensed providers via a mailed questionnaire (66 of these reported that they were no longer treating injured workers). The adjusted response rate for this survey was 28.2%. In 2008, the most important reasons providers gave for no longer treating injured workers were as follows:

- administrative burden-reporting requirements
- payment denials
- denial of treatment due to utilization review

The 743 providers who were participating in the WC system at the time of interview represented a diverse set of respondents, including MDs/DOs, chiropractors, acupuncturists, psychologists and podiatrists. The majority (54%) of providers overall were in solo practice, and 70% or more of chiropractors, acupuncturists and psychologists were in solo practice. Another important feature of provider practice revealed by our survey concerned providers' WC patient load. Over half (56%) of the providers reported treating 5 or fewer patients per week. Consistent with the

reports of injured workers, the great majority of providers indicated that, at least 75% of the time, they understood the physical and mental health demands of workers' jobs (74%) and discussed work status or return to work (71%). However, this was uneven across provider type, and only 44% of all current providers reported that they contacted the employer about modified work at least 75% of the time (when applicable).

Providers were asked whether they thought injured workers had adequate access to quality health care. Their assessments varied considerably. Overall, 45% of provider respondents agreed that injured workers had adequate access to quality health care, but only 12% of chiropractors and 14% of psychologists agreed with that statement. Further, almost all (96%) providers who reported that their WC patients experienced delays or denials of care sometimes or more often felt these delays or denials interfered with their patients' recovery at least sometimes.

Providers were also queried about the barriers that interfered with delivery of WC health care, about their intent to decrease participation in WC and about the factors related to that intent. Providers consistently rated delays and denials resulting from UR and administrative burden/paperwork related to UR as the most important barriers interfering with WC health care delivery. Other factors rated important included restrictiveness of ACOEM guidelines and the Medical Treatment Utilization Schedule (MTUS) and administrative burden/paperwork related to reporting requirements.

Ensuring that injured workers have adequate access to quality health care depends critically on the availability of providers and their willingness to treat injured workers. The information gathered by our survey in this regard raises significant concern. Over half (52%) of providers indicated that their WC patient volume had decreased in the past 2 years, and one-third (32%) reported that they intended to decrease WC volume or quit treating WC patients altogether. Of greater concern is the fact that 51% of orthopedic surgeons, a key provider group in the WC system, reported that they intended to decrease or quit treating WC patients. The Lewin Group conducted a recent (December 2008) study for DWC to analyze the impact of converting the physician fee schedule to a Resource-Based Relative Value Scale (RBRVS) system.[6] Using a RBRVS payment system would decrease payments for surgery by approximately 26% in a

budget-neutral model. If this version of a new payment system is adopted, orthopedic surgeons may reduce their WC patient volume or quit the WC system in even greater numbers, perhaps compromising the ability of injured workers to obtain needed surgical care.

We conducted regression analysis to identify the factors predictive of providers' intent to decrease or quit treating WC patients. Here again our analysis clearly showed the importance of factors related to administrative burden and UR-related delays and denials. But a number of other factors, including restrictiveness of treatment guidelines and issues related to payment and reimbursement, were also found to be predictive of provider intent to decrease or quit treating WC patients.

The general picture that emerges from our survey is one of provider dissatisfaction and frustration with the administrative aspects of the WC system. Many of the WC reforms enacted in the past 5 years were intended to control utilization and contain WC costs. These changes, though intended to preserve the viability of the WC system, may have come at a cost of increasing provider dissatisfaction with the WC system. There now appears to be a compelling need to take steps to address the seemingly high level of provider discontent, in order to ensure providers' continued willingness to participate in the WC system and provide high quality health care for injured workers.

Comparisons to 2006 UCLA Study Findings

Findings from the 2008 surveys did not provide much evidence for meaningful change in core access measures, positive or negative, since the initial 2006 study. We review key findings from comparisons between our 2008 surveys and the 2006 UCLA surveys below.

All-Injury Worker Survey

There is a fairly clear basis for comparison between the findings of the 2006 UCLA worker survey and those of the 2008 All-Injury Worker Survey. Although the timing of the two surveys was somewhat different and some individual questions differed, the overall study methodologies were equivalent and the samples were quite comparable in terms of sociodemographics (see

Exhibit 2.12 in Chapter 2). Despite the difference in timing (respondents in 2008 had somewhat less time to recover prior to being interviewed), the distribution of workers who reported full, partial, or no recovery in 2006 (45%, 45% and 10%) was very close to the respective percentages observed in 2008 (46%, 42% and 12%).

Regarding access to quality care and worker satisfaction with care, we observed no marked differences from 2006 to 2008, and the patterns of worker responses were very similar (see Exhibit 2.13 in Chapter 2).

- 88% of 2006 survey respondents received initial care within 3 days, compared with 89% of 2008 survey respondents.
- Initial care was within 15 miles for 86% of workers in both survey years, and main providers were within 15 miles for 82% of 2006 survey respondents and 83% of 2008 survey respondents.
- Specialist care was within 30 miles for 83% of 2006 survey respondents and 86% of 2008 survey respondents.
- Of those workers needing specialists, 92% saw a specialist in 2006 and 93% did so in 2008; and of those workers, 20% in 2006 and 23% in 2008 experienced difficulties in accessing that care.
- Of those workers needing PT/OT in 2006 or 2008, 95% received it in each year; and of those workers, 16% in 2006 and 17% in 2008 experienced difficulties in accessing those services.
- 78% of 2006 survey respondents were satisfied or very satisfied with their overall care, as compared with 80% of 2008 survey respondents.

While slightly higher proportions of workers interviewed in 2008 reported problems accessing PT/OT and specialty care, problems specifically related to obtaining authorization for care were less frequently reported. These differences are small and could be the result of random variation or a change in the structure of relevant questions from the earlier survey to the later survey. The

percentage of workers who experienced a language barrier in talking with their main provider was 3% in 2006 vs. 7% in 2008. More workers were interviewed in Spanish in 2008 (24% vs. 20% in 2006); however, more providers reported Spanish language capability in their offices in 2008 (66% vs. 51% in 2006).

Provider Survey

Although the 2008 provider survey was very similar to the earlier provider survey, there were some differences between the two surveys in the type and format of certain questions, and particularly in sampling procedures. The 2008 survey used a stratified sampling approach that yielded greater numbers of non-MDs/DOs than the 2006 survey. Due to such differences, limited conclusions can be drawn from the comparisons presented in this section.

We compared 2008 to 2006 findings on (1) provider perceptions of the adequacy of access to quality care for injured workers, (2) a decrease in patient volume in the past 2 years, and (3) intent to decrease WC patient volume or quit treating WC patients (see Exhibit 3.15 in Chapter 3). The comparisons showed no marked changes in these key measures. More than half of the surveyed providers continued to perceive access to quality care for injured workers as inadequate. In both surveys, 52% of providers reported a decrease in their WC patient volume in the past 2 years, and approximately one-third of the provider respondents reported intent to decrease WC volume or quit treating WC patients (35% in 2006, 32% in 2008).

A smaller proportion of acupuncturists reported a past decrease in WC patient volume in 2008 compared with 2006 (69% vs. 87%) but the opposite was true for podiatrists (38% vs. 25%). The 2006 study reported that acupuncturists were having trouble getting WC patients, getting into MPNs, and getting care authorized. In 2008, acupuncturists most frequently cited denial of treatment due to UR (33%) and ACOEM/MTUS being too restrictive (23%) as the most important reasons for past decreases in WC patient volume. The adoption of the MTUS incorporating the Acupuncture Medical Treatment Guidelines may have contributed to the change in past decreases in WC patient volume noted between the two surveys. However, there was essentially no change in the proportion of acupuncturists reporting intent to decrease volume or quit seeing WC patients from 2006 to 2008.

Primary care MDs/DOs were the only provider type observed to have a meaningful difference in intent to decrease or quit treating WC patients. Whereas 35% of primary care MDs/DOs reported intent to decrease or quit treating WC patients in 2006, 24% did so in 2008. It is possible that the fee increases for the 10 common E & M procedures, which most directly impacted primary care MDs/DOs, could have accounted for some of the observed change shown for this provider group.

RECOMMENDATIONS

Based upon the results of our surveys and analyses, we outline several recommendations (not in order of importance) for improving the performance of the California WC system. These recommendations are aimed at:

- Improving employer offer of job accommodations
- Improving the functioning of UR
- Reducing provider administrative burden
- Reducing language barriers
- Fostering quality improvement within MPNs
- Improving DWC-to-provider communication
- Developing a quality improvement research and policy agenda for the future

Employer Offer of Job Accommodations

The ability and willingness of employers to offer job accommodations to facilitate timely return to work is a critical factor in limiting work disability, promoting improved productivity and health outcomes for injured workers, and reducing employer WC costs. While small employers may face particular challenges in offering job accommodations, they stand to benefit significantly from facilitating return to work, since extended work disability results in increased WC premiums.

Recognizing the importance of return to work, DWC has already initiated public relations efforts to educate employers, especially small employers, about the importance of return to work. Such communications efforts should serve to promote greater awareness within the employer community of the importance of return to work and the role job accommodations can play in fostering it. In addition, DWC could develop incentives for employers, especially small employers, to develop job accommodation programs. This could involve the creation of a funding pool, for employers insured through the state fund and other employers insured by private WC carriers, to provide premium discounts for employers who develop and use job accommodation programs. In 2002, AB 749 added Labor Code section 139.48, which

established the Return to Work Program. This program, among other things, made funding available to employers to subsidize the costs of making workplace modifications up to certain limits. It also reimbursed employers for a portion of wages paid to workers who returned to modified or alternative work and the workers' compensation insurance premiums attributable to the sustained employment of a qualified injured worker. Subsequently, SB 899 removed the wage and premium reimbursement provisions and restricted funding for the workplace modifications to small employers. We believe employers should be strongly encouraged through education and communications efforts to offer job accommodations to injured workers when needed to facilitate return to work and should be given appropriate incentives to establish and maintain job accommodation programs.

Functioning of Utilization Review

Our injured worker and provider survey findings strongly and consistently pointed to problems in the way that UR is used to assess the appropriateness of care and to ensure that care conforms to treatment guidelines. Two key problems meriting attention are delays arising from UR and administrative burden associated with UR. Because our surveys were not designed to gather detailed information on the review process, we have limited information about these problems.

UR programs function under statute (LC section 4610) and regulations (Title 8, CCR, sections 9792.6 et seq.) that stipulate, among other things: (1) the amount of time within which UR decisions must be conveyed to the treating provider and (2) the availability of UR medical personnel if appeals of a denial are made. Our surveys did not gather information on the frequency of UR denials or on the appeal process. Further, we do not know how frequently claims adjusters/administrators send requests to UR. There is no specific regulatory requirement prescribing the specific procedures that should be subjected to UR, but claim adjustors are required to arrange for review by a physician if they feel a treatment request should be denied, delayed or modified in some way. In any case, both the earlier 2006 UCLA provider survey and our 2008 worker and provider surveys indicate a need to improve administrative processes related to the functioning of UR programs within the California WC system.

We offer a few ideas DWC may wish to consider to reduce delays and improve UR functioning. First, there is an obvious need for better and more detailed information regarding the functioning of UR, the efficiency of the UR review process, and the frequency and timing of UR appeals by the attending provider. This information could possibly be obtained through analysis of administrative data and/or qualitative data collection, including focus groups. The UR problems our survey respondents identified may actually reflect more general administrative problems with claims management/claims adjustment processes. Any study undertaken should clearly distinguish between problems arising from UR and problems resulting from claim adjusters performing claims management tasks.

Second, the efficiency of UR may be enhanced by using a "provider targeted" approach to UR. Prospective UR, which typically reviews all requests for a given procedure, is inefficient and often engenders widespread opposition from the provider community.[7] Further, it does little to advance the goal of quality improvement. Alternatively, in a targeted approach to UR, providers having few UR denials in a specified baseline period are given a waiver for prospective UR review but remain subject to retrospective audit to ensure that the volume of their requests has not increased and that there is no compromise in meeting specified UR criteria for appropriateness. The Washington State workers' compensation program has successfully adopted this approach to UR. It has lowered physician resistance to UR, contained administrative costs and, at the same time, helped to improve quality.[i] While DWC does not have the authority to implement this recommendation, it could initiate discussions with claim administrators, UR organizations, and physician groups to consider the idea. Ultimately, it would be up to claim administrators to make such a change in UR procedures.

Provider Administrative Burden

Although much of the provider discontent captured by our survey relates to UR, there also appears to be broader dissatisfaction with the general level of administrative burden imposed on providers. Physicians practicing in the U.S. function under an intolerable paperwork burden,

[i] Robert Malooly, Assistant Director, Insurance Services, Washington State Department of Labor & Industries, personal communication, May 18, 2009.

largely imposed by payers.[7] To the extent the WC system adds to this burden, it is not at all surprising that physicians and other providers would give voice to their frustration via our survey.

We recommend that DWC establish a task force comprised of appropriate stakeholder groups, including private insurance carriers, provider groups and business and labor representatives, to identify acceptable approaches for reducing the administrative burden imposed on providers participating in the WC system.

Language Barriers

Few workers (7%) identified language as presenting a barrier to care, but of the 17% of workers who stated they did not speak English well or at all, 27% reported having difficulty understanding their main provider due to language differences. We believe this to be an underestimate of the actual extent of language barriers because our surveys were limited to English or Spanish speakers (and, other than English, Spanish was the most commonly available language in the offices of the providers we surveyed). Both reporting a language barrier with the main provider and not speaking English well were associated with excess disability burden.

Under the California WC system, an injured worker not proficient in English is entitled to have an interpreter present (and paid for by the claims administrator) under limited conditions, including: (1) treatment visits arranged at the request of the employer, DWC Administrative Director, the Workers' Compensation Appeals Board or a workers' compensation administrative law judge (Labor Code section 4600(f)), (2) specified medical-legal evaluation examinations (Labor Code section 4620(c)), and (3) depositions, appeals board hearings and those settings in which the DWC Administrative Director determines it is reasonably necessary (Labor Code section 5811(b)). For injured workers not treated via an MPN, LC section 4600(c) confers the right to be treated by a physician of the worker's choice after 30 days from the date of injury, within a reasonable geographic area (further defined by Title 8, CCR, section 9780(h) to include primary language considerations). It is our understanding that there is no comparable language applying to workers treated via MPNs. This regulatory gap may have the effect of a higher

prevalence and systemic tolerance of language barriers for those workers treated via MPNs (the vast majority), compared with those who are not.

Workers who must see an MPN-based provider with whom they cannot communicate (directly or via office staff, onsite interpreters, or telephone services) should have access to language assistance services to ensure that appropriate care is provided and understood. In particular, new legislation could mandate that language assistance services be offered through MPNs as a condition of their participation in WC (similar in nature to requirements under Health and Safety Code section 1259 that acute care hospitals provide language assistance services when needed). Employers could be encouraged (or required) to inform injured workers of their rights to appropriate translation services (as a paid benefit of the WC system in particular circumstances), and to consider the language capabilities of providers in conjunction with the languages spoken by their employees when setting up MPNs.

We were unable to locate information on the DWC website about injured workers' rights to interpreters or to translated materials, and recommend this information be added. The DWC website does provide some information in Spanish; however the link to access that information is not very visible. Information is not provided in any languages other than Spanish on the website, and the addition of at least some information for languages common among California workers should be considered. All multilingual services provided by DWC (such as the availability of language assistance services at DWC offices and the central call center) should be publicized in a way that is accessible to those injured workers most in need of them. We also recommend that future surveys more specifically address language barriers in order to gain insight into the extent of this problem and its consequences.

Quality Improvement within MPNs

Much of the health care (85% or more) provided to injured workers is delivered through MPNs. Though MPNs currently may offer only limited formal organization to WC health care delivery, they may have under-recognized potential to serve as an organizational locus for improving both quality and injury prevention in the WC system. We offer several ideas in this regard.

