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Insurance Carrier Preparedness to Implement TWCC's 2002 Medical Fee Guideline

by Andrew Moellmer and Amy Lee

In 2001, the Texas Legislature approved House Bill (HB) 2600, an omnibus package of workers' compensation reform measures designed to improve the quality and lower the cost of medical care provided to injured workers. One of the key provisions of this legislation was Article 6, which required the Texas Workers' Compensation Commission (TWCC) to develop a new professional services medical fee guideline based on Medi-

care's Resource Based Relative Value System (RBRVS) payment and reimbursement structure.¹

In June 2001, TWCC proposed a new fee guideline that did not include Medicare's payment policies, but established a workers' compensation "conversion factor" of 125 percent of Medicare.² After considerable public comment about the omission of Medicare payment policies as required by HB 2600, TWCC withdrew its proposed fee guideline and offered a replacement in December 2001 that incorporated all of Medicare's payment policies by reference and proposed a workers' compensation conversion factor of 120 percent of Medicare. After further public input was solicited, in April 2002 TWCC commissioners adopted the 2002 TWCC *Medical Fee Guideline*, incorporating Medicare's payment policies by reference and increasing the workers' compensation conversion factor to 125 percent of Medicare.

The Texas Medical Association (TMA) and the Texas AFL-

CIO subsequently filed suit against TWCC to stop the implementation of this new fee guideline, originally scheduled for implementation on September 1, 2002.³ In May 2003, a Travis County District Court upheld the guideline, and subsequently ordered it to go into effect on August 1, 2003.

Although controversy over the 2002 TWCC *Medical Fee Guideline* may continue for some time, the focus of stakeholder discussion about the guideline has now shifted to its implementation. One key concern on the immediate horizon is the preparedness of workers' compensation insurance carriers to implement the new medical fee guideline when processing medical bills and making medical necessity determinations. A lack of carrier preparedness might increase bill processing and payment timeframes, cause uncertainties over the application of certain Medicare payment policies, and/or produce a larger number of preauthorization, medical necessity or fee disputes.

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Data and Methods

This article reports on research conducted by the Research and Oversight Council on Workers' Compensation (ROC) to assess the preparedness of insurance carriers to implement the 2002 TWCC *Medical Fee Guideline*. In order to collect information for this article, the ROC distributed surveys to the 25 largest insurance groups (representing a total of 167 insurance carriers) via their Austin representative mailboxes at the TWCC central office, and through follow-up emails.⁴ Responses from eight private market carrier groups, two political subdivisions (i.e., public entity carriers) and four utilization review agents or URAs (i.e., the entities that by contract process medical bills for insurance carriers) are included in the results. Overall, those private market carrier groups who responded represent approximately 34 percent of the workers' compensation insurance market in Texas. Although the response to this survey represents a significant portion of the workers' compensation insurance market, the low number of carrier respondents indicates that the findings in this article should be viewed as exploratory in nature.

The following research questions are addressed in this article:

- 1) To what degree do insurance carriers believe they are prepared to implement the 2002 TWCC *Medical Fee Guideline*?
- 2) How much time do carriers feel they need to become fully prepared to implement the new guideline?

- 3) How have carriers acquired training in the use of the RBRVS payment structure and other components of Medicare's payment, coding, and billing system?
- 4) How do carriers plan to stay abreast of changes in Medicare's payment, coding, and billing system?
- 5) How do carriers plan to comply with provisions of state law that may conflict with the application of Medicare payment policies in particular areas?

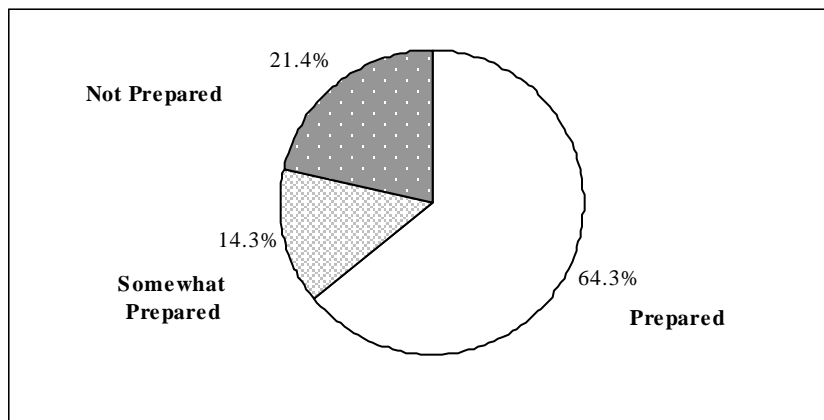
Carrier Preparedness to Implement the 2002 TWCC *Medical Fee Guideline*

Carriers and URAs were first asked to offer a self-assessment of their current preparedness to implement the new guideline, including all applicable Medicare payment policies, billing and documentation requirements. Approximately two-thirds of carriers and URAs (64.3 percent) reported that they were "pre-

pared" to implement the new medical fee guideline (see Figure 1).⁵ The remaining third reported being "unprepared" or "somewhat prepared."

Based on these carrier and URA self-assessments, it would seem that most carriers and URAs felt that they were in a good position to implement the 2002 TWCC *Medical Fee Guideline*. However, when asked specifically how much time they estimate their company needed to be able to fully implement the new guideline, more than half (57.1 percent) indicated that they needed at least two or more months of further preparation (see Figure 2).⁶ Similarly, four of the nine respondents who indicated on the first question that they were "prepared" to implement the guideline, almost half said that they needed at least another two or three months to be fully prepared. These findings suggest that, at least at the time of the survey (June and early July 2003),

Figure 1
Insurance Carrier and URA Preparedness to Implement the 2002 TWCC *Medical Fee Guideline*



Source: Research and Oversight Council on Workers' Compensation, Carrier Questionnaire Regarding the Implementation of the 2002 TWCC *Medical Fee Guideline*, 2003.

many carriers and URAs who responded to the survey were not prepared for an August 1, 2003 effective date. It should be noted that the subsequent establishment of the August 1, 2003 implementation date may have provided a strong incentive for carriers to act quickly to prepare themselves or seek outside assistance.

Carriers and URAs were also asked in the survey to estimate the proportion of their internal and/or external utilization review staff that has received training on the use of the RBRVS payment structure and the application of Medicare payment policies for workers' compensation claims. On average, respondents indicated that just over half (approximately 52 percent) of their utilization review staff has received such training; however, only 30 percent of the respondents replied that they have provided training to at least two-thirds or more of their internal staff, indicating that many carri-

ers may have to overcome a steep learning curve in order to apply the new medical fee guideline to workers' compensation cases.

Most carriers and URAs who responded to the survey said that they either developed their Medicare training curriculum in-house or had their staff jointly trained by both TWCC and Trailblazer (Texas' Medicare Intermediary) staff.⁷

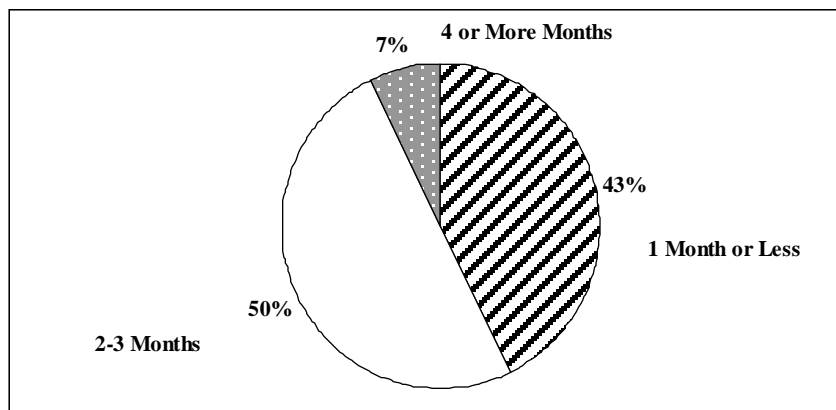
Another measure of carrier preparedness to implement the new medical fee guideline is familiarity with the use of Correct Coding Initiative (CCI) edits and Geographic Practice Cost Indices (GPCIs) in processing workers' compensation claims.⁸ Nine of the 14 carriers and URAs who responded to the survey indicated that they do not currently use CCI edits to review workers' compensation medical bills (see Figure 3). Of these, only four respondents said they have no plans to purchase CCI edit software or train staff on the application of CCI edits when re-

viewing workers' compensation medical bills.⁹

While most carriers and URAs that responded to the survey either do not use or do not plan to use CCI edits when processing workers' compensation medical bills, 13 of the 14 carriers indicated that they were aware that under the new medical fee guideline carriers will be required to apply GPCIs when determining correct reimbursement rates. Carriers were then asked to describe how they plan to determine which GPCI to apply to a particular billed service on a workers' compensation claim. One half (50 percent) responded that internal staff would either consult the Medicare Physician Fee Schedule Database (MPFSD) or Trailblazer's website in order to determine the correct GPCI to apply, based on the address where the service was rendered. Over one-third (41.7 percent) indicated that they would use automated bill review or medical bill re-pricing software that contains GPCI codes for a particular locality.