Reducing work disability and improving health outcomes for injured workers will, among other things, require a change in provider-patient-employer interaction. The single step of improving provider communication with employers regarding return to work issues, particularly any necessary job modification, may promote improved work and health outcomes.[8] In addition, improved provider communication with injured workers (verbal and written) about proposed activity restrictions and treatment plans may foster recovery.[8] At a minimum, this would require some organized WC quality improvement and assurance programs that do not currently exist. MPNs would seem to be a natural focal point to begin considering how to advance this goal, but doing so would require the strong commitment and leadership of claim administrators, perhaps along with appropriate legislation. In the past claim administrators have been reluctant to take such initiative. If quality improvement in California WC is to be advanced, they will need to do so. MPNs could also potentially play a role in fostering injury prevention, by tailoring patient education and communication about occupational health and injury prevention to address the most serious, common and/or preventable threats to health and safety in the workplace.

DWC-to-Provider Communication

Data gathered by our provider survey indicate that many providers do not rely primarily on the DWC website for communication about WC issues or announcements. Given the choice, more providers stated they would prefer information be mailed or e-mailed to them instead. With this information in hand, the DWC should consider approaches for enhancing communication with providers. (DWC does e-mail information about regulatory changes, upcoming DWC events, and clarifications of policy to members of the public who have subscribed to their "newsline." However, it is not clear to what extent providers are aware of this option.) At a minimum, it would seem desirable to identify approaches to enhancing the utility of the DWC website as a mode of communication with providers. Further, the DWC website could also serve an educational and training function for providers, particularly in light of the many solo providers who each see few WC claimants (but collectively account for much of the WC care provided to injured workers).

Quality Improvement Research and Policy Agenda

Finally, we suggest that DWC develop a quality improvement agenda, building on the findings presented in this report. This will require a clear identification of priorities and goals for improving the future performance of the WC system, along with the development of an integrated research and policy agenda to assess approaches to best accomplish this aim.[9] Ample resources should be directed toward maintaining and fully utilizing DWC's highly valuable Workers' Compensation Information System (WCIS), in order to optimize the extraction of information relevant to such a policy agenda. Developing and maintaining a robust state-level data analysis and evaluation capacity that can support evidence-informed health policymaking[10] does require substantial investment of resources (and is often considered an unaffordable added cost).[11] However, experience suggests that such an investment pays important dividends in terms of improving the basis for sound health policy, enabling crucial program evaluation, and developing and continually improving effective programs that meet the health needs of injured workers.[9]

CONCLUSIONS

As a result of the three surveys and related analyses conducted for this study, we reached the following conclusions:

- There does not appear to have been much change from 2006 to 2008 in the level of access to quality care.
- Most (4 out of 5) injured workers were satisfied with their health care and rated their overall quality of health care good or better. In addition, between 84% and 89% of workers reported that their main provider performed each of 4 occupational health best practices.
- Over half (52%) of providers indicated that their WC patient volume had decreased in the past 2 years, and one-third (32%) reported that they intended to decrease WC volume or quit treating WC patients altogether. Administrative burden, UR-related delays and denials, restrictiveness of treatment guidelines, and issues related to payment and reimbursement, among other factors, were found to be predictive of provider intent to decrease or quit treating WC patients.
- There were important access barriers that appeared to increase work disability and costs; almost half (47%) of injured workers reported experiencing one or more access barriers at some point during their treatment. We conclude that access to quality care is not adequate and that there is both great need and great potential for improvement.
- On a population level, the excess work disability and costs related to access barriers are substantial—on the order of millions of lost work days and hundreds of millions of dollars in direct economic costs.
- We believe the aim of WC quality improvement can best be advanced by the prompt initiation of action steps to mitigate the access barriers that lead to potentially avoidable work disability and by the development of a research and policy agenda to further assess approaches to best accomplish this aim.

The recommendations made in this report are intended to encourage policy and programmatic discussion, further investigation, and development of action steps that could mitigate access barriers and improve the performance of California's workers' compensation system for injured workers, employers, health care providers and other system stakeholders. It would be appropriate for the Commission on Health and Safety and Workers' Compensation (responsible to evaluate and recommend improvements to the WC system) to provide resources for and play a leading role in this work, in partnership with the California Division of Workers' Compensation.

REFERENCES

REFERENCES

Chapter 1. Introduction and Background

[1] Kominski G, Pourat N, Roby D, Cameron M. *Access to Medical Treatment in the California Workers' Compensation System, 2006*. Los Angeles, CA: UCLA Center for Health Policy Research; 2006. http://www.dir.ca.gov/dwc/AccessMedTreatmentReport2006/AccessToMedicalTreatmentInCAWC2006.pdf.

[2] Kominski GF, Pourat N, Roby DH, Cameron ME. Return to work and degree of recovery among injured workers in California's Workers' Compensation system. *J Occup Environ Med.* 2008;50(3):296-305.

[3] Pourat N, Kominski G, Roby D, Cameron M. Satisfaction with care and perceptions of quality among injured workers in California's Workers' Compensation system. *J Occup Environ Med*. 2007;49(11):1249-56.

[4] Pourat N, Kominski G, Roby D, Cameron M. Physician perceptions of access to quality care in California's Workers' Compensation system. *J Occup Environ Med*. 2007;49(11):1249-56.

[5] California Medical Association (CMA). *Hostile to physicians, harmful to patients: the Workers' Compensation…reform?* July 2005. http://www.cmanet.org/upload/cma_workers_comp_report_102705.pdf.

[6] Wynn BO, Bergamo G, Shaw RN, Mattke S, Dembe A. *Medical Care Provided California's Injured Workers: An Overview of the Issues*. Santa Monica, CA: RAND Corporation; 2007. http://www.dir.ca.gov/chswc/CHSWC_MedCareProvidedCAIWs.pdf.

[7] Swedlow A, Ireland J. *Analysis of California Workers' Compensation Reforms, Part 2: Medical Provider Networks and Medical Benefit Delivery 2002-2007 Experience*. Oakland, CA: California Workers' Compensation Institute; December 2008. http://www.csci.org/research.

[8] Texas Department of Insurance. *Setting the Standard: An Analysis of the Impact of the 2005 Legislative Reforms on the Texas Workers' Compensation System, 2008 Results*. Texas Department of Insurance; December 2008. http://www.tdi.state.tx.us/reports/wcreg/documents/settingthestandard201.pdf.

[9] Texas Department of Insurance. *2008 Workers' Compensation Network Report Card Results*. Texas Department of Insurance, Workers' Compensation Research and Evaluation Group. http://www.tdi.state.tx.us/reports/report9.html.

[10] Texas Department of Insurance. Re*turn to Work Outcomes for Texas Injured Workers.* Texas Department of Insurance, Workers' Compensation Research and Evaluation Group; August 2007. http://www.tdi.state.us/reports/report9.html.

[11] Texas Department of Insurance. *2007 Workers' Compensation Network Report Care Results*. Texas Department of Insurance, Workers' Compensation Research and Evaluation Group. http://www.tdi.state.tx.us/reports/report9.html.

[12] Pennsylvania Department of Labor and Industry. *2007 Workers' Compensation Medical Access Study, Executive Overview.* http://www.dli.state.pa.us/landi/lib/landi/bwc/publications/exec_overview/executive_overview.pdf

Chapter 2. Injured Worker Surveys: Methodology and Findings

[1] Kominski G, Pourat N, Roby D, Cameron M. *Access to Medical Treatment in the California Workers' Compensation System, 2006*. Los Angeles, CA: UCLA Center for Health Policy Research; 2006. http://www.dir.ca.gov/dwc/AccessMedTreatmentReport2006/AccessToMedicalTreatmentInCAWC2006.pdf.

[2] Turner JA, Franklin G, Fulton-Kehoe D, Sheppard L, Stover B, Wu R, Gluck JV, Wickizer TM. ISSLS prize winner: Early predictors of chronic work disability: a prospective, population-based study of workers with back injuries. *Spine*. 2008;33(25):2809-2818.

[3] Rudolph L, Dervin K, Cheadle A, Maizlish N, Wickizer T. What do injured workers think about their medical care and outcomes after work injury? *J Occup Environ Med*. 2002;44(5):425-434.

[4] Fulton-Kehoe D, Gluck J, Wu R, Mootz R, Wickizer TM, Franklin GM. Measuring work disability: what can administrative data tell us about patient outcomes? *J Occup Environ Med*. 2007;49(6):651-658.

[5] Wickizer TM, Franklin G, Fulton-Kehoe D, Turner JA, Mootz R, Smith-Weller T. Patient satisfaction, treatment experience, and disability outcomes in a population-based cohort of injured workers in Washington State: implications for quality improvement. *Health Serv Res*. 2004;39(4, Pt 1):727-748.

[6] Sitzia J, Wood N. Patient satisfaction: a review of issues and concepts. *Soc Sci Med*. 1997;45(12):1829-1843.

[7] Dasinger LK, Krause N, Deegan LJ, Brand RJ, Rudolph L. Duration of work disability after low back injury: a comparison of administrative and self-reported outcomes. *Am J Ind Med*. 1999;35(6):619-31.

Chapter 3. Provider Survey: Methodology and Findings

[1] Kominski G, Pourat N, Roby D, Cameron M. *Access to Medical Treatment in the California Workers' Compensation System, 2006.* Los Angeles, CA: UCLA Center for Health Policy Research; 2006. http://www.dir.ca.gov/dwc/AccessMedTreatmentReport2006/AccessToMedicalTreatmentInCAWC2006.pdf.

[2] Pransky G, Benjamin K, Dembe AE. Performance and quality measurement in occupational health services: current status and agenda for further research. *Am J Ind Med*. 2001;40(3):295-306.

[3] Wickizer TM, Franklin G, Plaeger-Brockway R, Mootz RD. Improving the quality of workers' compensation health care delivery: the Washington State Occupational Health Services Project. *Milbank Q*. 2001;79(1):5-33.

[4] Druss BG, Miller CL, Pincus HA, Shih S. The volume-quality relationship of mental health care: does practice make perfect? *Am J Psychiatry*. 2004;161(12):2282-2286.

[5] Sears JM, Wickizer TM, Franklin GM, Cheadle AD, Berkowitz B. Nurse practitioners as attending providers for workers with uncomplicated back injuries: using administrative data to evaluate quality and process of care. *J Occup Environ Med*. 2007;49(8):900-908.

[6] Halm EA, Lee C, Chassin MR. Is volume related to outcome in health care? A systematic review and methodologic critique of the literature. *Ann Intern Med*. 2002;137(6):511-520.

[7] California Orthopaedic Association. A Report on Injured Workers' Access to Orthopaedic Surgeons and Other Physician Specialists in California. Sacramento, CA: California Orthopaedic Association; 2006.

[8] Verbeten N, Navarro F, Thompson J. Hostile to Physicians, Harmful to Patients. The Workers' Compensation. Reform? A Survey of Physicians by the California Medical Association. Sacramento, CA: California Medical Association Center for Economic Services; 2005.

[9] Wickizer TM, Lessler D. Utilization management: issues, effects, and future prospects. *Annu Rev Public Health*. 2002;23:233-54.

[10] Pourat N, Kominski G, Roby D, Cameron M. Physician perceptions of access to quality care in California's workers' compensation system. *J Occup Environ Med*. 2007;49(6):618-25.

Chapter 4. Summary and Recommendations

[1] Turner JA, Franklin G, Fulton-Kehoe D, Sheppard L, Stover B, Wu R, Gluck JV, Wickizer TM. ISSLS prize winner: Early predictors of chronic work disability: a prospective, population-based study of workers with back injuries. *Spine*. 2008;33(25):2809-2818.

[2] Dembe AE. Access to medical care for occupational disorders: difficulties and disparities. *J Health Soc Policy*. 2001;12(4):19-33.

[3] Fulton-Kehoe D, Gluck J, Wu R, Mootz R, Wickizer TM, Franklin GM. Measuring work disability: what can administrative data tell us about patient outcomes? *J Occup Environ Med*. 2007;49(6):651-658.

[4] Dembe AE. The social consequences of occupational injuries and illnesses. *Am J Ind Med.* 2001;40(4):403-417.

[5] Morse TF, Dillon C, Warren N, Levenstein C, Warren A. The economic and social consequences of work-related musculoskeletal disorders: the Connecticut Upper-Extremity Surveillance Project (CUSP). *Int J Occup Environ Health.* 1998;4(4):209-216.

[6] The Lewin Group, Inc. Adapting the RBRVS Methodology to the California Workers' Compensation Physician Fee Schedule (First Report, Revised). Prepared for the California Division of Workers' Compensation. December 19, 2008.

[7] Wickizer TM, Lessler D. Utilization management: issues, effects, and future prospects. *Annu Rev Public Health*. 2002;23:233-254.

[8] Pransky G, Shaw W, Franche RL, Clarke A. Disability prevention and communication among workers, physicians, employers, and insurers--current models and opportunities for improvement. *Disabil Rehabil.* 2004;26(11):625-634.

[9] Franklin GM, Wickizer TM, Fulton-Kehoe D, Turner JA. Policy-relevant research: When does it matter? *NeuroRx.* 2004;1(3):356-362.

[10] Jewell CJ, Bero LA. Developing good taste in evidence: facilitators and hindrances to evidence-informed health policy making in state government. *Milbank Q*. 2008;86(2):177-208.

[11] Wickizer TM, Mancuso D. Evaluation of an innovative Medicaid health policy initiative to expand substance abuse treatment in Washington State. (Unpublished paper).

Appendix A

[1]The American Association for Public Opinion Research. *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*. 5th ed. Lenexa, KS: AAPOR; 2008.

APPENDIX A

TECHNICAL APPENDIX

TECHNICAL APPENDIX

This appendix presents technical details of the survey and analytic methods that were omitted from the body of the report for brevity and readability. Where necessary for clarity, information presented in this appendix overlaps somewhat with information presented in the earlier methods sections.

Injured Worker Surveys

Survey Administration

The UW subcontracted with the Gilmore Research Group in Seattle, WA to conduct the telephone interviews. All phone interviews were conducted between May 2008 and July 2008. The UW mailed an initial contact letter and an information sheet containing background information in English and Spanish to potential respondents. Approximately 1-2 weeks later, an approximately 15 minute Computer Assisted Telephone Interview (CATI) was conducted by Gilmore Research Group in English or Spanish. Up to 15 call attempts were made and respondents' identity and eligibility were confirmed prior to beginning the interview. Address tracking was done using the USPS "return service requested" feature, and systematic multiple attempts to replace incorrect phone numbers were made using telephone information services. When necessary, a reminder letter was sent. Letters of appreciation and $15 checks to partially compensate for the time and effort involved in survey completion were mailed approximately 3-4 weeks after the survey was completed. DWC was not informed of which workers did and did not participate, and research data provided to DWC after the survey did not personally identify individual workers.

Survey Sampling and Response Rates: All-Injury Worker Survey

For this survey, DWC provided us with a sample of 4,000 claims selected at random from the 48,916 claims reporting a date of injury during the month of June 2007. This sample included all types of injuries, minor to extensive. Individuals known to be deceased and workers residing outside California were excluded from this sample. The sample was drawn on April 18, 2008. DWC research staff found the drawn sample to be comparable to all June 2007 claims regarding

age, gender, whether injured in rural or urban location, employment status, whether covered by a self-insured employer, intensity of initial treatment, part of body injured, cause of injury, and nature of injury.

This sample was randomly split into waves, and 986 were never contacted as they were not needed to reach the survey target of 500 eligible completed surveys, leaving a sample of 3,014. Of those 3,014 subjects, 56 were determined to be ineligible based on living or being injured outside California. Another 971 were ineligible because their contact information was missing or incorrect, despite additional postal service and phone number tracking. Among those located, a further 106 were ineligible due to hearing or language barriers (n=31), never having seen a medical provider for the injury (n=8), not recalling an injury or claim within the qualifying dates (n=65), or being deceased (n=2). The remaining 1,881 were either eligible or their eligibility status was unknown. We obtained 508 eligible surveys, 499 declined to participate or did not complete the survey, and we were unable to reach 874. The adjusted response rate was 28.3%.[i] (Response rates were calculated following AAPOR guidelines.[1]) The response rate reported for the 2006 worker survey was 35.1%. Both rates fall within typical ranges for workers' compensation-related surveys (discussed in detail in the 2006 UCLA report).