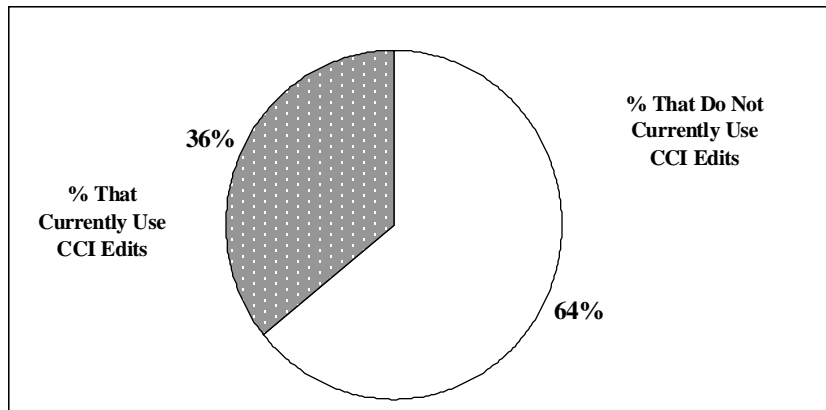
When asked how they will stay abreast of changes in Medicare payment policies, GPCI changes, Current Procedural Terminology (CPT) coding changes and CCI edit changes, 10 of the 14 carriers and URAs said they would use internal staff research to help stay informed about changes in Medicare policies, while less than half of the survey respondents (42.8 percent) said they would rely on their URA vendors for the information, and just three of the 14 respondents

Figure 2
Amount of Time Carriers and URAs Responded That They Needed to Be Fully Prepared to Implement the 2002 TWCC Medical Fee Guideline



Source: Research and Oversight Council on Workers' Compensation, Carrier Questionnaire Regarding the Implementation of the 2002 TWCC Medical Fee Guideline, 2003.

Figure 3
Proportion of Carriers and URAs That Are Currently Using Correct Coding Initiative (CCI) Edits



Source: Research and Oversight Council on Workers' Compensation, Carrier Questionnaire Regarding the Implementation of the 2002 TWCC *Medical Fee Guideline*, 2003.

said they would use software updates to acquire the necessary information on changes to Medicare payment policies (respondents were allowed to select more than one option when answering the question). It seems that many carriers plan to rely on internal and external utilization review staff to conduct the necessary research to remain up to date on changes in Medicare payment policies.

It is also important to determine how prepared carriers and URAs are to comply with existing state laws that may conflict with the application of Medicare payment policies in particular areas. For example, Section 413.011 (c) of the Texas *Labor Code* includes the statement that the statutory requirement to adopt Medicare's reimbursement structure and payment policies "may not be interpreted in any manner that would discriminate in the amount or method of payment or reimbursement for services in a manner prohibited by Section 3

(d), Article 21.52 of the Texas *Insurance Code*." Section 3 (d), Article 21.52 of the Texas *Insurance Code* (commonly referred to as an "equity of payment" provision) generally prohibits certain health care providers from being paid less than others for performing the same service. Medicare, on the other hand, uses a different reimbursement structure that is based in part on the provider's actual work and malpractice expenses, which sometimes differ between provider types. In implementing the new fee guideline carriers have to decide whether to follow the Medicare payment structure adopted by reference in the 2002 TWCC *Medical Fee Guideline* or make adjustments to the Medicare payment amounts in accordance with Section 3 (d), Article 21.52 of the Texas *Insurance Code*. This is an area where further clarification by TWCC will likely be necessary.

To gauge how insurance carriers and URAs would approach an equity of payment situation

under the new fee guideline, respondents were asked whether it would be permissible under the new fee guideline to pay a chiropractor less than an M.D. for providing the same service. Twelve of the 14 carriers and URAs that responded indicated that under the new fee guideline, it would be inappropriate to pay a chiropractor less than an M.D. for providing the same service, due to the equity of payment provision cited in Section 413.011(c). Those respondents who felt that a chiropractor could be paid less than an M.D. for the same service cited the different scope of a chiropractor's practice and asserted a lower level of decision-making complexity and care that is provided by a chiropractor as compared to an M.D. as the primary rationale for their position on this issue.

When asked how they plan to comply with those provisions of the *Insurance Code* that prohibit discrimination in the amount, method of payment, or reimbursement for services for providers, all 14 of the respondents indicated that they will either rely on their internal bill review system or outside bill review audits to ensure equal reimbursement depending on whether a particular service is medically necessary and within the scope of the provider's practice.

Carrier Issues and Concerns Regarding the 2002 TWCC Medical Fee Guideline

Finally, carriers were provided an opportunity to identify questions, issues or concerns

they have regarding the new medical fee guideline. The most common issue respondents mentioned reflected a desire for TWCC to provide an easy means for obtaining answers to questions regarding the fee guideline or information on the correct application of Medicare policy updates on a consistent basis. Carriers and URAs who cited this issue requested that TWCC publish a newsletter or create a website that offers information on Medicare updates and/or a frequently asked questions list (FAQ) to answer basic questions about the application of Medicare payment policies to workers' compensation cases.

Other concerns cited by respondents included the ambiguity of which Medicare policies, billing, and documentation requirements were actually adopted by TWCC in the new medical fee guideline (for example, carriers highlighted their uncertainty about whether Medicare's cap on physical and occupational therapy - \$1,590 annually - will apply to workers' compensation claims). Carriers also asked whether they would be required to utilize the standardized Medicare language for reason and response codes that are used to explain the basis of a denial. There were a number of other issues and concerns carriers felt needed clarification by TWCC, including:

- Should carriers and providers refer to TWCC or Trailblazer/Centers for Medicare and Medicaid Services for information updates?

- Do Medicare's physical therapy treatment plan requirements apply to workers' compensation claims under the new fee guideline?
- Will providers be able to submit multiple modifiers on the revised HCFA-1500 form?
- Can an insurance carrier deem a medical bill as "unprocessible" based solely on Medicare's bill processing requirements?
- Does the 10 percent penalty for late invoice filings apply to workers' compensation bills under the new fee guideline?
- Will carriers be responsible for making Health Professional Shortage Area (HPSA) incentive payments to providers in medically underserved areas, as Medicare requires?
- How are carriers and providers supposed to differentiate between fee and medical necessity disputes under the new fee guideline?¹⁰
- Do current negotiated contract amounts with providers still apply under the new fee guideline?
- What procedure should carriers follow in order to apply the correct GPCI to a particular medical bill under the new fee guideline?
- Do the dollar limit requirements in the Medicare dispute system (i.e., the requirement that medical disputes must be worth a minimum amount before a provider can pursue medical dispute reso-

lution) apply to workers' compensation disputes as well?

- Should insurance carriers use Medicare payment policies as the basis for making decisions on preauthorization requests?
- Will the effective date of Medicare updates also apply to the new fee guideline?
- What procedure should carriers follow to ensure compliance with the new Approved Doctor's List (ADL) and pay medical bills in accordance with the new fee guideline? Will bill payment timeframes remain the same even though carriers will have to check for ADL compliance as well as apply the new fee guideline?

Conclusion

Although the 2002 TWCC *Medical Fee Guideline* went into effect on August 1, 2003, it is clear that the system still faces significant implementation challenges in order to accomplish HB 2600's goals of standardized billing and payment rules that allow necessary exceptions for workers' compensation-specific issues.

It appears from the findings cited in this article that although many carriers and URAs report that they are generally prepared to implement the 2002 TWCC *Medical Fee Guideline*, a majority also indicated that they needed at least another 2-3 months to be fully prepared. Although the hard August 1, 2003 implementation date may further encourage carrier efforts to prepare, the

initial months of implementation may involve significant uncertainty and inconsistency between carriers on key fee guideline issues. Only 30 percent of the carriers and URAs responding to the survey had provided sufficient training to internal staff on the application of the Medicare reimbursement structure and payment policies to workers' compensation claims. In addition, only one-third of the carriers and URAs indicated that they currently use CCI edits in processing workers' compensation claims (as Medicare billing rules will require) and only half said they plan on purchasing CCI edits software to assist them in processing claims. On the other hand, carriers and URAs do appear to be generally prepared to apply GPCI codes to workers' compensation bills.

Another key finding of this research is that even though Medicare allows lower payment, the vast majority of carriers have no intention of paying chiropractors less than M.D.s for services rendered, provided those services are medically necessary and within the scope of the provider's practice. Most carriers base this position on their interpretation of TWCC or Medicare rules and all of the respondents said that they plan to rely on an in-house bill review system or external bill review audits to ensure compliance with provisions of the *Insurance Code* that prohibit discrimination in the amount, method of payment, or reimbursement of services for providers.

Finally, carriers cited a number of concerns about ambiguities in the new medical fee guideline and its application to workers' compensation cases. Carriers seem most concerned that TWCC provide some means for questions to be answered expeditiously, in the form of a website, FAQ, or newsletter. Overall, carriers indicate uncertainty about the precise Medicare billing, coding, and payment policies that were actually adopted, the research and rationale behind a particular policy's adoption, and desire clarification about a large number of specific policies as they apply to workers' compensation cases.

HB 2600 allows TWCC to make exceptions by rule to its adopted Medicare-based guidelines, and to consult with its Medical Advisor on possible amendments or clarifications. Such rule exceptions may be necessary to resolve potential conflicts between Medicare and the new fee guideline, such as the equity of payment issue and the provision of hearing aids to injured workers (currently not covered by Medicare). Ambiguities may also arise when there is interaction between the new fee guideline and recent legislation, such as SB 1804 (78th Legislature, 2003), which requires Independent Review Organizations (IROs) to consider the requirements of the 2002 TWCC *Medical Fee Guideline* when making medical dispute decisions if requested by one of the parties in the dispute. Until September

1, 2003, IROs are not required to consider the fee guideline in their medical dispute deliberations. As the focus of the 2002 TWCC *Medical Fee Guideline* shifts from one of litigation to actual implementation, these and other issues are likely to require clarification by TWCC.

Notes to pages 1-6

¹ See Section 413.011, Texas *Labor Code*. Article 6 of HB 2600 required TWCC to adopt a new medical fee guideline using the most current reimbursement methodologies, models, values or weights used by the Medicare system, including all applicable payment policies, coding, billing and documentation requirements.

² Payment policies are ground rules that guide health care providers on how to appropriately bill and receive payment for particular medical services and health conditions. The workers' compensation conversion factor acts as a multiplier for calculating the appropriate fee for a particular medical service in the workers' compensation system. The conversion factor is applied over the base Medicare payment amount for a particular service. For example, if the payment amount for a service is \$100 in the Medicare system, then a health care provider would be paid \$125 for the same service under the workers' compensation fee guideline.

³ TMA and the Texas AFL-CIO alleged that TWCC did not take into account "economic indicators in health care" when calculating the 125 percent workers' compensation conversion factor as required by Section 413.011(b), Texas *Labor Code*, and as a result, they argued that the 125 percent conversion factor would cause access to care problems for injured workers, particularly in specialty services such as surgery.

⁴ These 25 carrier groups represent approximately 89% of the Texas workers' compensation market. See Texas Department of Insurance, *Quarterly Legislative Report on Market Conditions: Third*

Quarter 2002, 2003 (available at <http://www.tdi.state.tx.us/general/pdf/pcqlr02q3.pdf>).

⁵ The question asked carriers and URAs to rate their preparedness on a scale from 1 to 5, where 1 is “not at all prepared” and 5 is “extremely prepared.” For the purpose of analysis, these were combined into three categories: an answer of 1-2 means “not prepared”; 3 means “somewhat prepared”; and 4-5 means “prepared.”

⁶ It is important to note that this means 2-3 months from the date carriers were surveyed (in most cases late June and early July 2003). At the time that these carrier surveys were sent out, an effective date had not yet been determined for the 2002 TWCC *Medical Fee Guideline*; however a Travis County District judge set the August 1, 2003 effective date within a week of the date that these carrier surveys were originally distributed.

⁷ The remaining one-third (33.3 percent) said that their staff was trained by TWCC staff alone, by Trailblazer staff alone, or by a combination of Trailblazer staff and in-house training.

⁸ The Correct Coding Initiative (CCI) is a federal initiative that defines correct coding practices for payment of Medicare claims. Correct coding combinations (or edits) were developed using the American Medical Association’s Current Procedural Terminology (CPT) and coding instructions, existing local and national coding edits, and a review of Medicare billing history. CCI edits are based on CPT codes, but revised for use in the Medicare system. The use of CCI edits is required for processing of all Medicare claims. Geographic Practice Cost Indices (GPCIs) are values that, in combination with relative value units (RVUs) for each service and the national Medicare Conversion Factor (CF), determine the base Medicare payment

amount for a particular service. GPCIs take into account the cost differences of providing the same service across geographic areas due to local market and economic conditions. For example, an office visit conducted in Dallas, Texas is paid at a different rate than a similar office visit conducted in Laredo, Texas because each of these cities has a separate GPCI calculation as part of its Medicare base fee. Texas currently has eight GPCIs.

⁹ Of those carriers who indicated in the first question that they were “prepared” to implement the new fee guideline, 66.7 percent said that they don’t currently use CCI edits and 50 percent said that they don’t plan to purchase CCI edit software or train staff.

¹⁰ For example, if a physical therapy service is denied based on the carrier’s application of Medicare’s \$1,590 annual cap on physical therapy, should this denial be considered a fee or medical necessity dispute?

Analysis of Employer Purchase Patterns of Workers’ Compensation Insurance

By Joseph Shields and D.C. Campbell

Texas is currently the only state in the country where private sector employers are allowed to opt out of the workers’ compensation (WC) system (i.e., become a nonsubscriber to the WC system). Previous studies on employer participation in the Texas WC system have shown that the majority of Texas employers have either always had WC coverage (60 percent), or never had coverage (26 percent).¹

One of the key factors that employers consider when deciding whether or not to purchase

WC coverage is cost. Regardless of firm size, the majority of small (60 percent), medium (82 percent), and large (87 percent) nonsubscribing employers² indicated that premium cost was an important factor in their decision to opt out of the Texas WC system.³ Cost trends in recent years have shown an increase in the price of WC insurance after a long period of decreases. Figure 4 illustrates the significant degree of price competition that was present in the Texas WC insurance market during the 1990s

following major WC reforms that went into effect in 1991. The cost of coverage for Texas employers declined steadily from 1993 to 1999, from \$3.42 per \$100 to \$1.87 per \$100 of payroll. However, it is clear from the Texas Department of Insurance (TDI) data that insurance costs have risen significantly in the two most recent years (2000 and 2001), back above 1997 levels.

In addition, the Research and Oversight Council on Workers’ Compensation’s (ROC’s) 2001

study of nonsubscription to the Texas WC system revealed that employers are becoming quite price sensitive, and almost half (48 percent) of the employers surveyed indicated that they would seriously consider dropping their WC coverage if they were confronted with a moderate price hike (one of no more than 20 percent).

While the issue of nonsubscription to the WC system in Texas has been studied by the ROC systematically since the WC law was overhauled in 1989, very little empirical work has been done on the WC insurance purchase patterns of private-sector employers in Texas (e.g., Do employers tend to have continuous coverage with the same insurance carrier? Is there a significant degree of movement from carrier to carrier over time? How many employers actually drop WC coverage and become non-subscribers when confronted with price increases?).

This article explores WC insurance coverage/purchase patterns of employers during the 1999 to 2003 period in an attempt to provide legislators and insurance regulators with valuable information regarding current trends in employer/policyholder level WC insurance costs in Texas, and insurance carriers with relevant data on predictors of policyholder retention and employer sensitivity to premium shifts.

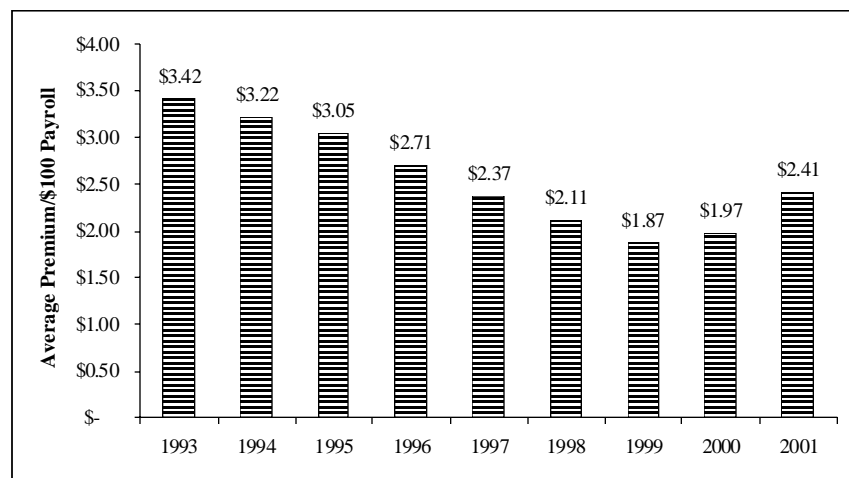
Research Methodology

The findings presented in this article are based on an analysis of 61,185 private-sector Texas employers in business during the entire 5-year period under review.⁴ To ensure that this was the case, all employers included in the analysis dataset had a WC insurance policy with an effective date in 1999, as well as a policy with an effective date in 2003. For the purposes of this analysis, this WC coverage requirement was put in place to ensure that these employers were in business during the entire 5-year period under review.⁵ Employers included in the study may have had periods of non-coverage during the 5-year period as long as they had a 1999 and 2003 WC insurance policy recorded in the Proof of Coverage (POC) database maintained by the Texas Workers' Compensation Commission (TWCC).⁶

The following primary research questions are addressed in this analysis:

- 1) What percentage of employers had a period of non-coverage (i.e., they were not matched to the TWCC's POC database) during the 1999 to 2003 period?
- 2) What percentage of employers had continuous coverage with the same insurance carrier over the entire 1999 to 2003 period?
- 3) When considering the 1999 to 2003 period, in what years did employers tend to change insurance carriers?
- 4) On average, from how many different insurance carriers did employers obtain WC coverage during the 1999 to 2003 period?
- 5) Were significant differences in coverage/purchase patterns observed among em-

Figure 4
Average Premium Per \$100 of Payroll, 1993 – 2001



Source: Texas Department of Insurance, based on data reported in the 12/31/2001 Texas Workers' Compensation Financial Data Call and material taken from 2002 Class Relativity Study.

ployers in different industries or size groups?