Survey A did not require weighting as it was based on a simple random sample of all WCIS claims filed for workers injured in June 2007. To verify that the sample was representative, we compared characteristics of eligible respondents to the entire sample of injured workers provided by DWC using variables reported in the WCIS claims database. We found that eligible respondents were comparable to the sample population identified for this survey regarding age, gender, whether injured in rural or urban location, employment status, whether covered by a self-insured employer, intensity of initial treatment, part of body injured, cause of injury, and nature of injury. (Although eligible respondents were older, the difference was very small, 40.4 years of age vs. 39.1; p=.02.)

[i] Some individuals were determined to be ineligible during telephone interview screening (90.5% were found eligible). The response rate was adjusted to account for the estimated eligibility rate of those not contacted.

Of the 508 eligible survey respondents, 93.1% did not refuse to answer any individual question. Only 1.6% refused to answer more than 1 question (maximum was 5). Individual item refusals were mostly spread out among the questions, with only 2 questions garnering more than a 1% refusal rate: 7 refused to answer the question on race/ethnicity (1.4%), and 24 refused to answer the question on income (4.7%).

Survey Sampling and Response Rates: Back Disability Worker Survey

DWC provided all 1,719 claims meeting the inclusion criteria for this survey. The sample was drawn in several stages between April 18, 2008 and June 16, 2008. Individuals known to be deceased and workers residing outside California were excluded from this sample. Injured workers qualified for inclusion in this survey if they had a back sprain or strain between December 1, 2007 and April 30, 2008, had received at least some temporary disability compensation, and their claim was managed by one of the 7 claim administrators (large insurance companies and/or third-party administrators) identified for this survey. The claim administrators were selected by DWC based on the quality of their reporting to WCIS and their willingness to cooperate with providing follow-up data on days of compensated time loss. The identities of the selected claim administrators were not revealed to the researchers. DWC research staff compared the sample provided to us to all claims that would have been included but for the identity of the claims administrator. DWC research staff found the sample to be comparable to the overall population regarding age, gender, whether injured in rural or urban location, employment status, and intensity of initial treatment. Although some of these factors were significant, the differences were small and not thought to be of concern.[ii] The lone exception was that only 12.7% of the sample was covered by a self-insured employer compared with 21.5% of the population ($p<0.01$). This was likely an artifact of relying on particular claims administrators; according to DWC, half of the claims selected came from claims administrators that were insurers (and therefore were not self-insured claims).

[ii] There was a statistically significant difference in average age, but the actual difference was very small (39.4 years of age for the sample vs. 40.1 for the population; $p=.02$). The sample was less likely to have been employed full-time at injury (79.6% vs. 83.2%, $p<.01$) and more likely to be employed part-time (16.8% vs. 13.6%, $p<.01$), but there was no difference for other employment categories.

This sample was randomly split into waves, and 97 were never contacted as they were not needed to reach the survey target of 500 eligible completed surveys, leaving a sample of 1,622. Of those 1,622 subjects, 28 were determined to be ineligible based on living or being injured outside California. Another 251 were ineligible because their contact information was missing or incorrect, despite additional postal service and phone number tracking. Among those located, a further 51 were ineligible due to hearing or language barriers (n=14), not recalling a back injury or claim within the qualifying dates (n=23), or not recalling receipt of any temporary disability payments (n=14). It was later determined that an additional 5 had not actually received temporary disability compensation and they were removed as ineligible. The remaining 1,287 were either eligible or their eligibility status was unknown. We obtained 493 eligible surveys, 291 declined to participate or did not complete the survey, and we were unable to reach 503. The adjusted response rate was 39.2%.[iii] (Response rates were calculated following AAPOR guidelines.[1]) This rate falls within typical ranges for workers' compensation-related surveys (discussed in detail in the 2006 UCLA report). This response rate was considerably better than the response rate for Survey A, most likely because of improved contact information. (These workers were contacted sooner after claim filing and had all received at least one temporary disability payment.)

The Survey B sample included all eligible injured workers during the qualifying timeframe, and did not require weighting. To verify that the sample was representative, we compared characteristics of eligible respondents to the entire sample of injured workers provided by DWC using variables reported in the WCIS claims database. We found that eligible respondents were comparable to the sample population identified for this survey regarding age, gender, whether injured in rural or urban location, employment status, whether covered by a self-insured employer, and intensity of initial treatment. Using 6-month follow-up data available for the entire sample, eligible respondents were more likely to have been on compensated time loss at 6 months after injury (25.4% vs. 19.3%; $p<.01$) relative to the sample population, and also had a higher average number of days of time loss at 6 months (60.6 days vs. 53.6 days; $p=.01$). It is possible that the differential in total compensated time loss days can be explained by the fact that

[iii] Some individuals were determined to be ineligible during telephone interview screening (93.9% were found eligible). The response rate was adjusted to account for the estimated eligibility rate of those not contacted.

workers who have received checks more recently are more likely to have usable contact information on file.

Of the 493 eligible survey respondents, 91.5% did not refuse to answer any individual question. Only 0.8% refused to answer more than 1 question (maximum was 5). Individual item refusals were mostly spread out among the questions, with only 2 questions garnering more than a 1% refusal rate: 8 refused to answer the question on race/ethnicity (1.6%), and 25 refused to answer the question on income (5.1%).

Provider Survey

Survey Administration

Providers selected for this survey were contacted by mail via an initial recruitment letter on UW letterhead. Included in the letter was an Information Sheet (content was essentially that of a consent form), a copy of the entire survey with a self-addressed stamped envelope and information regarding the option to respond online through a secure internet website. The letter introduced our study and its objectives, requested the provider's participation, and explained survey procedures and confidentiality protections. The letter also encouraged providers to contact the researchers through a toll-free number and email if they had further questions or did not wish to participate. A letter of appreciation and $20 check were mailed approximately 3-4 weeks after a completed survey was received, to partially compensate for the respondent's time and effort. No sooner than one month after the first survey packet was mailed, a reminder letter that included the same materials as the first survey packet was sent to those who had not yet returned the survey. We sent up to 3 reminder letters. We further aimed to improve response rates by using California's public state licensing database and the Internet to identify alternate addresses for those providers for whom we had incorrect/outdated addresses (as provided by DWC). Although DWC provided us with contact information for the sample, individually identifiable participation decisions or survey responses were not shared with DWC.

Survey Sampling

Providers in the eligible categories were identified by DWC staff using medical billing data contained in the WCIS database. DWC began collecting medical billing data in September 2006 for dates of service on or after September 22, 2006. However, the database does contain bills for earlier services that were optionally sent to WCIS by claim administrators or their agents (bills were not generally available for 2004 and earlier). Only providers with at least one bill for workers' compensation health care services in the WCIS database by November 27, 2007 (the sample download date) were identified for inclusion in the sample. Once a unique list of providers was identified, this list was linked to the California Department of Consumer Affairs public master licensing database by license number to obtain address information for the providers (provider addresses are not available in WCIS). Providers with out-of-state addresses and MDs/DOs with missing or excluded[iv] specialties were deleted.

From the resulting list of providers, DWC randomly (or completely, in the case of psychologists and podiatrists) sampled providers, stratified by type and volume as described below. Orthopedic surgeons were sampled as a provider type category distinct from other MDs/DOs. The sample was designed to include adequate numbers of each provider type of interest (orthopedic MDs/DOs, non-orthopedic MDs/DOs, chiropractors, acupuncturists, clinical psychologists, and podiatrists), with a goal of obtaining at least 100 eligible completed surveys from each type (and up to 300 non-orthopedic MDs/DOs). Response rate information from the 2006 iteration of this survey was used to determine the number to retain in the sample for each provider type. Although the survey was designed to capture adequate responses from each of the targeted provider types, it was not designed to provide representative samples with respect to the underlying population of such providers. The underlying provider population of providers who participate in the workers' compensation system has not been completely identified or enumerated, because of incomplete reporting to WCIS. However, at the time the sample was constructed, WCIS contained billing data for about half of the workers' compensation claims in the system (and WCIS captured an estimated 90% of workers' compensation claims).

[iv] DWC excluded MDs/DOs with specialties that were unlikely to act as the primary treating workers' compensation provider from the sample they provided to us (e.g., hospitalist, obstetrics/gynecology, pathology, pediatrics, radiology). However, providers who responded to the survey were not excluded if they reported such specialties and were otherwise eligible (i.e., did report treating workers' compensation claimants).

In order to ensure that both low and high volume providers were represented in the sample, DWC applied an algorithm to result in a 50:50 mix of high and low volume providers (high volume was calculated separately for each provider type; a high volume provider was in the 95th percentile or above of the number of claims in WCIS for 2007, based on bills submitted to workers' compensation claim administrators in 2007). This was not done in the case of psychologists and podiatrists; numbers were small, so we were sent the entire available sample. Whether a provider was considered high or low volume for this stage was not shared with us (so weights could not be applied), and we relied on provider self-reported volume for all volume-related analyses in this report.

Ultimately, DWC provided the UW research team with contact, license, and specialty information for a sample of 6,500 California licensed health care providers. The available sample consisted of 605 orthopedic MDs/DOs, 3,999 non-orthopedic MDs/DOs, 414 chiropractors, 320 acupuncturists, 627 clinical psychologists, and 535 podiatrists.

Survey Response Rates

Of the 6,500 providers in the sample provided by DWC, 3,299 were never contacted as they were not needed to meet the survey target (800 eligible completed surveys overall). We attempted to contact 3,201 providers: 520 orthopedic MDs/DOs, 1,130 non-orthopedic MDs/DOs, 400 chiropractors, 320 acupuncturists, 350 clinical psychologists, and 481 podiatrists. Of those 3,201 attempted contacts, 124 had no usable address, despite extensive attempts to locate current addresses via searches of the internet and the California Department of Consumer Affairs public licensing database, and use of the USPS "return service requested" feature. An additional 27 were ineligible because they were located outside California and 51 because they informed us they had not treated injured workers since 2003 (or in some cases ever). Three providers actively declined to participate. Six respondents returned incomplete, unusable surveys (only eligibility-related questions were answered, with the body of the survey left blank); these were classified as break-offs (refusals per AAPOR guidelines[1]). We received usable surveys from 809 eligible providers (749 returned paper surveys and 60 used the online option).

The adjusted response rate for this survey was 28.2%.[v] The response rate reported for the 2006 provider survey was 24.5%. Both rates fall within typical ranges for workers' compensation-related surveys (discussed in detail in the 2006 UCLA report). As in the first iteration of this survey, response rates were quite variable by provider type: 23.4% for orthopedic MDs/DOs, 21.5% for non-orthopedic MDs/DOs, 35.2% for chiropractors, 40.6% for acupuncturists, 35.4% for clinical psychologists, and 29.9% for podiatrists. There were no significant mean differences between the whole sample (N=6,500) and the subgroup of eligible respondents for number of years licensed (19.5 years for the whole sample, 20.1 years for eligible respondents) or urban/rural location (96.1% for the whole sample, 96.8% urban for eligible respondents). There were also no significant differences between the whole sample and the subgroup of eligible respondents in the distribution of major specialty group among non-orthopedic MDs/DOs.

In general, providers answered most questions pertaining to them. Of those who were no longer treating workers' compensation patients, 95% answered all relevant questions fully, and only 3 of 66 providers left blank any questions that should have been answered by all. Of those still treating workers' compensation patients, 82% answered all relevant questions fully, and 134 of 743 providers left blank any questions that should have been answered by all (with 75% of those leaving blank just 1 question). The differential in full response may be explained by the fact that there were many more questions for current providers to answer, resulting in a longer survey. Because this was a primarily a paper survey, reasons for not answering questions could include declining to answer, not knowing the answer, not understanding the question, or not believing the question to be relevant. There did not appear to be any highly sensitive or problematic questions; no individual question was skipped by more than 5% of the providers who should have answered it. For purposes of this report, we used the number of those who responded to the question (and who should have responded) as the denominator in calculating response category percentages for each item (i.e., we ignored the few missing responses).

[v] Some individuals were determined to be ineligible based on their survey responses (93.8% of those responding were found eligible). The response rate was adjusted to account for the estimated eligibility rate for those of unknown eligibility (those not contacted) based on the eligibility rate for those who responded.

Data Analysis

Predicted probability analyses: As described in Chapter 3, Exhibit 3.12 shows the predicted probability (from logistic regression models) of provider intent to decrease or quit treating WC patients by level of perceived interference of various barriers. The barriers are the same as those presented in Exhibit 3.8, except that we combined closely related barriers to simplify the analysis. When similar categories were combined, if a provider responded to only one of the sub-categories, we used that response for the combined category. If a provider responded to more than one of the sub-categories, we used the mean of those responses for the combined category. In general, responses to sub-categories within a combined category were highly correlated (we relied on both face validity and empirical correlations in deciding which categories to combine). Exhibit A.1 provides the crosswalk we used in combining these barriers.

Exhibit A.1: Response Category Crosswalk for Analysis of Probability of Intent to Decrease or Quit Treating Workers' Compensation Patients (as presented in Exhibit 3.12)

Combined Categories	Original Response Categories
Administrative burden/paperwork	Administrative burden/paperwork-reporting requirements Administrative burden/paperwork-billing Administrative burden/paperwork-UR
UR-related delays/denials	Delay in treatment due to UR Denial of treatment due to UR
Treatment guidelines too restrictive	ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive
Inadequate/discounted fee schedule	Inadequate physician fee schedule Discounting by WC MPNs
Payment late or denied	Payment received late Payment denials
Difficult claim adjusters/insurers	Difficult claim adjusters or insurers
Difficult employers	Difficult employers
Difficult patients	Difficult patients
Legal involvement	Legal involvement such as depositions, hearings, litigation
Unfamiliarity with WC laws/guidelines	Unfamiliar with workers' compensation laws and regulations Unfamiliar with the AMA Guides to the Evaluation of Permanent Impairment

Provider type and specialty: We assigned providers to their self-reported category, rather than the category provided to us by DWC (these two sources matched for 93% of providers). For most results reporting, we relied on 8 categories: (1) Occupational Medicine (MDs/DOs who listed occupational medicine as their primary area of specialization), (2) Primary Care (MDs/DOs who reported family medicine, internal medicine, emergency medicine, urgent care, or preventive medicine as their primary or secondary area of specialization, and who did not qualify for the occupational medicine or orthopedic surgery categories), (3) Orthopedic Surgery (MDs/DOs reporting orthopedic surgery as their primary or secondary area of specialization), (4) Other Specialties (all other MDs/DOs), (5) Chiropractor, (6) Acupuncturist, (7) Psychologist, and (8) Podiatrist. We used 7 categories when making comparisons with the 2006 provider survey, combining our Occupational Medicine and Other Specialties into a single category and combining their Other Surgical Specialties and Other Non-Surgical Specialties into a single category, resulting in fairly comparable categories. Coding for the specific category assignments was not identical across the 2 studies, but similar enough for rough comparison.

Rural/urban: Rural vs. urban location for purposes of assessing response rates was defined by linking provider zip codes (obtained from the California Department of Consumer Affairs public master licensing database) to Rural Urban Commuting Area (RUCA) codes (version 2.0; Categorization C).[vi] Rural vs. urban location for purposes of reporting respondents' practice location were defined using self-reported practice zip codes in combination with RUCA codes.

Geographic region: We used provider county information provided by DWC to locate providers within a geographic region of California, using the same county-to-region mapping as was done in the 2006 UCLA study, as follows:

- Northern and Sierra: Butte, Shasta, Humboldt, Del Norte, Siskiyou, Lassen, Trinity, Modoc, Mendocino, Lake, Tehama, Glenn, Colusa, Sutter, Yuba, Nevada, Plumas, Sierra, Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono and Alpine
- Greater Bay Area: Santa Clara, Alameda, Contra Costa, San Francisco, San Mateo, Sonoma, Solano, Marin, Napa

[vi] Rural Urban Commuting Area Codes (Version 2.0). WWAMI Rural Health Research Center. Available at: http://depts.washington.edu/uwruca/. Accessed March 26, 2009.