Insurance Coverage and Purchase Patterns: 1999 – 2003

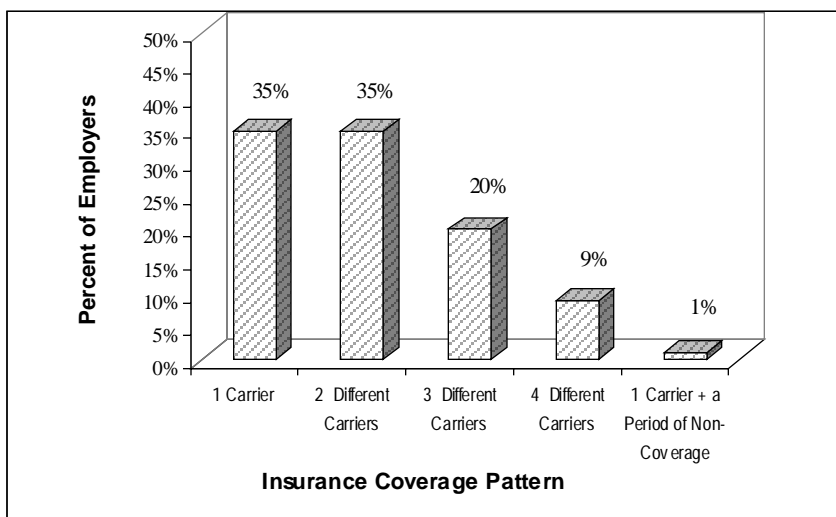
Approximately 5 percent of the employers included in this analysis appeared to have at least one year over the 1999 to 2003 period in which they did not carry WC coverage (i.e., became a nonsubscriber to the WC system) for their employees. Most of these (4 percent) opted out of the system for just one year, with the remaining 1 percent going without WC coverage for at least 2 of the 5 years.⁷

Thus, the vast majority of private-sector employers (95 percent) who had a WC policy in both 1999 and 2003 (i.e., that were in business for the full 5-year period) had WC coverage in all 5 years.⁸ It is also clear that many of these employers tended to shop around quite a bit and/or were not able to renew their WC coverage with their current carrier and regularly switched insurance companies.

Number of Different Insurance Carriers Used over 5-Year Period

As Figure 5 illustrates, just over one-third of the Texas employers (35 percent) included in the analysis had continuous WC coverage with the same insurance company for each of the five years, leaving a significant proportion (65 percent) that changed insurers and/or dropped coverage at some point during this period. Another 35 percent of the employers obtained WC coverage from two different car-

Figure 5
Number of Different Insurance Carriers Used: 1999 – 2003



Source: Analysis of Employer Coverage Patterns based on Texas Workforce Commission Employer Master Database and Texas Workers' Compensation Commission Proof of Coverage database match, Research and Oversight Council on Workers' Compensation, 2003.

riers between 1999 and 2003.⁹ A significant minority of firms obtained coverage from three different insurers (20 percent),¹⁰ or four different insurers (9 percent) over the 5-year period. The remaining 1 percent of the employers had coverage with only one carrier, but also had at least one year of non-coverage between 1999 and 2003.

In an attempt to collect qualitative information regarding the issues that are driving employers to change insurance carriers, ROC staff surveyed a small, random sample of Texas employers in July 2003. The results of the telephone surveys revealed that the price of their insurance premium was the primary driver, but the quality of service provided by insurance carriers was also an important factor considered by employers. Insurance carriers refusing to renew an employer's

policy and carriers going out of business were also factors that drove employers to seek a new insurance carrier to provide them with WC coverage. It is important to note that these reasons cited for switching carriers should be viewed as exploratory in nature, due to the small number of completed interviews (N=13) upon which they are based.

Percentage of Employers Switching Carriers by Year of Change

While 35 percent of Texas employers did not change insurance carriers or drop their WC coverage between 1999 and 2003, a significant percentage of employers switched insurance carriers at some point during this time period (65 percent).¹¹ This point is supported by the fact that, in 2001, a large proportion of employers indicated that they

would seriously consider dropping their coverage if premiums went up by even a modest percentage. It is quite likely that in addition to considering nonsubscription as an option, these employers were also actively shopping for lower cost WC coverage alternatives.

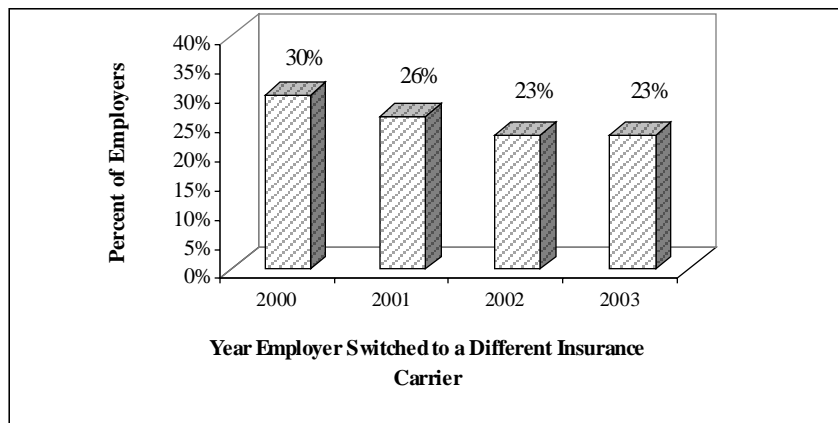
Based on this analysis, in any given year, approximately one-quarter of private-sector employers with workers' compensation coverage over the five-year period of analysis, switched insurers, with the highest rate of change (30 percent) occurring in 2000 and the lowest rate of change occurring in 2002 and 2003.¹² The fact that there seem to be higher rates of policyholder retention (i.e., lower percentage of employers switching carriers) in 2002 and 2003 may be a product of the hardening WC insurance market with less competitive pricing options for policyholders. (See Figure 6)

The significant degree of employer movement to and from different carriers may be function of several factors, including: 1) price shopping on the part of employers (caused by hikes in policy renewal rates and other factors); 2) insurance carriers electing not to renew certain policyholders due to risk or profitability concerns; and 3) insurance carriers becoming insolvent or leaving the Texas WC insurance market voluntarily.¹³

Variation in WC Insurance Purchase Patterns by Firm Size

Surprisingly, there is little variation, by firm size, in the pro-

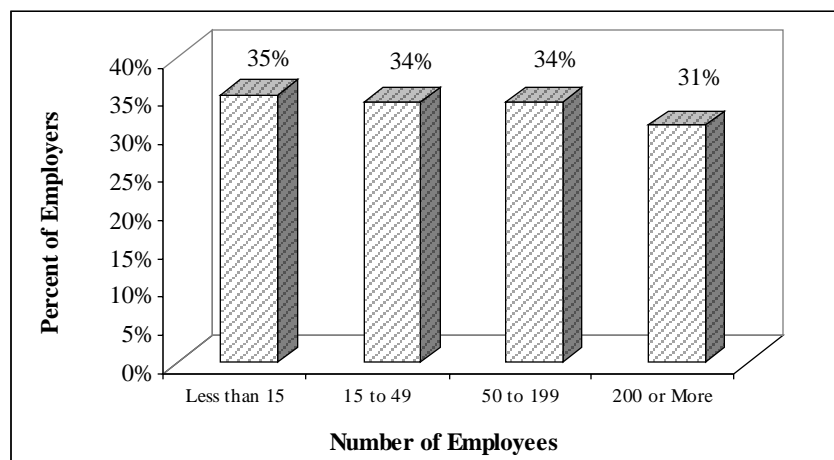
Figure 6
Percentage of Employers Changing their WC Insurance Carrier in a Given Year



Source: Analysis of Employer Coverage Patterns based on Texas Workforce Commission Employer Master Database and Texas Workers' Compensation Commission Proof of Coverage database match, Research and Oversight Council on Workers' Compensation, 2003.

Note: Percentages do not total to 100 percent because employers may have switched carriers in more than one year.

Figure 7
Percentage of Employers with 5 Years of Coverage with the Same Insurance Carrier, by Employer Size: 1999-2003



Source: Analysis of Employer Coverage Patterns based on Texas Workforce Commission Employer Master Database and Texas Workers' Compensation Commission Proof of Coverage database match, Research and Oversight Council on Workers' Compensation, 2003.

portion of firms to have continuous (5 consecutive years) WC coverage with the same insurance company (see Figure 7). A slightly lower percentage of employers with 200 or more work-

ers (31 percent) had continuous coverage with the same carrier than did smaller firms (34 to 35 percent). Very little variation by firm size was observed across other coverage patterns (e.g., 5

years of coverage with 2 different carriers, 5 years of coverage with 3 or more carriers, at least one year of non-coverage) as well.

Variation in WC Insurance Purchase Patterns by Industry

As was the case with firm size, there was little variation in coverage patterns between employers in different industrial sectors (e.g., agriculture, construction, mining, retail trade, services, etc.). Firms in the mining (38 percent), agriculture (37 percent), and construction sectors (37 percent) were a bit more likely than firms in some of the other industries, such as transportation (33 percent) and wholesale trade (33 percent) to stay with the same insurer for 5 consecutive years (over the 1999 to 2003 period). Again, little variability by industry was observed when the other insurance coverage patterns were analyzed.

Summary

While the ROC has studied WC coverage (i.e., subscription) patterns extensively over the past several years, the propensity of employers to switch insurance carriers has not been analyzed until this article, and it is more prevalent than anticipated.