- Sacramento Area: Sacramento, Placer, Yolo, El Dorado
- San Joaquin Valley: Fresno, Kern, San Joaquin, Stanislaus, Tulare, Merced, Kings, Madera
- Central Coast: Ventura, Santa Barbara, Santa Cruz, San Luis Obispo, Monterey, San Benito
- Los Angeles: Los Angeles
- Other Southern California: Orange, San Diego, San Bernardino, Riverside, Imperial

APPENDIX B

INJURED WORKER SURVEY QUESTIONS

INJURED WORKER SURVEY QUESTIONS

[ASK Q1 AND Q2 OF NON-TD SAMPLE ONLY - TD SAMPLE SKIP TO Q3.]

Q1. For the rest of this survey, please answer all questions for your {INJMONTH} {INJYEAR} injury. Which parts of your body were injured? [IF NEEDED, READ. CHECK ALL THAT APPLY]

1. Back or neck
2. Hand, arm, wrist, elbow, shoulder, or finger
3. Hip, leg, knee, foot, toes
4. Head or face
5. Skin
6. Eyes
7. Emotional or mental stress
8. Lungs, heart, or other internal organ(s)
9. Chest/abdomen
10. SOME OTHER PART OF BODY (SPECIFY:) Q1OTH: _____
98. DON'T KNOW
99. REFUSED

Para el resto de la encuesta, por favor responda por la lesión ocurrida en {INJMONTH} del {INJYEAR}. ¿Cuáles partes de su cuerpo fueron lesionadas*? [IF NEEDED, READ. CHECK ALL THAT APPLY]*

1. Espalda o cuello
2. Mano, brazo, muñeca, codo, hombro, o dedo
3. Cadera, pierna, rodilla, pie, dedos del pie
4. Cabeza o cara
5. Piel
6. Ojos
7. Estrés mental o emocional
8. Pulmones, corazón, u otro organo interno
9. Pecho/abdomen
10. OTRAS PARTES DEL CUERPO (ESPECIFICAR:) Q1OTH: _____
98. NO SABE
99. REHUSÓ

Q2. What kind of injury was it? [IF NEEDED, READ. CHECK ALL THAT APPLY] [PROBE ONCE: "Anything else?"]

1. Sprain, strain, or other muscle or joint injury (not repetitive motion e.g., a pulled muscle, twisted ankle)
2. A repetitive stress injury (e.g. tennis elbow, carpal tunnel syndrome)
3. A broken bone
4. A scrape, cut, skin rash, bruise, or swelling
5. An eye injury
6. A burn
7. Exposure to chemicals or toxic materials
8. Emotional or mental stress
9. SOME OTHER KIND OF INJURY (SPECIFY:) Q2OTH: _____
98. DON'T KNOW
99. REFUSED

¿Qué tipo de lesión fue? *[IF NEEDED, READ. CHECK ALL THAT APPLY] [PROBE ONCE: "¿Algo más?"]*

1. Torcedura, esguince, o cualquier otra lesión a un musculo o coyuntura (no por movimientos repetitivos. e.j. torcedura de tobillo)
2. Lesión por estrés repetitivo (ej. codo de tenista, síndrome del túnel carpiano)
3. Hueso roto
4. Raspadura, cortada, sarpullido en la piel, moretón (contusión en la piel), o hinchazón
5. Lesión en el ojo
6. Quemadura
7. Expuesto a quimicos o materias toxicas
8. Estrés mental o emocional
9. OTRO TIPO DE LESIÓN (ESPECIFICAR:) *Q2OTH: _____*
98. NO SABE
99. REHUSÓ

[ASK Q3 OF TD SAMPLE ONLY - NON-TD SAMPLE SKIP TO Q4]

Q3. For the rest of this survey, please answer all questions for your {INJMONTH} {INJYEAR} injury. Within the first week after you were injured, did your back injury cause pain, numbness, or tingling that traveled down your leg?

1. YES
2. NO
98. DON'T KNOW
99. REFUSED

Para el resto de la encuesta, por favor conteste todas las preguntas sobre su lesión de {INJMONTH} del {INJYEAR}. Dentro de la primera semana después de que se lesionó, ¿sintió dolor, adormecimiento o cosquilleo que recorrió su pierna a causa de su lesión de espalda?

1. SÍ
2. NO
98. NO SABE
99. REHUSÓ

Q4. Approximately how many total visits did you have to any health provider for this injury? Was it

1. 1-3
2. 4-9
3. 10 or more visits
98. DON'T KNOW
99. REFUSED

¿Aproximadamente cuántas visitas en total hizo a cualquier proveedor de cuidado médico por esta lesión? Era

1. 1-3
2. 4-9
3. 10 o más visitas
98. NO SABE
99. REHUSÓ

Q5. Next, I'll ask about the health care you received for this injury. Thinking back to the very first time you got health care for this injury, how soon after you told your employer about your injury did you first see a health care provider? [IF NEEDED, READ]

1. Same day [SKIP TO Q8]
2. Within 1 to 3 days [SKIP TO Q8]
3. Within 4 to 6 days
4. Within 1 to 4 weeks
5. More than 4 weeks
6. Saw provider before told employer
98. DON'T KNOW [SKIP TO Q8]
99. REFUSED [SKIP TO Q8]

A continuación, me gustaría preguntarle sobre la atención médica que recibió para esta lesión. Pensando en la primera vez que usted buscó atención médica para esta lesión, ¿cuánto tiempo después que le informó a su empleador sobre su lesión vio usted por primera vez a un proveedor de cuidado médico? *[IF NEEDED, READ]*

1. El mismo día [SKIP TO Q8]
2. Dentro de 1 a 3 días [SKIP TO Q8]
3. Dentro de 4 a 6 días
4. Dentro de 1 a 4 semanas
5. Más de 4 semanas
6. Vio un proveedor antes de informarle al empleador
98. NO SABE [SKIP TO Q8]
99. REHUSÓ [SKIP TO Q8]

Q6. Did you want to be seen sooner?

1. YES
2. NO [SKIP TO Q8]
98. DON'T KNOW [SKIP TO Q8]
99. REFUSED [SKIP TO Q8]

¿Quiso usted ser visto más pronto?

1. SÍ
2. NO [SKIP TO Q8]
98. NO SABE [SKIP TO Q8]
99. REHUSÓ [SKIP TO Q8]

Q7: What were the reasons for the delay? [DO NOT READ: choose all that apply]

1. Provider had no readily available appointments
2. Problems getting to provider (e.g., far away, no way to get there)
3. Problems finding a provider who would take workers' compensation patients
4. Didn't know which provider to contact/didn't have provider's contact information
5. Employer would not authorize visit or allow taking time off work
6. Didn't have time to go earlier/had scheduling conflicts
7. SOMETHING ELSE (SPECIFY:) Q7OTH: _____
98. DON'T KNOW
99. REFUSED

¿Cuáles fueron las razones por la demora? *[DO NOT READ: escoja todos los que aplican]*

1. El proveedor no tuvo citas fácilmente disponibles
2. Problemas en llegar al proveedor (ej., muy lejos, ninguna manera de llegar)
3. Problemas en encontrar un proveedor que tomara pacientes de compensación de trabajadores
4. No sabía que proveedor contactar/no tenía la información de contacto para el proveedor
5. El empleador no autorizaba la visita ni permitía que tomara tiempo libre de trabajo
6. No tuve tiempo de ir antes/tenía conflictos de agenda
7. Otra cosa Q7OTH: _____
98. NO SABE
99. REHUSÓ

Q8. How far did you have to travel to get to this first visit? [READ LIST]

1. 0 to 5 miles
2. 6 to 10 miles
3. 11 to 15 miles
4. 16 to 30 miles
5. 31 to 60 miles
6. More than 60 miles
98. DON'T KNOW
99. REFUSED

¿Qué distancia tuvo que viajar para llegar a esta primer visita? *[READ LIST]*

1. 0 a 5 millas
2. 6 a 10 millas
3. 11 a 15 millas
4. 16 a 30 millas
5. 31 a 60 millas
6. Más de 60 millas
98. NO SABE
99. REHUSÓ

Q9. After this first visit, did you have any additional visits to any health care provider for this injury?

1. YES [SKIP TO Q11]
2. NO
98. DON'T KNOW [SKIP TO Q11]
99. REFUSED [SKIP TO Q11]

¿Después de esta primera visita, tuvo visitas adicionales a cualquier proveedor de cuidado médico por esta lesión?

1. SÍ [SKIP TO Q11]
2. NO
98. NO SABE [SKIP TO Q11]
99. REHUSÓ [SKIP TO Q11]

Q10. Why did you have no further visits for this injury? [DO NOT READ: choose all that apply]

1. Felt better/have recovered
2. My provider said I didn't need follow-up care/not to return
3. Am doing exercises, self-care, own treatment, etc.
4. Providers tried everything/ran out of treatment options/health care unhelpful
5. Don't want the recommended treatment
6. Unable to find a provider
7. Inconvenient/too much trouble/couldn't get to a provider/no transportation
8. Employer or insurer won't authorize additional care
9. Claim denied
10. Claim closed
11. Claim settled
12. Other reason Q10OTH: _____
98. DON'T KNOW
99. REFUSED [SKIP TO Q17 regardless of response]

¿Por qué no tuvo más visitas para esta lesión? *[DO NOT READ: escoja todos los que aplican]*

1. Me sentí mejor/me he recuperado
2. Mi proveedor dijo que no necesitaba cuidado de seguimiento/que no volviera
3. Estoy haciendo ejercicios, cuidado personal, tratamiento propio, etc.
4. Los proveedores trataron todo/agotaron las opciones de tratamiento/el cuidado médico fue inútil
5. No quise el tratamiento recomendado
6. No pude encontrar un proveedor
7. Inconveniente/demasiados problemas/no podía llegar al proveedor/no transportación
8. El empleador o aseguranza no autoriza cuidado adicional
9. El reclamo fue negado
10. El reclamo se cerró
11. El reclamo fue resuelto
12. Otra razón Q10OTH: _____
98. NO SABE
99. REHUSÓ [SKIP TO Q17 regardless of response]

Q11. Are you still receiving health care for this injury?

1. YES [SKIP TO Q14]
2. NO
98. DON'T KNOW [SKIP TO Q14]
99. REFUSED [SKIP TO Q14]

¿Está todavía recibiendo atención médica para esta lesión?

1. SÍ [SKIP TO Q14]
2. NO
98. NO SABE [SKIP TO Q14]
99. REHUSÓ [SKIP TO Q14]

Q12. Why are you no longer receiving health care for this injury? [DO NOT READ: choose all that apply]

1. Felt better/have recovered
2. My provider said I didn't need follow-up care/not to return
3. Am doing exercises, self-care, own treatment, etc.
4. Providers tried everything/ran out of treatment options/health care unhelpful
5. Don't want the recommended treatment
6. Unable to find a provider
7. Inconvenient/too much trouble/couldn't get to a provider/no transportation
8. Employer or insurer won't authorize additional care
9. Claim denied
10. Claim closed
11. Claim settled
12. Other reason Q12OTH: _____
98. DON'T KNOW
99. REFUSED

¿Por qué ya no está recibiendo cuidado médico para esta lesión? *[DO NOT READ: escoja todos los que aplican]*

1. Me sentí mejor/me he recuperado
2. Mi proveedor dijo que no necesitaba cuidado de seguimiento/que no volviera
3. Estoy haciendo ejercicios, cuidado personal, tratamiento propio, etc.
4. Los proveedores trataron todo/agotaron las opciones de tratamiento/el cuidado médico fue inútil
5. No quise el tratamiento recomendado
6. No pude encontrar un proveedor
7. Inconveniente/demasiados problemas/no podía llegar al proveedor/no transportación
8. El empleador o aseguranza no autoriza cuidado adicional
9. El reclamo fue negado
10. El reclamo se cerró
11. El reclamo fue resuelto
12. Otra razón Q12OTH: _____
98. NO SABE
99. REHUSÓ

Q13. How long did you receive health care for this injury? [IF NEEDED: How much time elapsed between the first time you received health care for this injury and the last time you received care?]

Q13D: ___ # days Q13W: ___ # weeks Q13M: ___ # months
98. DON'T KNOW
99. REFUSED

¿Por cuánto tiempo estuvo recibiendo atención médica por esta lesión*? (IF NEEDED: ¿Cuánto tiempo pasó entre la primera y la última vez que usted recibió atención médica?)*

Q13D: ___ # días Q13W: ___ # semanas Q13M: ___ # meses
98. NO SABE
99. REHUSÓ

Q14. Now let's talk about the health care provider MOST INVOLVED in your care for this injury. Please do not include physical or occupational therapists who may have helped you. Was the provider who was MOST INVOLVED the same as the first provider you saw?

1. YES (the same) [SKIP TO Q17]
2. NO (a different provider)
98. DON'T KNOW
99. REFUSED

Ahora hablemos acerca del proveedor de cuidado médico MÁS INVOLUCRADO en su cuidado por esta lesión. Por *favor no incluya los fisioterapeutas o terapeutas ocupacionales. ¿Fue el proveedor que estuvo MÁS INVOLUCRADO el primer proveedor que vio?*

1. SÍ (el mismo) *[SKIP TO Q17]*
2. NO (proveedor diferente)
98. NO SABE
99. REHUSÓ

Q15. What kind of provider was <u>most involved</u> in your care? A…[READ LIST]?

1. Medical doctor or osteopath
2. Chiropractor
3. Nurse practitioner or physician assistant
4. Acupuncturist
5. Psychologist
6. Podiatrist
7. Dentist
8. Optometrist
9. Someone else (Specify:) Q15OTH: _____

98. DON'T KNOW
99. REFUSED

¿Qué clase de proveedor estuvo <u>más involucrado</u> en su cuidado? Un*…[READ LIST]?*

1. Médico u osteópata
2. Quiropráctico
3. Enfermera practicante o asistente médico (profesional licenciado en el cuidado médico)
4. Acupunturista
5. Psicólogo
6. Podiatra
7. Dentista
8. Optometrista
9. Otro (Especifique:) *Q15OTH:* _____
98. NO SABE
99. REHUSÓ

Q16. How far did you have to travel to get to this provider? [READ LIST]

1. 0 to 5 miles
2. 6 to 10 miles
3. 11 to 15 miles
4. 16 to 30 miles
5. 31 to 60 miles
6. More than 60 miles
98. DON'T KNOW
99. REFUSED [SKIP TO Q18 regardless of response]

¿Qué distancia tuvo que viajar para llegar a este proveedor? *[READ LIST]*

1. 0 a 5 millas
2. 6 a 10 millas
3. 11 a 15 millas
4. 16 a 30 millas
5. 31 a 60 millas
6. Más de 60 millas
98. NO SABE
99. REHUSÓ *[SKIP TO Q18 regardless of response]*

Q17. What kind of health care provider did you see for that first visit? Was he or she a…[READ LIST]?

1. Medical doctor or osteopath
2. Chiropractor
3. Nurse practitioner or physician assistant
4. Acupuncturist
5. Psychologist
6. Podiatrist
7. Dentist
8. Optometrist
9. Someone else (Specify:) Q17OTH: _____
98. DON'T KNOW
99. REFUSED

¿Qué tipo de proveedor de cuidado médico vio usted en esa primera visita? Fue él o ella un*…[READ LIST]?*

1. Médico u osteópata
2. Quiropráctico
3. Enfermera practicante o asistente médico (profesional licenciado en el cuidado médico)
4. Acupunturista
5. Psicólogo
6. Podiatra
7. Dentista
8. Optometrista
9. Otro (Especifique:) *Q17OTH:* _____
98. NO SABE
99. REHUSÓ

Q18. How well did this provider seem to understand the physical and mental demands of your job? Was it…[READ LIST]?