From this analysis, it is clear that a significant proportion of employers (65 percent) have switched carriers over the past 5 years, and 29 percent have obtained coverage from at least 3 different carriers in 5 years. Depending on the year, between 23

and 30 percent of Texas employers changed insurance carriers every year (2000 to 2003). Little variation in insurance coverage patterns was observed when the data were stratified by industry or firm size. It is important to note that this analysis covers a period in which the WC insurance market in Texas experienced significant hardening, with higher costs (in general). It remains to be seen how WC insurance shopping patterns would compare in a softer market, where insurance carrier profitability is up and the cost of coverage is declining.

Notes to pages 7-11

¹ See Shields, Joseph and D.C. Campbell, *A Study of Nonsubscription to the Texas Workers' Compensation System: 2001 Estimates* (Research and Oversight Council on Workers' Compensation, 2002).

² Small employers refer to companies with 1 to 49 workers; medium employers refer to firms with 50 to 99 workers; and large employers refer to companies with 100 or more workers.

³ See Shields, Joseph and D.C. Campbell, *A Study of Nonsubscription to the Texas Workers' Compensation System: 2001 Estimates* (Research and Oversight Council on Workers' Compensation, 2002).

⁴ These 61,185 employers represent the universe of Texas employers, with WC coverage in 1999 and 2003, that were able to be effectively matched from the Texas Workforce Commission Employer Master database to the TWCC Proof of Coverage (POC) database.

⁵ This coverage requirement assumes that these employers did not discontinue operations at any point between 1999 and 2003.

⁶ Texas employers, through their respective insurers, are required to file a TWCC Form 20 confirming WC coverage (POC

Database), or are required to file a TWCC Form 5 regarding their status as a nonsubscriber to the Texas WC system.

⁷ For the purposes of this analysis, if a company was matched to the POC database in 1999 and 2003, but was not matched in 2000, 2001, or 2002, they were assumed to have dropped their WC coverage for any years not matched.

⁸ This estimate that 5 percent of private-sector employers with coverage in 2003 opted out of the system at point during the 1999 to 2003 period is consistent with the findings from the ROC's 2001 survey of Texas employers regarding WC coverage issues. See *A Study of Nonsubscription to the Texas Workers' Compensation System: 2001 Estimates* (Research and Oversight Council on Workers' Compensation, 2002).

⁹ This includes 3 percent that had coverage with two different insurance carriers, in addition to not having WC insurance coverage (i.e., could not be matched to the TWCC POC database for a particular year) in 2000, 2001, or 2002.

¹⁰ This includes 1 percent that had coverage with three different insurance carriers, in addition to not having WC insurance coverage (i.e., could not be matched to the TWCC POC database for a particular year) in 2000, 2001, or 2002.

¹¹ Because 1998 was not in the study timeframe, it could not be determined whether the insurance carrier writing coverage for an employer in 1999 was the same carrier that provided coverage to that employer in 1998, or even if the employer was in business or in the WC system in 1998.

¹² The percentages shown in Figure 6 represent the proportion of all private sector Texas employers, not just those that changed coverage over the 1999 to 2003 period.

¹³ In recent years, a number of large insurance carriers, such as Reliance (the 4th largest WC insurance writer in Texas prior to their insolvency), Petrosurance Casualty Company, Legion Insurance Company, and Colonial Casualty Insurance Company have been placed in receivership.

Significant Differences Found Between Injuries Rated with the 3rd and 4th Editions of the AMA Guides

By Joseph Shields and Xiaohua Lu

In 1999, legislation was passed that authorized the Texas Workers' Compensation Commission (TWCC), by rule, to adopt the 4th Edition of the American Medical Association's *Guides to the Evaluation of Permanent Impairment* (AMA *Guides*), which is used to determine the extent and degree of an employee's impairment resulting from a compensable work-related injury.¹ In response, TWCC amended its Rule 130.1 to require that the 4th Edition of the AMA *Guides* be used for impairment rating exams conducted on or after October 15, 2001. Doctors conducting exams prior to October 15, 2001 were instructed to use the 3rd Edition of the AMA *Guides* (Second Printing, February 1989).²

This article summarizes some of the key differences observed between impairment rating (IR) exams conducted in 2000 and 2001 using the 3rd Edition of the AMA *Guides*, and exams conducted in 2002 using the 4th Edition of the *Guides*.

It is important to note that shortly after this change, a modification was also made to the process by which designated doctors resolve issues of maximum medical improvement (MMI) and IRs, through the passage of HB 2600 (specifically, Article 5, ef-

fective January 1, 2002).³ The process change required that insurance carriers must first direct injured employees to a TWCC-assigned designated doctor to clarify any issues related to MMI or degree of impairment, rather than a carrier-selected doctor. In addition to the change in the AMA *Guides*, these IR system changes may also have an impact on the final ratings assigned to injured workers.⁴

The following research questions are addressed in this article:

- 1) Are there any differences in the average IRs assigned to injured workers using the 3rd and 4th Editions of the AMA *Guides*, when IRs are stratified by diagnostic group (i.e., injury type)?
- 2) Does the trend in IRs, over the 2000 to 2002 period, differ between treating doctors (who will not be required to receive any training on the 4th edition of the *Guides* until 2003) and designated doctors (who are required to receive in-depth training on the 4th Edition)?
- 3) Are there differences in the way similar injuries appear to be rated by doctors in Texas using the 3rd and 4th Editions of the *Guides*? For example, does one version of the *Guides* yield more 0 percent ratings?

Does one version of *Guides* yield more ratings of 15 percent or more? Does one version of the *Guides* tend to have more ratings clustered around round numbers like 5 percent, 10 percent or 15 percent?

Research Methodology

This analysis of IRs assigned using the 3rd and 4th Editions of the AMA *Guides* is based on an analysis of 76,020 claims, which were classified into three groups, based on the date of the first MMI/IR exam (i.e., TWCC-69 form filed with an MMI date):

- 1) Group 1: 26,400 claims in which the first MMI/IR exam was conducted between March 1, 2000 and June 30, 2000 using the 3rd Edition of the AMA *Guides*;
- 2) Group 2: 31,028 claims in which the first MMI/IR exam was conducted between March 1, 2001 and June 30, 2001 using the 3rd Edition of the AMA *Guides*; and
- 3) Group 3: 18,592 claims in which the first MMI/IR exam was conducted between March 1, 2002 and June 30, 2002 using the 4th Edition of the AMA *Guides*.

In order to make each of the three groups as comparable as

possible, every claim in each group was tracked for exactly 180 days beginning at the date of the first MMI/IR exam, ensuring that each initial IR has the same maturity period and each claim has equal opportunity for subsequent IRs. The results of all MMI/IR exams conducted during this 180-day period are included in the results reported in this article. All impairment ratings reported in this article represent the last, or the most recent, impairment rating recorded in the 180-day period following the date that the first rating was assigned to an injured worker. It is assumed that for the vast majority of claims, the most recent IR assigned to a claim within the 180-day period of analysis will represent the “final” impairment rating for the claim.⁵

Impairment Ratings by Diagnostic Group

Twelve categories of injuries were analyzed to determine if the change in the average impairment rating assigned to injured workers was consistent across all injury types. Table 1 provides average impairment ratings for each of the three analysis groups, stratified by injury type (i.e., diagnostic groups).⁶

Overall, IRs increased in 2002 using the 4th Edition of the *AMA Guides*, when compared to 2000 and 2001 IRs assigned using the 3rd Edition of the *Guides*. In 2000 and 2001 average IRs were 5.38 percent and 4.87 percent, respectively. However, in 2002, the average IR assigned to injured workers rose to 6.78 percent.⁷

Table 1
Average Impairment Ratings By Diagnostic Group:
2000 – 2002

Diagnostic Group	Group 1: 2000 (3 rd Edition of AMA Guides)	Group 2: 2001 (3 rd Edition of AMA Guides)	Group 3: 2002 (4 th Edition of AMA Guides)
Soft Tissue Injury	4.90% (N=11,770)	4.32% (N=14,393)	6.19% (N=8,737)
Neurological Problems	8.84% (N=2,783)	8.90% (N=2,895)	8.78% (N=2,484)
Skeletal Trauma	3.60% (N=1,545)	3.57% (N=1,686)	5.27% (N=1,106)
Internal Derangement	5.99% (N=1,132)	5.49% (N=1,352)	4.97% (N=1,004)
Degenerative Disease	9.92% (N=528)	10.84% (N=435)	8.80% (N=388)
Superficial Injuries	1.17% (N=1,698)	0.99% (N=3,123)	3.73% (N=778)
Disc Displacement	14.22% (N=528)	14.28% (N=296)	11.69% (N=315)
Amputation or Crush	5.80% (N=422)	4.95% (N=439)	6.68% (N=292)
Myelopathy	12.34% (N=214)	11.43% (N=221)	13.04% (N=165)
Hernia	2.20% (N=190)	1.57% (N=164)	5.06% (N=51)
Burns	3.07% (N=58)	1.28% (N=123)	4.03% (N=30)
Other Injuries/Symptoms	5.17% (N=5,786)	5.25% (N=5,897)	7.67% (N=3,242)
Overall	5.38% (N=26,394)	4.87% (N=31,024)	6.78% (N=18,592)

Source: Research and Oversight Council on Workers’ Compensation, and the Texas Workers’ Compensation Commission, Administrative Claims Data, 2003.