1. Very well
2. Fairly well
3. Not very well
4. Not at all
98. DON'T KNOW
99. REFUSED

¿Qué tan bien parecía comprender este proveedor las demandas físicas y mentales de su trabajo? Diría usted que*…[READ LIST]*

1. Muy bien
2. Bien
3. No muy bien
4. Nada en absoluto
98. NO SABE
99. REHUSÓ

Q19. Did this provider talk to you about whether or not you needed any work restrictions, or changes in your job or the way you do your job, so you could continue working or return to work? [IF NEEDED: "such as reduced hours or changed work layout or equipment?"] IF NO: **"Were work restrictions needed for your injury? Y/N"**

1. Yes
2. No
3. No, not needed for my injury
98. DON'T KNOW
99. REFUSED

¿Le habló este proveedor acerca de si usted necesita o no algunas restricciones o cambios en su trabajo o en el modo en que usted desempeña su trabajo, para que pueda continuar trabajando, o regresar a su trabajo? *[IF NEEDED: "cómo reducir horas o cambiar su colocación en el trabajo o con el equipo"] SI NO****: "¿Necesitó restricciones o cambios en su trabajo por su lesión? SÍ/NO"***

1. Sí
2. No
3. No, no lo necesité para mi lesión
98. NO SABE
99. REHUSÓ

Q20. Did this provider tell you how to avoid re-injury? [IF NO: "Was telling you how to avoid re-injury needed? Y/N"]

1. Yes
2. No
3. No, not needed for my injury
98. DON'T KNOW
99. REFUSED

¿Le dijo este proveedor cómo evitar lesionarse de nuevo? *[IF NO: "¿Fue necesario que le dijeran como prevenir que se lesione nuevamente? S/N"]*

1. Sí
2. No
3. No, no lo necesité para mi lesión
98. NO SABE
99. REHUSÓ

Q21. Did this provider talk to you about your work status or when you could return to work?

1. YES
2. NO
98. DON'T KNOW
99. REFUSED

¿Habló con Ud. este proveedor acerca de su estado laboral o cuando podría regresar a trabajar?

1. SÍ
2. NO
98. NO SABE
99. REHUSÓ

Q22. How satisfied are you with the care and treatment you received from this provider? Are you…[READ LIST]?

1. Very satisfied
2. Satisfied
3. Dissatisfied
4. Very dissatisfied
98. DON'T KNOW/DON'T HAVE AN OPINION
99. REFUSED

¿Qué tan satisfecho está usted con el cuidado y tratamiento que recibió de este proveedor? ¿Está usted*…[READ LIST]?*

1. Muy satisfecho
2. Satisfecho
3. Insatisfecho
4. Muy insatisfecho
98. NO SABE/NO TIENE OPINIÓN
99. REHUSÓ

Q23. The last time you saw this provider, did you have a hard time understanding him or her because you and the provider spoke different languages?

1. YES
2. NO
98. DON'T KNOW
99. REFUSED

¿La última vez que usted vio a este proveedor tuvo dificultad para entenderle porque usted y el proveedor hablaban idiomas diferentes?

1. SÍ
2. NO
98. NO SABE
99. REHUSÓ

Q24. Did you ever see a physical or occupational therapist for this injury?

1. YES [SKIP TO Q27]
2. NO
98. DON'T KNOW [SKIP TO Q29]
99. REFUSED [SKIP TO Q29]

¿Alguna vez vio a un fisioterapeuta o terapeuta ocupacional para esta lesión?

1. SÍ [SKIP TO Q27]
2. NO
98. NO SABE [SKIP TO Q29]
99. REHUSÓ [SKIP TO Q29]

Q25. Thinking of all the health care providers you saw for this injury, did any provider ever say you needed to see a physical or occupational therapist?

1. YES
2. NO [SKIP TO Q29]
98. DON'T KNOW [SKIP TO Q29]
99. REFUSED [SKIP TO Q29]

Pensando en todos los proveedores que usted vio para esta lesión, ¿algún proveedor le dijo a usted que necesitaba ver a un fisioterapeuta o terapeuta ocupacional?

1. SÍ
2. NO [SKIP TO Q29]
98. NO SABE [SKIP TO Q29]
99. REHUSÓ [SKIP TO Q29]

Q26. What was the <u>primary</u> reason you didn't see a physical or occupational therapist? [READ ONLY IF NEEDED]

1. Didn't think I needed it
2. Employer or insurance company would not authorize it
3. Problems scheduling an appointment (e.g. delay)
4. Problems getting to provider (e.g., far away, no way to get there)
5. Provider wouldn't take Workers' Compensation patients
6. SOMETHING ELSE (SPECIFY:) Q26OTH: _____
98. DON'T KNOW
99. REFUSED [SKIP TO Q29]

¿Cuál fue la razón <u>principal</u> que no vio a un fisioterapeuta o terapeuta ocupacional? *[READ ONLY IF NEEDED]*

1. No creí que lo necesitaba
2. El empleador o la compañía de seguros no lo autorizó
3. Dificultad en fijar una cita (ej.demora)
4. Dificultad en llegar al proveedor (ej. muy lejos, no tengo modo de llegar)
5. Proveedor no aceptaba pacientes de Compensación de Trabajadores
6. OTRA COSA (ESPECIFIQUE:) Q26OTH: _____
98. NO SABE
99. REHUSÓ [SKIP TO Q29]

Q27. Did you ever have any problem getting in to see a physical or occupational therapist for this injury?

1. YES
2. NO [SKIP TO Q29]
98. DON'T KNOW [SKIP TO Q29]
99. REFUSED [SKIP TO Q29]

¿Alguna vez tuvo problemas para visitar un fisioterapeuta o terapeuta ocupacional para esta lesión?

1. SÍ
2. NO [SKIP TO Q29]
98. NO SABE [SKIP TO Q29]
99. REHUSÓ [SKIP TO Q29]

Q28. What was the problem? [READ ONLY IF NEEDED. CHECK ALL THAT APPLY] [PROBE ONCE: "Anything else?"]

1. Employer or insurance company would not authorize it
2. Delay in getting authorization
3. Problems scheduling an appointment (e.g. delay)
4. Problems getting to provider (e.g., far away, no way to get there)
5. Provider wouldn't take Workers' Compensation patients
6. Couldn't find a provider I was satisfied with
7. SOMETHING ELSE (SPECIFY:) Q28OTH: _____
98. DON'T KNOW
99. REFUSED

¿Cuál fue el problema? *[READ ONLY IF NEEDED. CHECK ALL THAT APPLY] [PROBE ONCE: "¿Alguna otra cosa?"]*

1. El empleador o la compañía de seguros no lo autorizaba
2. Demora en obtener autorización
3. Dificultad en fijar una cita (e.j.demora)
4. Dificultad en llegar al proveedor (ej. muy lejos, ninguna manera de llegar)
5. Proveedor no aceptaba pacientes de Compensación de Trabajadores
6. No pude encontrar un proveedor con que estuve satisfecho
7. OTRA COSA (ESPECIFIQUE:) Q28OTH: _____
98. NO SABE
99. REHUSÓ

Q29. Did you ever see a specialist for this injury? [IF NEEDED: a provider in a specialty different from the provider you were seeing at the time]

1. YES [SKIP TO Q32]
2. NO
98. DON'T KNOW [SKIP TO Q35]
99. REFUSED [SKIP TO Q35]

¿Alguna vez vio a un especialista para esta lesión? *[IF NEEDED: un proveedor de una especialidad diferente a la del proveedor que usted veía en ese entonces]*

1. SÍ *[SKIP TO Q32]*
2. NO
98. NO SABE *[SKIP TO Q35]*
99. REHUSÓ *[SKIP TO Q35]*

Q30. Thinking of all the health care providers you saw for this injury, did any provider ever say you needed to see a specialist? [IF NEEDED: a provider in a specialty different from the provider you were seeing at the time]

1. YES
2. NO [SKIP TO Q35]
98. DON'T KNOW [SKIP TO Q35]
99. REFUSED [SKIP TO Q35]

Pensando en todos los proveedores que usted visitó para esta lesión, ¿algún proveedor le dijo alguna vez que necesitaba ver a un especialista? *[IF NEEDED: un proveedor de una especialidad diferente a la del proveedor que usted veía en ese entonces]*

1. SÍ
2. NO *[SKIP TO Q35]*
98. NO SABE *[SKIP TO Q35]*
99. REHUSÓ *[SKIP TO Q35]*

Q31. What was the <u>primary</u> reason you didn't see a specialist? [READ ONLY IF NEEDED]

1. Didn't think I needed it
2. Employer or insurance company would not authorize it
3. Problems scheduling an appointment (e.g. delay)
4. Problems getting to provider (e.g., far away, no way to get there)
5. Provider wouldn't take Workers' Compensation patients
6. SOMETHING ELSE (SPECIFY:) Q31OTH: _____
98. DON'T KNOW
99. REFUSED [SKIP TO Q35]

¿Cuál fue la razón <u>principal</u> que no vio a un especialista? *[READ ONLY IF NEEDED]*

1. No creí que lo necesitaba
2. El empleador o la compañía de seguros no lo autorizaba
3. Dificultad en fijar una cita (e.j. demora)
4. Dificultad en llegar al proveedor (e.j. muy lejos, ninguna manera de llegar)
5. Proveedor no acepta pacientes con Compensación de Trabajo
6. ALGO MÁS (ESPECIFIQUE:) *Q31OTH: _____*
98. NO SABE
99. REHUSÓ *[SKIP TO Q35]*

Q32. Did you ever have any problem getting in to see any specialist for this injury?

1. YES
2. NO [SKIP TO Q34]
98. DON'T KNOW [SKIP TO Q34]
99. REFUSED [SKIP TO Q34]

¿Alguna vez tuvo dificultad para ver a un especialista para esta lesión?

1. SÍ
2. NO *[SKIP TO Q34]*
98. NO SABE *[SKIP TO Q34]*
99. REHUSÓ *[SKIP TO Q34]*

Q33. What was the problem? [READ ONLY IF NEEDED. CHECK ALL THAT APPLY] [PROBE ONCE: "Anything else?"]

1. Employer or insurance company would not authorize it
2. Delay in getting authorization
3. Problems scheduling an appointment (e.g., delay)
4. Problems getting to provider (e.g., far away, no way to get there)
5. Provider wouldn't take Workers' Compensation patients
6. Couldn't find a provider I was satisfied with
7. SOMETHING ELSE (SPECIFY:) Q33OTH: _____
98. DON'T KNOW
99. REFUSED

¿Cuál fue el problema*? [READ ONLY IF NEEDED. CHECK ALL THAT APPLY] [PROBE ONCE: "¿Alguna otra cosa?"]*

1. El empleador o la compañía de seguros no lo autorizó
2. Demora en obtener autorización
3. Dificultad en fijar una cita (e.j.demora)
4. Dificultad en llegar al proveedor (e.j. muy lejos, no hay modo de llegar)
5. Proveedor no acepta pacientes con compensación de trabajo
6. No pude encontrar un proveedor con que estuve satisfecho
7. OTRA COSA (ESPECIFIQUE:) Q33OTH: _____
98. NO SABE
99. REHUSÓ

Q34. How far did you have to travel to get to the specialist you saw most often? [IF NEEDED: "If you saw different specialists equally as often, please respond for the one you saw most recently."]

1. 0 to 5 miles
2. 6 to 10 miles
3. 11 to 15 miles
4. 16 to 30 miles
5. 31 to 60 miles
6. More than 60 miles
98. DON'T KNOW
99. REFUSED

¿Qué distancia tuvo que viajar para llegar al especialista que vio con frecuencia? *[IF NEEDED: "Si usted vio a diferentes especialistas con la misma frecuencia, por favor responda por el que vio más recientemente."]*

1. 0 a 5 millas
2. 6 a 10 millas
3. 11 a 15 millas
4. 16 a 30 millas
5. 31 a 60 millas
6. Más de 60 millas
98. NO SABE
99. REHUSÓ

Q35. Did you ever get prescription medication for this injury?

1. YES [SKIP TO Q38]
2. NO
98. DON'T KNOW [SKIP TO Q41]
99. REFUSED [SKIP TO Q41]

¿Alguna vez obtuvo medicamento recetado para esta lesión?

1. SÍ [SKIP TO Q38]
2. NO
98. NO SABE [SKIP TO Q41]
99. REHUSÓ [SKIP TO Q41]

Q36. Thinking of all the health care providers you saw for this injury, did any provider ever write you a prescription or recommend prescription medication for this injury?

1. YES
2. NO [SKIP TO Q41]
98. DON'T KNOW [SKIP TO Q41]
99. REFUSED [SKIP TO Q41]

Pensando en todos los proveedores médicos que usted vio para esta lesión, ¿algún proveedor le recetó o recomendó medicamento recetado para esta lesión?

1. SÍ
2. NO [SKIP TO Q41]
98. NO SABE [SKIP TO Q41]
99. REHUSÓ [SKIP TO Q41]

Q37. What was the <u>primary</u> reason you didn't get the medication? [READ ONLY IF NEEDED]

1. Didn't want to take the medication/ Didn't think I needed it
2. Employer or insurance company would not authorize it
3. Delay in getting authorization from employer or insurance company
4. Problems getting to pharmacy (e.g., far away, no way to get there)
5. Pharmacy wouldn't take Workers' Compensation/Hard to find pharmacy that would take Workers' Comp
6. Lost the prescription
7. SOMETHING ELSE (SPECIFY:) Q37OTH: _____
98. DON'T KNOW
99. REFUSED [SKIP TO Q41]

¿Cuál fue la razón <u>principal</u> que no obtuvo el medicamento? *[READ ONLY IF NEEDED]*

1. No quería tomar el medicamento /No creí que lo necesitaba
2. El empleador o compañia de seguros no lo autorizaba
3. Demora en obtener autorización del empleador o compañía de seguros
4. Dificultad en llegar a la farmacia (e.j. muy lejos, ninguna manera de llegar)
5 La farmacia no aceptaba compensación de trabajadores/Dificil de encontrar una farmacia que aceptara compensación de trabajadores
6. Perdió la receta
7. OTRA COSA (ESPECIFIQUE:) Q37OTH: _____
98. NO SABE
99. REHUSÓ [SKIP TO Q41]

Q38. Did you ever have any problem filling a prescription for this injury?

1. YES
2. NO [SKIP TO Q40]
98. DON'T KNOW [SKIP TO Q40]
99. REFUSED [SKIP TO Q40]

¿Alguna vez tuvo dificultad en surtir una receta para esta lesión?

1. SÍ
2. NO [SKIP TO Q40]
98. NO SABE [SKIP TO Q40]
99. REHUSÓ [SKIP TO Q40]

Q39. What was the problem? [READ ONLY IF NEEDED. CHECK ALL THAT APPLY] [PROBE ONCE: "Anything else?"]

1. Employer or insurance company would not authorize it
2. Delay in getting authorization from employer or insurance company
3. Problems getting to pharmacy (e.g., far away, no way to get there)
4. Pharmacy wouldn't take Workers' Compensation/Hard to find pharmacy that would take Workers' Comp
5. Lost the prescription
6. SOMETHING ELSE (SPECIFY:) Q39OTH: _____
98. DON'T KNOW
99. REFUSED

¿Cuál fue el problema*? [READ ONLY IF NEEDED. CHECK ALL THAT APPLY] [PROBE ONCE: "¿Alguna otra cosa?"]*

1. El empleador o compañia de seguros no lo autorizó
2. Demora en obtener autorización del empleador o compañía de seguros
3. Dificultad para llegar a la farmacia (e.j. muy lejos, no hay modo de llegar)
4. La farmacia no aceptaba compensación de trabajadores/Dificil de encontrar una farmacia que aceptara compensación de trabajadores
5. Perdió la receta
6. OTRA COSA (ESPECIFIQUE:) Q39OTH: _____
98. NO SABE
99. REHUSÓ

Q40. When a provider recommended prescription medication for this injury, where did you usually get the medication? [READ ONLY IF NEEDED]

1. Pharmacy
2. Provider's office
3. Some other place (e.g., online, from Canada/Mexico)
98. DON'T KNOW
99. REFUSED

Cuándo un proveedor recomendaba un medicamento recetado para esta lesión, ¿normalmente de dónde conseguía el medicamento? *[READ ONLY IF NEEDED]*

1. Farmacia
2. Oficina del proveedor
3. Otro lugar (e.j. por internet, desde Canadá/México)
98. NO SABE
99. REHUSÓ

Q41. Since you were injured, how often did you experience delays or denials of care?