Notes: Average IRs are based on the most recent rating provided for a particular claim (within the 180 day time period following the date of the first MMI/IR exam). Neurological problems includes neuropathy and nerve compression disorders. The number of IRs assigned for each diagnostic group is noted in parentheses.

Average IRs by Diagnostic Group

As Table 1 shows, IRs assigned in 2002 using the 4th Edition of the *AMA Guides* are typically higher than the ratings assigned in 2000 and 2001 (i.e., the 2002 ratings were higher than the ratings assigned in 2000 and 2001 for 8 of the 12 diagnostic groups). The two most common workplace injury types, Soft Tissue Ailments (e.g., sprains and strains) and Other Injuries/

Symptoms, accounted for much of the overall variation between IRs issued using the 3rd and 4th editions of the *AMA Guides*.

Three injury types (Internal Derangement, Degenerative Disease, and Disc Displacement) received lower impairment ratings, on average, in 2002 than in 2000 and 2001, when they were rated with the 3rd edition of the *Guides*. Average impairment ratings for the third most common

injury type, Neurological Problems, remained very stable over the 2000 to 2002 period, with little observable change in the average impairment rating of just under 9 percent.

Zero Percent Ratings by Diagnostic Group

Overall, IRs assigned to injured workers in 2002 (using the 4th Edition of the *Guides*) resulted in significantly fewer “final” zero ratings (12 percent) than ratings assigned in either 2000 (34 percent) or 2001 (41 percent), when the 3rd Edition of the *Guides* was in effect (see Figure 8). In addition to the impact that the change in the edition of the *AMA Guides* has had on ratings, it is also important to note that the statutory changes that removed the carrier-selected doctors (i.e., RME doctors) from the process also had a significant impact on the final ratings assigned to injured workers in Texas. It should also be noted that because 2002 im-

pairment ratings are more likely to still be in the dispute process, 2002 results should be considered preliminary at this point.

With the exception of injuries involving Degenerative Disease, all diagnostic groups followed this general pattern of having a lower proportion of the IR exams resulting in a zero rating. The most profound drop in zero ratings was found in Superficial Injuries. The majority of the IRs for Superficial Injuries were zero percent in 2000 (67 percent) and 2001 (80 percent). However in 2002, using the 4th Edition of the *Guides*, just 28 percent of the Superficial Injuries received a rating of zero percent. When considering some of the other more frequent injury types (i.e., those with at least 150 claims in each of the three years) some of the largest disparities between the 3rd and 4th Editions of the *Guides* were observed in Soft Tissue Injuries, Skeletal Trauma, Internal Derangement,

and Other Injuries/Symptoms. (See Table 2).

Proportion of IRs equal to or greater than 15 Percent

The 15 percent IR threshold is very important in the Texas workers’ compensation system because it controls the future eligibility of injured employees to supplemental income benefits (SIBs), if they are also unable to return to work earning at least 80 percent of their pre-injury wage as a result of their impairment.

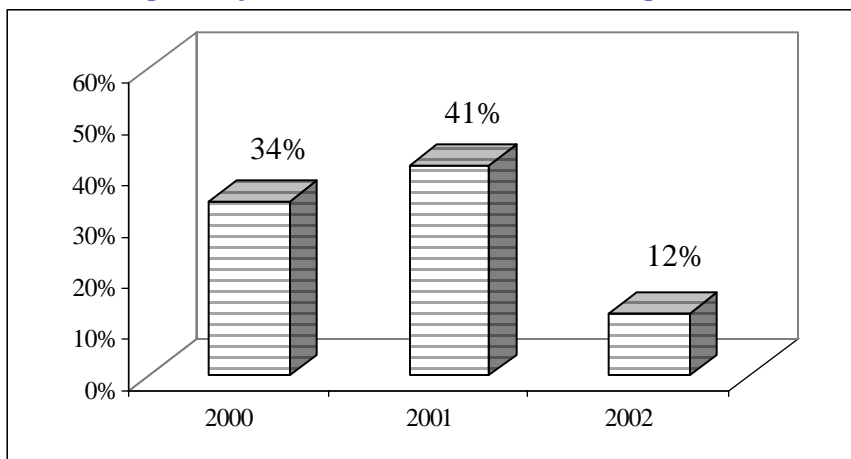
The change in the *Guides*, and in addition the near-elimination of MMI/IR-related medical examinations by carrier-selected doctors, appears to have had a significant impact on the proportion of injuries that receive a non-zero IR (thereby entitling them to impairment income benefits). However, the proportion of IRs at or above the 15 percent threshold has remained fairly constant over the 2000 to 2002 period (see Figure 9).

Consistency in the proportion of 15 percent or greater ratings held across all diagnostic groups with one exception. A fairly large segment of Other Injuries/Symptoms (those not otherwise classified) were more likely to receive ratings of 15 percent or higher in 2002 (14 percent) using the 4th Edition of the *Guides* than in either 2000 (8 percent) or 2001 (7 percent), when the 3rd Edition was used.

Clustering Tendencies

In 2002, under the 4th Edition of the *AMA Guides*, it is evi-

Figure 8
Percentage of Injuries with a Zero Percent Rating: 2000 – 2002



Source: Research and Oversight Council on Workers’ Compensation, and the Texas Workers’ Compensation Commission, Administrative Claims Data, 2003.

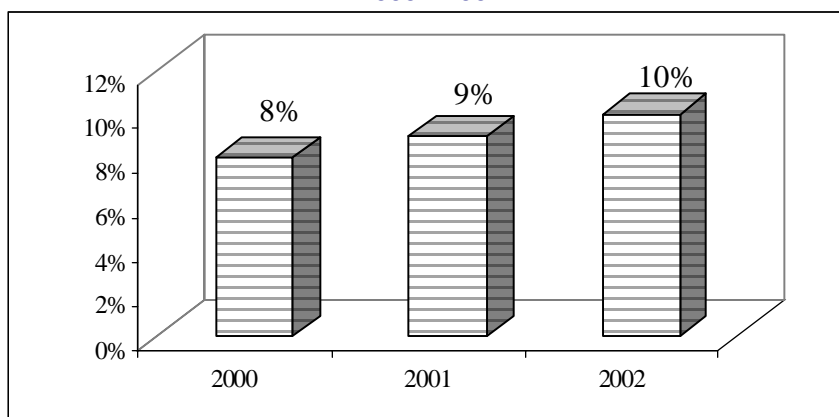
Table 2
Percentage of Injuries with a Zero Percent Rating
by Diagnostic Group: 2000 – 2002

Diagnostic Group	Group 1: 2000 (3 rd Edition of AMA Guides)	Group 2: 2001 (3 rd Edition of AMA Guides)	Group 3: 2002 (4 th Edition of AMA Guides)
Soft Tissue Injury	35% (N=11,770)	43% (N=14,393)	14% (N=8,737)
Neurological Problems	12% (N=2,783)	14% (N=2,895)	5% (N=2,484)
Skeletal Trauma	30% (N=1,545)	34% (N=1,686)	10% (N=1,106)
Internal Derangement	14% (N=1,132)	23% (N=1,352)	7% (N=1,004)
Degenerative Disease	3% (N=528)	7% (N=435)	8% (N=388)
Superficial Injuries	67% (N=1,698)	80% (N=3,123)	28% (N=778)
Disc Displacement	3% (N=528)	4% (N=296)	3% (N=315)
Amputation or Crush	17% (N=422)	27% (N=439)	8% (N=292)
Myelopathy	4% (N=214)	9% (N=221)	2% (N=165)
Hernia	76% (N=190)	72% (N=164)	45% (N=51)
Burns	65% (N=58)	78% (N=123)	33% (N=30)
Other Injuries/Symptoms	41% (N=5,786)	40% (N=5,897)	11% (N=3,242)
Overall	5.38% (N=26,394)	4.87% (N=31,024)	6.78% (N=18,592)

Source: Research and Oversight Council on Workers' Compensation, and the Texas Workers' Compensation Commission, Administrative Claims Data, 2003.

Notes: Neurological Problems includes Neuropathy and Nerve Compression Disorders. The number of IRs assigned for each diagnostic group is noted in parentheses.

Figure 9
Percentage of Injuries with a 15 Percent or Greater Rating:
2000 – 2002



Source: Research and Oversight Council on Workers' Compensation, and the Texas Workers' Compensation Commission, Administrative Claims Data, 2003.

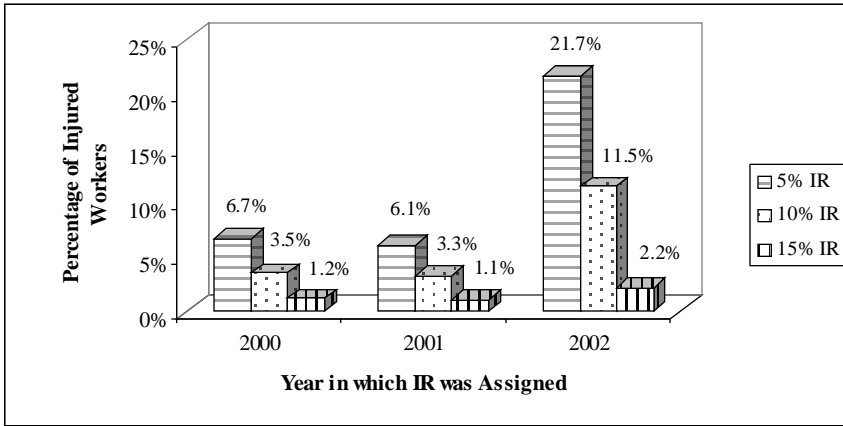
dent that ratings are much more likely to cluster at exactly 5 percent and 10 percent than injuries rated in 2000 and 2001 using the 3rd Edition of the *Guides*. (See Figure 10.) Over a third (35 percent) of IRs issued in 2002 received ratings of exactly 5 percent, 10 percent, or 15 percent, compared to 11.4 percent of IRs in 2000 and 10.5 percent of IRs in 2001.