1. Never or almost never [SKIP TO Q43]
2. Sometimes
3. Often
4. Always or almost always
98. DON'T KNOW [SKIP TO Q43]
99. REFUSED [SKIP TO Q43]

Desde que se lesionó, ¿con qué frecuencia sufrió demoras o negaciones de cuidado médico?

1. Nunca o casi nunca [SKIP TO Q43]
2. A veces
3. Frecuentemente
4. Siempre o casi siempre
98. NO SABE [SKIP TO Q43]
99. REHUSÓ [SKIP TO Q43]

Q42. How often did these delays or denials of care interfere with your recovery?

1. Never or almost never
2. Sometimes
3. Often
4. Always or almost always
98. DON'T KNOW
99. REFUSED

¿Con qué frecuencia interfirieron estas demoras o negaciones de cuidado médico con su recuperación?

1. Nunca o casi nunca
2. A veces
3. Frecuentemente
4. Siempre o casi siempre
98. NO SABE
99. REHUSÓ

Q43. Was the health care for your injury provided within a Workers' Compensation Medical Provider Network? [IF NEEDED: A Medical Provider Network, or MPN, is a group of health care providers used by some employers to treat workers injured on the job. Your employer or Workers' Compensation insurer may have given you a list of MPN providers after you were injured.]

1. YES
2. NO
98. DON'T KNOW
99. REFUSED

¿Fue el cuidado médico para su lesión proporcionado dentro de una Red de Proveedores Médicos de Compensación de Trabajadores? *[IF NEEDED: Una Red de Proveedores Medicos o MPN es un grupo de proveedores de asistencia médica utilizados por algunos empleadores para atender a trabajadores que se lesionan en el trabajo. Su empleador o compañía de seguros de Compensación de Trabajadores le puede haber dado una lista de proveedores médicos de la MPN después de haberse lesionado.]*

1. SÍ
2. NO
98. NO SABE
99. REHUSÓ

Q44. Overall, would you say the quality of the health care you received for this injury was [READ LIST]?

1. Excellent
2. Very good
3. Good
4. Fair
5. Poor
98. DON'T KNOW/DON'T HAVE AN OPINION
99. REFUSED

En general, ¿diría usted que la calidad de asistencia médica que recibió para su lesión fue *[READ LIST]?*

1. Excelente
2. Muy buena
3. Buena
4. Regular
5. Mala
98. NO SABE/NO TIENE OPINION
99. REHUSÓ

Q45. Now overall, how satisfied are you with all of the health care you received for this injury? Are you…[READ LIST]?

1. Very satisfied
2. Satisfied
3. Dissatisfied
4. Very dissatisfied
98. DON'T KNOW/DON'T HAVE AN OPINION
99. REFUSED

En general, ¿qué tan satisfecho está usted con todo el cuidado médico que recibió por esta lesión? Está usted*…[READ LIST]?*

1. Muy satisfecho
2. Satisfecho
3. Insatisfecho
4. Muy insatisfecho
98. NO SABE/NO TIENE OPINION
99. REHUSÓ

Q46. Which of the following best describes how you feel about your recovery from this injury? [READ LIST]

1. I am fully recovered, back to feeling the way I did before the injury
2. I've recovered some, but there is still room for improvement
3. There has been no improvement in my condition since I was first injured
98. DON'T KNOW
99. REFUSED

¿Cuál de las siguientes frases mejor describe de mejor manera lo que Ud. opina de su recuperación*? [READ LIST]*

1. Me he recuperado completamente y ahora me siento como me sentía antes de sufrir la lesión.
2. Me he recuperado un poco, pero aun puedo mejorar.
3. No ha habido ninguna mejoria en mi condición desde que sufrí la lesión.
98. NO SABE
99. REHUSÓ

Q47. How much does this injury affect your life today? [READ LIST]

1. Has a big effect now
2. Has a moderate effect
3. Has very little effect
4. Has no effect now
98. DON'T KNOW
99. REFUSED

¿Qué tanto afecta esta lesión su vida en la actualidad*? [READ LIST]*

1. Tiene un gran efecto actualmente
2. Tiene un efecto moderado
3. Tiene muy poco efecto
4. No tiene ningun efecto actualmente
98. NO SABE
99. REHUSÓ

Q48. Did you or do you now have an attorney for this Workers' Compensation claim?

1. YES
2. NO
98. DON'T KNOW
99. REFUSED

¿Tuvo, o tiene ahora usted un abogado para este reclamo de Compensación al Trabajador?

1. SÍ
2. NO
98. NO SABE
99. REHUSÓ

Q49. Now I have some questions about your work. Have you worked for pay in the last two weeks? [NOTE: INCLUDES PAID VACATION]

1. YES [SKIP TO Q53]
2. NO
98. DON'T KNOW [SKIP TO Q52]
99. REFUSED [SKIP TO Q52]

Ahora tengo algunas preguntas sobre su trabajo. ¿Ha trabajado por paga en las últimas dos semanas? *[NOTE: INCLUDES PAID VACATION]*

1. SÍ [SKIP TO Q53]
2. NO
98. NO SABE [SKIP TO Q52]
99. REHUSÓ [SKIP TO Q52]

Q50. Is that because of this injury, some other health condition, or for some other reason?

1. Because of this injury [SKIP TO Q52]
2. Because of some other health condition [SKIP TO Q52]
3. Because of some other reason
98. DON'T KNOW
99. REFUSED [SKIP TO Q52]

¿Es por esta lesión o por otro problema de salud, o por otra razón?

1. Por esta lesión [SKIP TO Q52]
2. Por otro problema de salud [SKIP TO Q52]
3. No trabaja por otra razón
98. NO SABE
99. REHUSÓ [SKIP TO Q52]

Q51. What is the reason you are not currently working? [DON'T READ]

1. Retired
2. Laid off
3. Fired
4. Quit
5. Going to school/college/training
6. Taking care of family
7. Don't currently choose to work
8. Some other reason Q51OTH:_____
98. DON'T KNOW
99. REFUSED

¿Cuál es la razón que no está trabajando actualmente?

1. Retirado
2. Descansado
3. Despedido
4. Renunció
5. Voy a la escuela/colegio/entrenamiento
6. Cuido de la familia
7. No elijo trabajar actualmente
8. Otra razón Q51OTH:_____
98. NO SABE
99. REHUSÓ

Q52. Have you returned to work, even for a few days, since this injury?

1. YES
2. NO [SKIP TO Q60]
98. DON'T KNOW [SKIP TO Q60]
99. REFUSED [SKIP TO Q60]

¿Ha regresado a trabajar por lo menos unos días desde esta lesión?

1. SÍ
2. NO [SKIP TO Q60]
98. NO SABE [SKIP TO Q60]
99. REHUSÓ [SKIP TO Q60]

Q53. How soon after your injury did you first go back to work, including modified or light duty? [PROBE USING DATE OF INJURY, CALENDAR, ETC.] [NOTE: ENTER 0 DAYS FOR RESPONSES SUCH AS: NEVER MISSED WORK, WENT RIGHT BACK TO WORK, ETC.]

Q53D: ___ # days Q53W: ___ # weeks Q53M: ___ # months
98. DON'T KNOW
99. REFUSED

¿Qué tan pronto después de su lesión regresó a trabajar por primera vez, incluyendo trabajo modificado o ligero*? [PROBE USING DATE OF INJURY, CALENDAR, ETC.] [NOTE: ENTER 0 DAYS FOR RESPONSES SUCH AS: NEVER MISSED WORK, WENT RIGHT BACK TO WORK, ETC.]*

Q53D: ___ # days Q53W: ___ # weeks Q53M: ___ # months
98. NO SABE
99. REHUSÓ

Q54. When you first went back to work after this injury, did you return to the same or to a different employer?

1. Same employer
2. Different employer
98. DON'T KNOW
99. REFUSED

Cuando regresó a trabajar por primera vez después de esta lesión, ¿regresó al mismo empleador o a uno diferente?

1. Al mismo empleador
2. A un empleador diferente
98. NO SABE
99. REHUSÓ

Q55. Did you miss ADDITIONAL work after you first returned because of this injury?

1. YES
2. NO [SKIP TO Q57]
98. DON'T KNOW [SKIP TO Q57]
99. REFUSED [SKIP TO Q57]

¿ Perdió usted trabajo ADICIONAL a causa de esta lesión después de haber regresado por primera vez?

1. SÍ
2. NO [SKIP TO Q57]
98. NO SABE [SKIP TO Q57]
99. REHUSÓ [SKIP TO Q57]

Q56. About how many total days did you miss from work because of this injury, not including time missed due to health care appointments. [PROBE USING DATE OF INJURY, CALENDAR, ETC.] [NOTE: DAYS MISSED IS ACTUAL DAYS, NOT SUM OF REDUCED HOURS]

Q56D: ___ # days Q56W: ___ # weeks Q56M: ___ # months
98. DON'T KNOW
99. REFUSED

Aproximadamente, ¿cuántos días de trabajo perdió usted en total por causa de esta lesión? No incluya el tiempo perdido por citas médicas. [*PROBE USING DATE OF INJURY, CALENDAR, ETC.] [NOTE: DAYS MISSED IS ACTUAL DAYS, NOT SUM OF REDUCED HOURS]*

Q56D: ___ # days Q56W: ___ # weeks Q56M: ___ # months
98. NO SABE
99. REHUSÓ

Q57. Did you or your employer change your job, work environment, or work hours to help you return to work after your injury? [IF NO: "Were changes or work restrictions needed for your injury? Y/N"]

1. Yes
2. No
3. No, not needed for my injury
98. DON'T KNOW
99. REFUSED

¿Cambió usted o su empleador su trabajo, su ambiente de trabajo, u horas de trabajo para ayudarle a regresar al trabajo después de su lesión? *[IF NO: "¿Necesitó cambios o restricciones en su trabajo por su lesión? SÍ/NO"]*

1. Sí
2. No
3. No, no lo necesité por mi lesión
98. NO SABE
99. REHUSÓ

Q58. Compared with your earnings prior to your injury, do you [READ LIST]

1. Earn a lot less now than before the injury
2. Earn a little less now than before the injury
3. Earn more now than before the injury [SKIP TO Q60]
4. Earn about the same [SKIP TO Q60]
98. DON'T KNOW [SKIP TO Q60]
99. REFUSED [SKIP TO Q60]

Comparado con sus ganancias antes de su lesión, Usted *[READ LIST]*

1. Gana mucho menos ahora que antes de la lesión
2. Gana un poco menos ahora que antes de la lesión
3. Gana más ahora que antes de la lesión [SKIP TO Q60]
4. Gana casi igual [SKIP TO Q60]
98. NO SABE [SKIP TO Q60]
99. REHUSÓ [SKIP TO Q60]

Q59. Is this decrease in earnings due to the injury?

1. YES
2. NO
98. DON'T KNOW
99. REFUSED

¿Es esta disminución en ganancias debido a la lesión?

1. SÍ
2. NO
98. NO SABE
99. REHUSÓ

Q60. Now I have a few background questions and then we'll be done. ARE YOU MALE OR FEMALE? [CODE OR ASK IF NEEDED]

1. MALE
2. FEMALE
99. REFUSED/NO ANSWER

Ahora, solo faltan unas preguntas acerca de usted, y luego terminamos. *¿USTED ES HOMBRE O MUJER? [CODE OR ASK IF NEEDED]*

1. HOMBRE
2. MUJER
99. REHUSÓ

Q61. Which one or more of the following would you use to describe yourself…[READ LIST]? [CHECK ALL THAT APPLY]

1. White
2. Latino or Hispanic
3. Black or African American
4. Asian
5. American Indian or Alaska Native
6. Native Hawaiian
7. Other Pacific Islander
8. Other (Specify:) Q61OTH: _____
98. DON'T KNOW
99. REFUSED

¿Cuál o cuales de los siguientes usaría usted para describirse*…[READ LIST]? [CHECK ALL THAT APPLY]*

1. Blanco
2. Latino o Hispano
3. Negro o Afro Americano
4. Asiático
5. Indio Americano o Nativo de Alaska
6. Nativo de Hawaii
7. Otro Isleño del Pacífico
8. Otro (Especifique:) Q61OTH: _____
98. NO SABE
99. REHUSÓ [IF ENGLISH INTERVIEW, ASK Q62. IF SPANISH INTERVIEW, SKIP TO Q63]

Q62. Is English your primary language?

1. YES [SKIP TO Q64]
2. NO
98. DON'T KNOW
99. REFUSED

Q63. Would you say you speak English…[READ LIST]?

1. Very well
2. Well
3. Not well
4. Not at all
98. DON'T KNOW
99. REFUSED

¿Diría usted que habla inglés*…[READ LIST]?*

1. Muy bien
2. Bien
3. No muy bien
4. Nada en absoluto
98. NO SABE
99. REHUSÓ

Q64. What is your best estimate of your <u>total annual</u> income from all sources <u>before taxes</u> at the time of your injury? Please include wages, salaries, income from investments or your own business, Workers' Comp. payments, Social Security, SSI, and any other sources [READ LIST, IF NEEDED]. [IF NEEDED**: "Include only your own income. Do not include income from other household members."]**

1. Less than $10,000
2. $10,000 to less than 15,000
3. $15,000 to less than 25,000
4. $25,000 to less than 35,000
5. $35,000 to less than 50,000
6. $50,000 to less than 75,000
7. $75,000 or more
98. DON'T KNOW
99. REFUSED

Aproximadamente, ¿cuál fue el <u>total</u> de los ingresos <u>anuales</u> de todos los recursos antes de impuestos en el momento de su lesión? Por favor incluya salarios, ganancias de inversiones o de su propio negocio, pagos de Compensación al Trabajador, Seguro Social, SSI y cualquier otro recurso *[READ LIST, IF NEEDED] [IF NEEDED:* ***"Incluya solamente sus ingresos. No incluya los ingresos de otros miembros de su hogar."]***

1. Menos de $10,000
2. $10,000 a menos de 15,000
3. $15,000 a menos de 25,000
4. $25,000 a menos de 35,000
5. $35,000 a menos de 50,000
6. $50,000 a menos de 75,000
7. $75,000 o más
98. NO SABE
99. REHUSÓ

Q65. What is the highest grade or year of school you completed? [IF NEEDED, READ]

1. Grade 0-8 or less (less than high school/grade 9)
2. Grades 9-11 (some high school)
3. Grade 12 or GED (high school graduate)
4. College 1-3 yrs (some college, technical school, AA degree)
5. College graduate (4 yrs) (BA, BS)
6. Post-grad work or degree (MA, Master's, MD, JD, PHD, etc)
98. DON'T KNOW
99. REFUSED

¿Cuál es el grado más alto de escuela que usted ha completado? *[IF NEEDED, READ]*

1. Grado 0 – 8 o menos (menos de high school/escuela secundaria)
2. Grados del 9 al 11 (algo de high school/escuela secundaria)
3. Grado 12 o GED (graduado de high school/escuela secundaria)
4. Colegio de 1 a 3 años (algo de colegio o escuela tecnica, diplomado en AA)
5. Graduado de la universidad (4 años) (BA, BS)
6. Haciendo o titulado con un postgrado (MA, Maestria, MD, JD, PHD)
98. NO SABE
99. REHUSÓ

APPENDIX C:

EXHIBITS FOR ALL-INJURY WORKER SURVEY

Exhibit C.1: Associations between Selected Characteristics and Access Barriers (Survey A, N=508)

	Any access barrier		Delays/denials of care		Long travel distance		Problem obtaining medication, PT/OT or specialist care	
Characteristic	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**
Sex		NS		NS		NS		NS
Male	47%		20%		22%		24%	
Female	48%		24%		20%		27%	
Age[a]		<.01		NS		NS		.02
18–30	37%		17%		17%		18%	
31–45	46%		23%		22%		24%	
≥ 46	55%		23%		23%		32%	
Race/ethnicity		NS		NS		NS		.05
White	48%		23%		23%		30%	
Latino/Hispanic	47%		22%		19%		20%	
Other	47%		17%		24%		26%	
Language of interview		NS		NS		NS		NS
English	45%		22%		21%		26%	
Spanish	53%		21%		21%		22%	
English fluency		.03		NS		NS		NS
Not spoken well or at all	57%		20%		23%		21%	
Well or very well	45%		22%		21%		26%	
Worker's annual pre-injury income		NS		NS		NS		NS
< $15,000	56%		21%		23%		29%	
$15,000–$34,999	45%		21%		21%		22%	
$35,000–$49,999	37%		22%		19%		20%	
≥ $50,000	50%		27%		19%		31%	
Education		NS		NS		NS		NS
< Grade 12	56%		17%		22%		22%	
High school diploma	46%		19%		23%		25%	
Some college	46%		24%		20%		24%	
College degree or post grad	42%		25%		20%		29%	

Exhibit C.1: Associations between Selected Characteristics and Access Barriers (Survey A, N=508) (Continued)

	Any access barrier		Delays/denials of care		Long travel distance		Problem obtaining medication, PT/OT or specialist care	
Characteristic	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**
Type of injury		NS		<.01		NS		<.01
Sprain/strain/joint/disc	51%		27%		19%		32%	
Repetitive stress injury	45%		30%		24%		21%	
Cut/bruise/swelling/rash	35%		8%		19%		10%	
Other	47%		19%		23%		22%	
Multiple	55%		21%		34%		24%	
Body part injured		<.01		<.01		.05		NS
Back/neck	51%		37%		18%		31%	
Upper extremity	42%		18%		20%		23%	
Lower extremity	39%		15%		16%		24%	
Other	43%		10%		19%		15%	
Multiple	66%		32%		33%		34%	
Attorney involved		<.01		<.01		<.01		<.01
Yes	87%		57%		45%		58%	
No	41%		17%		17%		20%	
Full-time employee[a]		NS		NS		NS		NS
Yes	46%		22%		20%		26%	
No	51%		20%		23%		27%	
Self-insured employer[a]		NS		NS		NS		NS
Yes	43%		18%		20%		21%	
No	49%		23%		21%		27%	
Care provided within MPN		NS		NS		NS		NS
Yes	46%		21%		20%		24%	
No	51%		22%		31%		31%	
Unknown	62%		31%		28%		38%	
Injured in rural area[a]		NS		NS		NS		NS
Yes	50%		20%		30%		23%	
No	47%		22%		20%		25%	

Note: P-values based on Chi^2 test of independence.
[a] Obtained from administrative claims data provided by DWC.