Some injury types were more likely to cluster than others under the 4th Edition of the *Guides*. As Table 3 shows, Soft Tissue Injuries, Neurological Problems, Degenerative Diseases, Disc Displacement, Myelopathy, and Hernias had a significantly higher proportion of 5 percent and 10 percent IRs assigned in 2002, than in the two years in which the 3rd Edition of the *Guides* was in effect (2000 and 2001).⁸

Impairment Ratings By Doctor Type

As previous research by the ROC has shown, IRs assigned by designated doctors tended to be lower in 2002 than in previous years, while those assigned by treating doctors were higher than in previous years (2000 and 2001). These shifts were likely the result of several factors, including the change from the 3rd to the 4th Edition of the *AMA Guides*, the level of training designated and treating doctors have received on the use of the 4th Edition, and the change in the IR process that first directs carriers to use a designated doctor (as opposed to a carrier-selected doctor) to resolve issues related

Figure 10
Percentage of IRs with Clustered Ratings (5%, 10%, 15%):
2000 – 2002



Source: Research and Oversight Council on Workers' Compensation, and the Texas Workers' Compensation Commission, Administrative Claims Data, 2003.

Table 3
Percentage of Injuries with 5% or 10% IRs
by Selected Diagnostic Group: 2000 – 2002

Diagnostic Group	Impairment Rating	2000 (3 rd Edition of AMA Guides)	2001 (3 rd Edition of AMA Guides)	2002 (4 th Edition of AMA Guides)
Soft Tissue Injuries	5%	8.1%	7.1%	27.1%
	10%	3.0%	2.9%	11.7%
Neurological Problems	5%	6.8%	6.7%	24.5%
	10%	6.3%	6.6%	22.0%
Degenerative Diseases	5%	9.5%	6.7%	38.4%
	10%	6.3%	8.3%	23.2%
Disc Displacement	5%	1.1%	3.0%	23.5%
	10%	5.2%	4.1%	18.4%
Myelopathy	5%	5.6%	6.8%	18.2%
	10%	8.4%	9.5%	35.8%
Hernia	5%	5.8%	9.2%	21.6%
	10%	3.2%	2.4%	9.8%

Source: Research and Oversight Council on Workers' Compensation, and the Texas Workers' Compensation Commission, Administrative Claims Data, 2003.

Note: Only injuries with significant increases in the proportion of 2002 ratings clustered at 5% or 10% are included in this table.

to MMI and degree of permanent impairment.⁹

By stratifying the distribution of impairment ratings by doctor

type (i.e., designated doctor and treating doctor), some clear patterns emerge in the data, which help to explain at what end of

the IR spectrum average treating doctor ratings are being driven up and the average designated doctor ratings are being driven down in 2002 (when compared to previous years).

While the proportion of designated doctor exams resulting in a finding of no permanent impairment (i.e., a 0 percent rating) remained fairly constant at 9 to 11 percent over the 2000 to 2002 period, the proportion of 0 percent IRs provided by treating doctors dropped dramatically from 41 percent in 2000 and 52 percent in 2001 to just 14 percent in 2002 (when the 4th Edition of the *Guides* were in effect).

Another interesting observation is that the proportion of designated doctor IRs of 15 percent or more (i.e., making the injured worker potentially eligible for SIBs) declined substantially in 2002, while the proportion of treating doctor IRs of 15 percent or more increased slightly in 2002.

It seems clear that these two statistical artifacts associated with the revised IR process and the shift to the 4th Edition of the *Guides* explain the declining average IRs for designated doctors, and the rising IRs assigned by treating doctors in 2002.

Injury severity and claim complexity account for much of the difference in the average impairment ratings assigned by treating doctors and designated doctors. Designated doctors are much more likely to be involved in cases where the injury is more severe, the initial impairment rating is high, or the insurance

Table 4
Distribution of IRs by Doctor Type: 2000 – 2002

Impairment Rating	Designated Doctor Impairment Ratings			Treating Doctor Impairment Ratings		
	2000	2001	2002	2000	2001	2002
0%	10.76%	9.47%	9.96%	41.20%	51.61%	13.69%
1% to 5%	25.16%	25.45%	42.64%	28.82%	23.38%	48.00%
6% to 10%	27.67%	28.16%	26.28%	18.28%	15.10%	25.59%
11% to 14%	16.39%	16.27%	7.89%	7.26%	6.06%	6.53%
15%+ (Poss. SIBs Eligible)	20.02%	20.67%	13.25%	4.45%	3.83%	6.18%
Average IR	9.39%	9.59%	7.77%	4.17%	3.47%	5.89%

Source: Research and Oversight Council on Workers' Compensation, and the Texas Workers' Compensation Commission, Administrative Claims Data, 2003.

Note: It is important to note that the proportion of injuries rated at round numbers, such as 5% (Designated Doctors—2000: 7.8%; 2001: 8.5%; 2002: 25.39%; Treating Doctors—2000: 5.8%; 2001: 4.8%; 2002: 18.27) and 10% (Designated Doctors—2000: 5.2%; 2001: 6.1%; 2002: 13.0%; Treating Doctors—2000: 3.1%; 2001: 2.4%; 2002: 10.0), increase significantly for injuries rated under the 4th Edition of the *Guides* in 2002.

carrier wants to obtain an objective medical opinion regarding MMI and degree of permanent impairment from a TWCC-appointed doctor.

Summary

It is clear from previous ROC research and the findings presented in this article that, under the 4th Edition of the *AMA Guides*, the distribution of permanent impairment ratings assigned to injured workers changed significantly. In 2002, injured workers are much less likely to have a 0 percent impairment rating, and ratings are much more likely to be clustered at round numbers, such as 5 per-

cent and 10 percent. The change in the distribution of ratings has resulted in an overall increase in the average impairment rating assigned in 2002, when compared to prior years. Assuming that there is not an offsetting cost savings in medical payments or temporary income benefit payments, this increase may have significant cost implications for the Texas WC system in the area of higher impairment income benefits (IIBs). Further research is needed to monitor trends in this area.

However, these preliminary results appear to indicate that the change in the designated doctor process mandated by Article

5 of HB 2600 may have helped to negate the system impact of moving to the 4th edition of the *AMA Guides*. While the average rating assigned by treating doctors in 2002 (under the 4th Edition of the *AMA Guides*) increased over previous years, ratings by designated doctors were, on average, lower in 2002 than either 2000 or 2001. This finding is likely the result of a number of factors (e.g., the shift to the 4th Edition of the *AMA Guides*, the change in the IR process, the change in the designated doctor selection process, the overall rise in the number of designated doctor examinations, and the designated doctor monitoring program at TWCC).

The number of statutory and procedural changes occurring in a fairly short period of time – including the IR process changes in HB 2600 and the move from the 3rd to 4th edition of the *AMA Guides* – make it difficult to assign causation for changes in IR trends to one particular factor. However, the fact that IRs assigned by treating doctors increased in 2002 over 2000 and 2001 suggests that the move to the 4th edition of the *AMA Guides* did bring about an increase in average IRs. Unlike changes in overall ratings or those associated with designated doctors, ratings given by treating doctors are unlikely to have been significantly affected by other factors outside the *AMA Guides*.

With the September 1, 2003 deadline that every doctor who plans on assigning an IR must be registered on the TWCC Ap-

proved Doctor List (ADL) and must have been trained and tested on the proper application of the 4th edition of the *AMA Guides*, it will be important to update these findings to determine whether increased training will improve the consistency of impairment ratings over time.

Notes to pages 12-19

¹ See *Texas Labor Code* Section 408.124.

² See *TWCC Advisory* 2001-08, “Change to the 4th Edition of the *AMA Guides to the Evaluation of Permanent Impairment*, Published by the American Medical Association, and *TWCC Form 69*.” The 3rd Edition, 2nd Printing had been the only *AMA Guides* version used since the 1989 reform of the Texas workers’ compensation system.

³ See *Texas Labor Code*, Section 408.004(a) and (c), Section 408.0041, and Section 408.122(b) and (c).

⁴ See Research and Oversight Council on Workers’ Compensation, “Early Results of Changes to the Impairment Rating

Process for Injured Workers in Texas,” *Texas Monitor* Vol. 8, No. 1 (Spring 2003). A preliminary analysis of the change found that the average impairment rating increased but the average designated doctor impairment rating decreased as a result of changes to the designated doctor process under HB 2600.

⁵ It is assumed that the most recent IR assigned to an injured worker recorded within 180-days of the MMI date and first IR assigned, would be the final rating for the claim. It is, however, possible that a very small percentage of complex claims may have a subsequent medical examination and IR assignment at some point beyond the 180-day cut-off used in this study.