Exhibit C.2: Associations between Selected Characteristics and Overall Quality and Satisfaction Ratings (Survey A, N=508)

	Good/excellent quality of care		Satisfied with care	
Characteristic	**%**	**p-value**	**%**	**p-value**
Sex		NS		.02
Male	79%		76%	
Female	79%		84%	
Age[a]		NS		NS
18–30	79%		80%	
31–45	78%		82%	
≥ 46	80%		76%	
Race/ethnicity		NS		.02
White	84%		82%	
Latino/Hispanic	75%		75%	
Other	80%		89%	
Language of interview		.02		<.01
English	81%		82%	
Spanish	72%		71%	
English fluency		NS		NS
Not spoken well or at all	75%		73%	
Well or very well	80%		81%	
Worker's annual pre-injury income		NS		NS
< $15,000	79%		80%	
$15,000–$34,999	80%		79%	
$35,000–$49,999	76%		80%	
≥ $50,000	83%		83%	
Education		NS		NS
< Grade 12	72%		79%	
High school diploma	78%		74%	
Some college	82%		81%	
College degree or post grad	82%		85%	
Type of injury		.02		.03
Sprain/strain/joint/disc	78%		78%	
Repetitive stress injury	79%		76%	
Cut/bruise/swelling/rash	91%		92%	
Other	74%		77%	
Multiple	72%		75%	
Body part injured		<.01		.01
Back/neck	79%		73%	
Upper extremity	81%		85%	
Lower extremity	86%		80%	
Other	83%		87%	
Multiple	63%		68%	
Attorney involved		<.01		<.01
Yes	52%		57%	
No	83%		83%	

Exhibit C.2: Associations between Selected Characteristics and Overall Quality and Satisfaction Ratings (Survey A, N=508) (Continued)

	Good/excellent quality of care		Satisfied with care	
Characteristic	**%**	**p-value**	**%**	**p-value**
Full-time employee[a]		NS		NS
Yes	80%		80%	
No	76%		78%	
Self-insured employer[a]		NS		NS
Yes	82%		84%	
No	78%		78%	
Care provided within MPN		NS		NS
Yes	79%		81%	
No	83%		71%	
Unknown	72%		76%	
Injured in rural area[a]		NS		NS
Yes	73%		82%	
No	80%		79%	
Any access barrier		<.01		<.01
Yes	62%		65%	
No	94%		92%	
Delays/denials of care		<.01		<.01
Yes	47%		49%	
No	88%		88%	
Long travel distance		<.01		<.01
Yes	65%		69%	
No	83%		82%	
Problem obtaining medication, PT/OT or specialist care		<.01		<.01
Yes	55%		56%	
No	87%		88%	

Note: P-values based on Chi^2 test of independence.
[a] Obtained from administrative claims data provided by DWC.

Exhibit C.3: Associations between Selected Characteristics and Work Outcomes (Survey A, N=508)

	Not fully recovered from injury		Moderate/big effect of injury on life		Never returned to work		Earning less due to injury	
Characteristic	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**
Sex		NS		NS		.05		NS
Male	52%		43%		11%		20%	
Female	56%		50%		6%		16%	
Age[a]		.02		<.01		.05		.03
18–30	46%		37%		5%		12%	
31–45	51%		43%		8%		18%	
≥ 46	62%		56%		13%		24%	
Race/ethnicity		NS		NS		NS		NS
White	52%		43%		9%		18%	
Latino/Hispanic	55%		48%		9%		20%	
Other	59%		50%		9%		16%	
Language of interview		.05		<.01		NS		<.01
English	51%		43%		8%		16%	
Spanish	62%		57%		13%		27%	
English fluency		.01		<.01		.04		<.01
Not spoken well or at all	66%		59%		15%		29%	
Well or very well	51%		43%		8%		16%	
Worker's annual pre-injury income		NS		NS		NS		NS
< $15,000	60%		50%		15%		26%	
$15,000–$34,999	54%		47%		9%		18%	
$35,000–$49,999	44%		42%		6%		11%	
≥ $50,000	55%		45%		8%		19%	
Education		NS		NS		.04		NS
< Grade 12	63%		53%		13%		22%	
High school diploma	56%		48%		10%		20%	
Some college	48%		41%		11%		18%	
College degree or post grad	51%		45%		2%		15%	

Exhibit C.3: Associations between Selected Characteristics and Work Outcomes (Survey A, N=508) (Continued)

	Not fully recovered from injury		Moderate/big effect of injury on life		Never returned to work		Earning less due to injury	
Characteristic	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**
Type of injury		<.01		<.01		.01		<.01
Sprain/strain/joint/disc	63%		53%		11%		22%	
Repetitive stress injury	69%		55%		9%		13%	
Cut/bruise/swelling/rash	24%		22%		0%		4%	
Other	50%		43%		9%		18%	
Multiple	61%		59%		14%		33%	
Body part injured		<.01		<.01		NS		<.01
Back/neck	67%		55%		10%		26%	
Upper extremity	51%		41%		5%		11%	
Lower extremity	51%		46%		11%		18%	
Other	28%		25%		8%		12%	
Multiple	68%		62%		16%		33%	
Attorney involved		<.01		<.01		<.01		<.01
Yes	98%		95%		43%		72%	
No	48%		39%		4%		11%	
Full-time employee[a]		NS		NS		NS		NS
Yes	54%		46%		9%		18%	
No	52%		47%		9%		17%	
Self-insured employer[a]		NS		.03		.05		<.01
Yes	53%		38%		5%		11%	
No	54%		49%		11%		21%	
Care provided within MPN		NS		.01		<.01		<.01
Yes	52%		43%		7%		15%	
No	61%		65%		16%		37%	
Unknown	62%		52%		24%		33%	

Exhibit C.3: Associations between Selected Characteristics and Work Outcomes (Survey A, N=508) (Continued)

	Not fully recovered from injury		Moderate/big effect of injury on life		Never returned to work		Earning less due to injury	
Characteristic	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**	**%**	**p-value**
Injured in rural area[a]		NS		NS		NS		NS
Yes	53%		45%		8%		16%	
No	54%		46%		9%		19%	
Any access barrier		<.01		<.01		<.01		<.01
Yes	77%		65%		15%		32%	
No	34%		29%		4%		6%	
Delays/denials of care		<.01		<.01		<.01		<.01
Yes	86%		77%		20%		45%	
No	44%		37%		6%		11%	
Long travel distance		<.01		<.01		<.01		<.01
Yes	77%		69%		16%		34%	
No	47%		40%		7%		14%	
Problem obtaining medication, PT/OT or specialist care		<.01		<.01		<.01		<.01
Yes	85%		77%		16%		40%	
No	43%		35%		7%		11%	
Good/excellent quality of care		<.01		<.01		<.01		<.01
Yes	45%		38%		7%		14%	
No	83%		73%		15%		33%	
Satisfied with care		<.01		<.01		<.01		<.01
Yes	44%		37%		7%		14%	
No	89%		79%		17%		36%	

Note: P-values based on Chi^2 test of independence.
[a] Obtained from administrative claims data provided by DWC.

Exhibit C.4: Missed Work Days by Selected Characteristics (Survey A, N=494)

Characteristics	Mean missed work days	p-value
Sex		.05
Male	62	
Female	43	
Age[a]		<.01[b]
18–30	30	
31–45	49	
≥ 46	77	
Race/ethnicity		NS[b]
White	52	
Latino/Hispanic	57	
Other	58	
Language of interview		<.01
English	46	
Spanish	81	
English fluency		<.01
Not spoken well or at all	93	
Well or very well	47	
Worker's annual pre-injury income		NS[b]
< $15,000	76	
$15,000–$34,999	51	
$35,000–$49,999	40	
≥ $50,000	54	
Education		NS[b]
< Grade 12	66	
High school diploma	62	
Some college	55	
College degree or post grad	34	
Type of injury		<.01[b]
Sprain/strain/joint/disc	65	
Repetitive stress injury	41	
Cut/bruise/swelling/rash	18	
Other	54	
Multiple	74	
Body part injured		.02[b]
Back/neck	55	
Upper extremity	40	
Lower extremity	64	
Other	36	
Multiple	86	

Exhibit C.4: Missed Work Days by Selected Characteristics (Survey A, N=494) (Continued)

Characteristics	Mean missed work days	p-value
Attorney involved		<.01
Yes	210	
No	34	
Full-time employee[a]		NS
Yes	52	
No	60	
Self-insured employer[a]		<.01
Yes	35	
No	61	
Care provided within MPN		<.01[b]
Yes	47	
No	85	
Unknown	109	
Injured in rural area[a]		NS
Yes	49	
No	55	
Any access barrier		<.01
Yes	87	
No	26	
Delays/denials of care		<.01
Yes	113	
No	39	
Long travel distance		<.01
Yes	102	
No	42	
Problem obtaining medication, PT/OT or specialist care		<.01
Yes	96	
No	41	
Good/excellent quality of care		.01
Yes	46	
No	80	
Satisfied with care		<.01
Yes	46	
No	87	

[a] Obtained from administrative claims data provided by DWC.
[b] Indicates one-way ANOVA test for equality of means. Otherwise a T-test without equal variance assumption was used.

Exhibit C.5: Linear Regression Results for Missed Work Days in Relation to Access (Survey A, N=438)

Variable	Coefficient	95% Confidence	p-value
Any access barrier	18.7	0.6 to 36.7	.04
Age[a]			.10
18-30	-10.1	-29.1 to 9.0	
31-45 (reference category[b])	N/A	N/A	
> 46	11.6	-9.0 to 32.1	
Male	26.5	9.5 to 43.5	<.01
Less than grade 12 education	-2.7	-31.6 to 26.2	.85
Injured in rural area[a]	0.5	-33.3 to 34.3	.98
English not spoken well	43.2	10.0 to 76.3	.01
Race/ethnicity			.22
White (reference category[b])	N/A	N/A	
Latino	2.3	-16.0 to 20.5	
Other	21.6	-3.0 to 46.2	
Full-time employee[a]	-20.2	-42.5 to 2.1	.08
Self-insured employer[a]	-16.2	-32.6 to 0.2	.05
MPN status			.05
Care provided within an MPN (reference category[b])	N/A	N/A	
Care not provided within an MPN	20.0	-12.7 to 52.8	
MPN status unknown	52.2	5.8 to 98.5	
Still receiving health care	68.3	33.7 to 102.9	<.01
Number of health care visits			<.01
1-3 health care visits	-58.3	-82.7 to -33.9	
4-9 health care visits	-61.7	-87.2 to -36.3	
10+ health care visits (reference category[b])	N/A	N/A	
Number of days from injury to interview	-0.4	-1.0 to 0.2	.20
Intercept	192.4	-4.8 to 389.6	.06

[a] Obtained from administrative claims data provided by DWC.
[b] The reference category is the omitted category against which other categories are compared; coefficients and confidence intervals therefore do not appear.

APPENDIX D:

EXHIBITS FOR BACK DISABILITY WORKER SURVEY

Exhibit D.1: Linear Regression Results for Compensated Time Loss Days in Relation to Access (Survey B, N=468)

Variable	Coefficient	95% Confidence	p-value
Any access barrier	16.5	7.8 to 25.1	<.01
Age[a]			.08
18–30	5.9	-4.2 to 16.1	
31–45 (reference category[b])	N/A	N/A	
≥ 46	11.9	1.5 to 22.3	
Male	13.8	5.0 to 22.6	<.01
Less than grade 12 education	3.8	-10.4 to 18.1	.60
Injured in rural area[a]	-0.9	-18.2 to 16.4	.92
English not spoken well	3.2	-10.6 to 17.0	.65
Race/ethnicity			.96
White (reference category[b])	N/A	N/A	
Latino/Hispanic	0.5	-10.4 to 11.5	
Other	1.8	-11.1 to 14.7	
Full-time employee[a]	-1.1	-11.1 to 8.9	.83
Self-insured employer[a]	-1.7	-13.4 to 10.0	.78
MPN status			.69
Care provided within MPN (reference category[b])	N/A	N/A	
Care not provided within MPN	-9.3	-31.2 to 12.6	
MPN status unknown	1.7	-14.1 to 17.5	
Sciatica symptoms within first week	2.7	-6.5 to 11.9	.56
Still receiving health care	70.0	59.2 to 80.8	<.01
Number of health care visits			<.01
1–3 health care visits	-21.1	-31.6 to -10.6	
4–9 health care visits	-11.4	-21.9 to -0.9	
10+ health care visits (reference category[b])	N/A	N/A	
Number of days from injury to interview	0.1	0.0 to 0.2	.20
Intercept	-0.7	-20.1 to 18.7	.94

[a] Obtained from administrative claims data provided by DWC.
[b] The reference category is the omitted category against which other categories are compared; coefficients and confidence intervals therefore do not appear.

APPENDIX E

PROVIDER SURVEY QUESTIONS

PROVIDER SURVEY QUESTIONS

Q1. Are you a…

- O Doctor of Medicine (MD)
- O Osteopathic Physician (DO)
- O Podiatrist (DPM)
- O Chiropractor (DC) [GO TO **Q6**]
- O Psychologist (PhD, PsyD) [GO TO **Q6**]
- O Acupuncturist (LAc) [GO TO **Q6**]
- O Other [GO TO **END OF SURVEY**]

Q2. What is your primary area of specialization, if any?

For MDs/DOs:

- O Allergy and immunology
- O Anesthesiology
- O Cardiology
- O Dermatology
- O Emergency medicine
- O Family medicine
- O General surgery
- O Internal medicine
- O Neurology
- O Neurosurgery
- O Occupational medicine
- O Ophthalmology
- O Orthopedic surgery
- O Otolaryngology
- O Pain management
- O Physical medicine and rehabilitation
- O Plastic surgery
- O Preventive medicine
- O Psychiatry
- O Urology
- O Other, specify: _____
- O None [GO TO **Q6**]

For podiatrists:

- O Podiatry: general or primary care
- O Podiatric surgery
- O Diabetic foot care
- O Other, specify: _____
- O None [GO TO **Q6**]

Q3. Are you board certified in this specialty?

- O Yes
- O No

Q4. What is your secondary area of specialization, if any?

For MDs/DOs:

- O Allergy and immunology
- O Anesthesiology
- O Cardiology
- O Dermatology
- O Emergency medicine
- O Family medicine
- O General surgery
- O Internal medicine
- O Neurology
- O Neurosurgery
- O Occupational medicine
- O Ophthalmology
- O Orthopedic surgery
- O Otolaryngology
- O Pain management
- O Physical medicine and rehabilitation
- O Plastic surgery
- O Preventive medicine
- O Psychiatry
- O Urology
- O Other, specify: _____
- O None [GO TO **Q6**]

For podiatrists:

- O Podiatry: general or primary care
- O Podiatric surgery
- O Diabetic foot care
- O Other, specify: _____
- O None [GO TO **Q6**]

Q5. Are you board certified in this specialty?

- O Yes
- O No

Q6. How long have you been a licensed health care provider?

__ __ Number of years

O Less than 1 year

Q7. Do you currently **accept or treat** workers' compensation patients?

- O Yes [GO TO **Q14**]
- O No

Q8. In what year did you last treat any workers' compensation patients?

- O 2008
- O 2007
- O 2006
- O 2005
- O 2004
- O 2003 or earlier [GO TO **END OF SURVEY**]
- O Never treated WC patients [GO TO **END OF SURVEY**]

SECTION A: COMPLETE IF YOU USED TO TREAT WC PATIENTS (AND NO LONGER DO)

Q9. At that time, approximately what percent of all your patients were workers' compensation patients? *(Please indicate a number between 0 and 100.)*

__ __ __ % workers' compensation

Q10. For how many years did you treat workers' compensation patients?

__ __ Number of years

O Less than 1 year

Q11. Do you plan to treat workers' compensation patients again in the future?

- O Yes
- O No
- O Undecided

Q12. Why did you stop treating workers' compensation patients?

Please rate the top 3 reasons by placing the letter associated with the appropriate reason in each of the 3 boxes provided. *(Note: The choices or wording offered here may not exactly match your own thoughts, but please select the best approximations.)*

Most important reason		*(place letter for best response in box)*
Second most important reason		*(place letter for best response in box)*
Third most important reason		*(place letter for best response in box)*

A. Administrative burden/paperwork -- reporting requirements
B. Administrative burden/paperwork -- billing
C. Administrative burden/paperwork -- utilization review

D. Delay in treatment due to utilization review
E. Denial of treatment due to utilization review
F. ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive

G. Inadequate physician fee schedule
H. Discounting by WC Medical Provider Networks (MPNs)
I. Payment received late
J. Payment denials

K. Difficult claim adjusters or insurers
L. Difficult employers
M. Difficult patients
N. Legal involvement such as depositions, hearings, litigation

O. Unfamiliar with workers' compensation laws and regulations
P. Unfamiliar with the *AMA Guides to the Evaluation of Permanent Impairment*

Q. Unable to get into WC Medical Provider Networks (MPNs)
R. Decreased or no referrals
S. Retired/planning on retiring
T. Moved or changed practice/planning on moving or changing practice

Q13. In your workers' compensation practice, were you generally paid at…
- O The fee schedule or higher
- O A discounted rate of 1% to 15% off the fee schedule
- O A discounted rate of more than 15% off the fee schedule
- O Don't know

END OF SECTION A

IF YOU NO LONGER ACCEPT OR TREAT WC PATIENTS, GO TO **END OF SURVEY**.

SECTION B: COMPLETE IF YOU CURRENTLY ACCEPT OR TREAT WC PATIENTS

Q14. Approximately what percent of all your patients are workers' compensation patients? *(Please indicate a number between 0 and 100.)*

__ __ __ % workers' compensation

Q15. Approximately how many workers' compensation patients do you treat in a typical week?

__ __ __ Number of workers' compensation patients seen per week

O Less than one per week

Q16. Are you currently accepting new workers' compensation patients?
- O Yes, both new and established patients
- O Yes, established patients only
- O No

Q17. How many years have you been treating workers' compensation patients?

__ __ Number of years

O Less than 1 year

Q18. For non-emergency care, how many days does a new workers' compensation patient have to wait to see you?

__ __ __ Number of days
O Not applicable/Not taking new workers' compensation patients anymore

Q19. Please rate each of the following factors in terms of how much they interfere with the care of your workers' compensation patients by placing an "X" in the appropriate box for each factor.

Factors	No interference	Some interference	A lot of interference
Administrative burden/paperwork -- reporting requirements			
Administrative burden/paperwork -- billing			
Administrative burden/paperwork -- utilization review			
Delay in treatment due to utilization review			
Denial of treatment due to utilization review			
ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive			
Inadequate physician fee schedule			
Discounting by WC Medical Provider Networks (MPNs)			
Payment received late			
Payment denials			
Difficult claim adjusters or insurers			
Difficult employers			
Difficult patients			
Legal involvement such as depositions, hearings, litigation			
Unfamiliarity with workers' compensation laws and regulations			
Unfamiliarity with the *AMA Guides to the Evaluation of Permanent Impairment*			

Q20. How often do your workers' compensation patients experience delays or denials of care (for any reason)?

- O Never or almost never [GO TO **Q22**]
- O Sometimes
- O Often
- O Always or almost always

Q21. How often do the delays or denials of care experienced by your workers' compensation patients interfere with their recovery?

- O Never or almost never
- O Sometimes
- O Often
- O Always or almost always

Q22. In the past 2 years, has the percent of workers' compensation patients you see decreased, increased, or remained the same?

- O Decreased
- O Increased [GO TO **Q24**]
- O Remained the same [GO TO **Q24**]

Q23. What are the reasons for this decrease?

Please rate the top 3 reasons by placing the letter associated with the appropriate reason in each of the 3 boxes provided. *(Note: The choices or wording offered here may not exactly match your own thoughts, but please select the best approximations.)*

Most important reason		*(place letter for best response in box)*
Second most important reason		*(place letter for best response in box)*
Third most important reason		*(place letter for best response in box)*

A. Administrative burden/paperwork -- reporting requirements
B. Administrative burden/paperwork -- billing
C. Administrative burden/paperwork -- utilization review

D. Delay in treatment due to utilization review
E. Denial of treatment due to utilization review
F. ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive

G. Inadequate physician fee schedule
H. Discounting by WC Medical Provider Networks (MPNs)
I. Payment received late
J. Payment denials

K. Difficult claim adjusters or insurers
L. Difficult employers
M. Difficult patients
N. Legal involvement such as depositions, hearings, litigation

O. Unfamiliar with workers' compensation laws and regulations
P. Unfamiliar with the *AMA Guides to the Evaluation of Permanent Impairment*

Q. Unable to get into WC Medical Provider Networks (MPNs)
R. Decreased or no referrals
S. Retired/planning on retiring
T. Moved or changed practice/planning on moving or changing practice

Q24. In the future, do you plan to decrease, increase, or maintain at the same level the volume of workers' compensation patients in your practice?

- O Decrease (or thinking about decreasing)
- O Quit entirely (or thinking about quitting entirely)
- O Increase (or thinking about increasing)
- O Maintain at the same level

Q25. For what percent of your workers' compensation patients do you think you understand the physical and mental demands of the worker's job? *(Please indicate a number between 0 and 100.)*

__ __ __ % of all WC patients

Q26. During what percent of visits with your workers' compensation patients do you discuss work status or return to work? *(Please indicate a number between 0 and 100.)*

__ __ __ % of all WC patient visits

Q27. Of those workers' compensation patients who need time off work or who would benefit from modified duty, for what percent do you or your staff contact the employer? *(Please indicate a number between 0 and 100. Note: this can be any method of communication, including phone, written note, fax, etc.)*

__ __ __ % of those WC patients needing time off work or modified duty

Q28. In the last 5 years, have you attended any lectures, conferences, or training related to occupational health or workers' compensation?

- O Yes
- O No

Q29. Would you find it helpful to receive more information about workers' compensation laws and regulations?

- O Yes
- O No [GO TO **Q32**]

Q30. For which specific areas would you find it helpful to receive more information? *(Check all that apply.)*

- O *AMA Guides to the Evaluation of Permanent Impairment*
- O Billing
- O Fee schedule
- O Forms/reporting requirements
- O Medical Provider Networks (MPNs)
- O Office staff training
- O Updates on WC laws/regulations
- O Utilization review
- O Other, specify: _____

Q31. How would you like to receive such information? Please indicate preferred formats. *(Check all that apply.)*

- O Communication by mail
- O Communication by e-mail
- O DWC website
- O Web-based training course
- O Seminars/classes
- O Physician's guide (downloadable from DWC website)
- O Other, specify: _____

Q32. Please rate the following: In general, injured workers have adequate access to quality health care.

- O Strongly agree
- O Agree
- O Disagree
- O Strongly disagree
- O Don't know / no opinion

Q33. In your workers' compensation practice, are you generally paid at…

- O The fee schedule or higher
- O A discounted rate of 1% to 15% off the fee schedule
- O A discounted rate of more than 15% off the fee schedule
- O Don't know

Q34. These next questions are about your practice. What is the zip code of the primary office location where you see the largest volume of workers' compensation patients?

__ __ __ __ __ Primary office location zip code

Q35. What is your primary practice setting?

- O Solo practice [GO TO **Q37**]
- O Group practice
- O Hospital clinic, community health center, or public clinic
- O Other, specify: _____

Q36. Excluding yourself, how many other doctors practice in your primary office location?

- O 1
- O 2-10
- O 11-50
- O 51-100
- O > 100

Q37. In your workers' compensation practice, are you currently contracted with a Health Care Organization (HCO) and/or a Medical Provider Network (MPN)?

- O Health Care Organization (HCO)
- O Medical Provider Network (MPN)
- O Both
- O Neither
- O Don't know

Q38. Do you dispense any medication at your office (prescription and/or non-prescription, ***excluding samples***) for your workers' compensation patients?

- O Yes
- O No

Q39. Do you dispense any medication at your office (prescription and/or non-prescription, ***excluding samples***) for your ***non***-workers' compensation patients?

- O Yes
- O No

Q40. What languages, besides English, do you or your staff speak in your office? *(Check all that apply.)*

- O None/just English
- O Asian Indian languages (e.g., Urdu, Pashtu, Hindi, etc)
- O Cantonese
- O Korean
- O Mandarin
- O Russian
- O Spanish
- O Tagalog
- O Vietnamese
- O Other, specify: _____

APPENDIX F:

EXHIBITS FOR THE PROVIDER SURVEY

Exhibit F.1: Reasons for Past Decreases in Worker's Compensation Patient Volume, by Provider Type (N=361[a])

Number reporting a reason(s) for decreased WC volume in the last 2 years/Sample size	Overall (361/743)		Occupational medicine (7/37)		Primary care (22/80)		Orthopedic surgery (52/105)		Other MD/DO specialties (19/66)	
	Most important[b]	Top 3[c]	Most important[b]	Top 3[c]	Most important[b]	Top 3[c]	Most important[b]	Top 3[c]	Most important[b]	Top 3[c]
Administrative burden/paperwork-reporting requirements	10%	21%	0%	0%	27%	59%	19%	31%	21%	47%
Administrative burden/paperwork-billing	1%	7%	0%	14%	0%	27%	0%	6%	0%	21%
Administrative burden/paperwork-UR	6%	19%	0%	0%	5%	9%	8%	27%	0%	11%
Delay in treatment due to UR	7%	28%	0%	14%	0%	9%	12%	33%	11%	26%
Denial of treatment due to UR	23%	48%	14%	29%	0%	9%	19%	40%	11%	21%
ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive	11%	29%	14%	14%	9%	9%	6%	23%	0%	11%
Inadequate physician fee schedule	4%	19%	14%	14%	9%	41%	0%	29%	21%	42%
Discounting by WC MPNs	3%	14%	0%	14%	0%	14%	10%	23%	5%	26%
Payment received late	1%	5%	0%	0%	0%	5%	0%	0%	0%	5%
Payment denials	2%	11%	0%	0%	0%	9%	0%	8%	0%	0%
Difficult claim adjusters or insurers	3%	21%	0%	14%	0%	9%	8%	19%	0%	5%
Difficult employers	0%	2%	0%	29%	0%	5%	0%	0%	0%	0%
Difficult patients	1%	4%	0%	0%	0%	5%	2%	10%	0%	5%
Legal involvement such as depositions, hearings, litigation	<1%	3%	0%	0%	5%	5%	0%	2%	0%	0%
Unfamiliar with workers' compensation laws and regulations	<1%	3%	0%	0%	0%	9%	0%	0%	0%	5%
Unfamiliar with the AMA Guides to the Evaluation of Permanent Impairment	0%	2%	0%	0%	0%	5%	0%	0%	0%	5%
Unable to get into WC MPNs	10%	25%	0%	43%	5%	5%	13%	23%	0%	5%
Decreased or no referrals	16%	30%	57%	57%	32%	41%	2%	15%	32%	32%
Retired/planning on retiring	1%	2%	0%	0%	5%	9%	2%	6%	0%	5%
Moved or changed practice/planning on moving or changing practice	1%	3%	0%	0%	5%	5%	0%	4%	0%	11%

Exhibit F.1: (Continued)

Number reporting a reason(s) for decreased WC volume in the last 2 years/Sample size	Chiropractor (107/123)		Acupuncturist (64/106)		Psychologist (45/100)		Podiatrist (45/126)	
	Most important[b]	Top 3[c]	Most important[b]	Top 3[c]	Most important[b]	Top 3[c]	Most important[b]	Top 3[c]
Administrative burden/paperwork-reporting requirements	3%	7%	2%	8%	11%	16%	18%	38%
Administrative burden/paperwork-billing	0%	1%	3%	5%	4%	11%	0%	7%
Administrative burden/paperwork-UR	7%	24%	6%	23%	4%	9%	4%	11%
Delay in treatment due to UR	7%	31%	5%	34%	9%	27%	4%	22%
Denial of treatment due to UR	33%	64%	33%	69%	22%	44%	11%	24%
ACOEM guidelines/Medical Treatment Utilization Schedule too restrictive	13%	41%	23%	47%	2%	20%	4%	9%
Inadequate physician fee schedule	2%	8%	0%	2%	7%	24%	7%	31%
Discounting by WC MPNs	2%	11%	2%	5%	2%	11%	4%	18%
Payment received late	0%	1%	3%	5%	7%	13%	0%	11%
Payment denials	1%	8%	5%	14%	7%	36%	0%	2%
Difficult claim adjusters or insurers	3%	24%	3%	33%	4%	20%	0%	16%
Difficult employers	0%	1%	0%	2%	0%	0%	0%	7%
Difficult patients	1%	2%	0%	2%	0%	2%	2%	4%
Legal involvement such as depositions, hearings, litigation	0%	1%	0%	2%	0%	7%	0%	7%
Unfamiliar with workers' compensation laws and regulations	1%	2%	0%	0%	0%	2%	0%	7%
Unfamiliar with the AMA Guides to the Evaluation of Permanent Impairment	0%	0%	0%	2%	0%	2%	0%	4%
Unable to get into WC MPNs	15%	36%	3%	14%	4%	20%	18%	33%
Decreased or no referrals	12%	30%	11%	34%	13%	22%	27%	42%
Retired/planning on retiring	0%	2%	0%	0%	0%	2%	0%	0%
Moved or changed practice/planning on moving or changing practice	1%	2%	2%	2%	2%	4%	0%	0%

[a] 361 of the 381 current providers reporting past decreases in WC volume provided a reason(s).
[b] Each provider reported no more than one most important reason. Due to rounding, percents do not add up to exactly 100%.
[c] Each provider may have reported up to 3 reasons (most important, second most important, third most important), therefore percents add up to more than 100%.