⁶ Diagnostic (ICD-9) codes were used to group injuries into “diagnostic buckets” for analytic purposes. For a detailed account of the grouping methodology, please refer to the Research and Oversight Council on Workers’ Compensation, “Designated Doctor Monitoring Results: Wide Variation in Average Impairment Ratings,” *Texas Monitor* Vol. 7, No. 2, Special Edition (August 2002).

⁷ It is important to note that this analysis includes all ratings issued during the three discrete periods of analysis, including multiple IRs per claim. While most claims only have one IR (74 to 83 percent — depending on the year), each rating included in this analysis may not necessarily represent the final rating for the claim. In addition, since this paper only looks at ratings assigned within 180 days of the first rating, it is possible that the final rating for a claim may be prepared sometime after the 180-day threshold.

⁸ Other injury types (e.g., Skeletal Trauma, Internal Derangement, Amputations/Crush, Burns, Superficial Injuries, and Other Injuries/Symptoms) were not nearly as likely to have large spikes at the 5 percent and 10 percent levels (under the 4th Edition of the *Guides*) as the diagnostic groups found in Table 3.

⁹ See Research and Oversight Council on Workers’ Compensation, “Early Results of Changes to the Impairment Rating Process for Injured Workers in Texas,” *Texas Monitor* Vol. 8, No.1 (Spring 2003).

Outcome Comparisons for Work Hardening and Chronic Pain Management Services

By Xiaohua Lu and Amy Lee

Previous studies from the Research and Oversight Council on Workers’ Compensation (ROC) and the Workers’ Compensation Research Institute (WCRI) illustrate that medical costs in Texas are generally higher than other state workers’ compensation systems and other health care delivery systems in

Texas.¹ The primary cost driver identified by these studies is an overutilization of services, particularly physical medicine, surgery and diagnostic testing.

In an attempt to lower medical costs in Texas, policymakers and system administrators have recently focused their attention on reducing unnecessary medi-

cal care and readjusting medical fee reimbursements. Along these lines, an area of recurring concern to system administrators and policymakers has been interdisciplinary programs such as work hardening, outpatient medical rehabilitation and chronic pain management.

In an effort to increase the

quality of services provided in these interdisciplinary programs, the Texas Workers' Compensation Commission (TWCC) has historically encouraged facilities to obtain national CARF (Commission on Accreditation of Rehabilitation Facilities) accreditation² by requiring insurance carriers to reduce the reimbursement for work hardening, outpatient medical rehabilitation, and chronic pain management services by 20 percent if the facility providing these services is not CARF-accredited.³ More recently in November 2001, TWCC adopted changes to Rule 134.600, which exempted CARF-accredited facilities from complying with preauthorization and concurrent review requirements for work hardening and work conditioning programs for one year (this exemption was extended for another year in January 2003).⁴

Despite the recommendation from TWCC in its 1996 *Medical Fee Guideline* that injured workers should receive rehabilitation services from CARF-accredited facilities, system stakeholders remain divided on whether or not CARF-accredited programs produce better treatment and disability duration outcomes than non-CARF-accredited programs. In response to proposed changes in TWCC Rule 134.600, some stakeholders commented that "the efficiency in return to work objectives of CARF-accredited programs has not yet been established through outcome measures" and "the discriminatory measures against non-CARF programs in the aspects of

preauthorization and maximum amount of reimbursement should be eliminated."⁵ Others believed that outcome measures of CARF-accredited programs relative to non-CARF-accredited programs are available for TWCC to review, and further recommended that only CARF-accredited programs be reimbursed to increase the quality of these rehabilitation specialty programs.

This article attempts to answer questions raised by system stakeholders regarding the cost effectiveness and disability duration outcomes associated with work hardening and chronic pain management services provided by CARF and non-CARF-accredited programs. Using medical billing data collected by TWCC, this article compares a group of claims that received either work hardening (WH) or chronic pain management (CP) services from CARF-accredited programs with a group of claims that received the same type of services from non-CARF-accredited programs to determine:⁶

- (1) whether the frequency and cost of work hardening and chronic pain management services performed in CARF-accredited programs were lower than those in non-CARF-accredited programs;
- (2) whether claims that received work hardening or chronic pain management services from CARF-accredited programs were statistically associated with lower service and Temporary Income Benefit (TIBs) durations (which serve as proxies for disability dura-

tion) than similar claims that received these services from non-CARF-accredited programs.

Data and Methodology

The analysis presented here is based on the TWCC Medforms database, which contains all medical bills paid by insurance carriers for work-related injuries in Texas. In order to ensure adequate data on claims with work hardening and chronic pain management services, claims with injury years in 1997 and 1998 became the focus for the analysis.⁷ Each claim in the analysis dataset included all medical bills for services provided through December 26, 2002.

To identify claims with work hardening and chronic pain management services, all claims in the analysis data set contained payment amounts for either CPT codes 97545 or 97546 (using the TWCC payment modifier of WH)⁸ to identify work hardening services or payments for CPT code 97799 (using the TWCC payment modifier CP) to identify chronic pain management services. Medical bills that had no payment associated with work hardening or chronic pain management services were excluded from the analysis dataset.

To isolate whether a work hardening or chronic pain management service was provided by a CARF-accredited program, medical bills for each claim were analyzed to determine whether the work hardening or chronic pain management service was billed using the "AP" or "Ac-

credited Program” modifier required by the TWCC *Medical Fee Guideline*. In order to reduce the likelihood that a claim would be mis-grouped as a “CARF” claim, a claim must have had over 90 percent of work hardening and chronic pain management services billed with the “AP” modifier or paid at the “CARF rate” according to the TWCC *Medical Fee Guideline* in order to be classified as a “CARF” claim. Only claims that did not have any medical bills with the “AP” TWCC payment modifier or were paid at the “non-CARF rate” according to the TWCC *Medical Fee Guideline* were classified as “non-CARF” claims.⁹

In an attempt to make valid comparisons regarding the TIBs durations of “CARF” and “non-CARF” claims (used in this analysis as a proxy for disability duration outcomes), this analysis included claims that for practical purposes, could be classified as only work hardening or “WH only” claims (i.e., each claim had at least 80 percent of all 97545 and 97546 CPT codes paid for as work hardening services and no more than five 97545 and 97546 paid bills not classified as work hardening) or only chronic pain management or “CP only” claims (i.e., each claim had at least 80 percent of 97799 CPT codes paid for as chronic pain management services and no more than five 97799 paid bills not classified as chronic pain management). Aggregating claims into “WH only” or “CP only” groups is important in ensuring accurate compari-

sons since claims that have had multiple types of services performed would likely have longer TIBs durations than claims with only one type of service provided.

The final analysis dataset contained a total of 6,460 claims, 1,081 of which were “CP only” claims and 5,379 of which were “WH only” claims. Among the 1,081 “CP only” claims, 595 received these services from non-CARF-accredited programs and 486 received CP services from CARF-accredited programs. Approximately 4,414 claims among the 5,379 “WH only” claims in the analysis dataset received these services from non-CARF-accredited programs and 965 received services from CARF-accredited programs. See Tables 5, 6, and 7 for the descriptive statistics of the claims included in the final analysis dataset.

Key Findings

This article presents two sets of comparisons for WH and CP services provided by CARF and non-CARF-accredited programs. First, this analysis compares the average utilization, cost, service duration and TIBs duration for claims that received WH or CP services in CARF and non-CARF-accredited programs without taking into consideration differences in the injury type, injury severity, age and gender of the claims in the analysis dataset. Those descriptive statistics provide rough but straightforward comparisons between WH and CP services

provided by CARF and non-CARF-accredited programs. The second comparison uses several regression models to control for the effect that differences in injury type, injury severity, age and gender might have on the average utilization, cost, service duration and TIBs duration associated with WH and CP services provided by CARF and non-CARF-accredited programs, thereby ensuring an “apples to apples” comparison of CARF and non-CARF-accredited programs. In most cases both comparisons yielded similar results.

General Comparisons of WH and CP Services Provided by CARF and Non-CARF-accredited Programs

As Table 8 indicates, claims that received CP services from CARF-accredited programs generally received:

- Slightly more CP services per visit (6.4 services for CARF claims compared with 6.1 services for non-CARF claims);
- Almost two more visits per CARF claim (15.6 visits) than non-CARF claims (13.9 visits); and
- Substantially more services per CARF claim (95.6 services) than non-CARF claims (79.2 services).

Claims that received WH services from CARF-accredited programs generally received:

- More WH services per visit (6.7 services for CARF claims compared with 5.7 services for non-CARF claims);

- Fewer visits per claim (15.1 visits for CARF claims compared with 16.8 visits for non-CARF claims); and
- Fewer services per claim (90.5 services for CARF claims compared with 96.1 services for non-CARF claims).

In general, WH and CP services provided by CARF-accredited programs cost more than similar services provided by non-CARF-accredited programs (see Table 9 for information comparing the average cost per service, per visit and per claim for CARF and non-CARF-accredited programs). This increased cost is primarily a result of the 1996 TWCC Medical Fee Guideline, which dictates that insurance carriers should reduce reimbursements to providers by 20 percent if those services are not provided by a CARF-accredited facility.¹⁰ Higher reimbursements for CARF-accredited programs result in a higher cost per claim despite the lower utilization of WH services per claim for CARF-accredited programs.

The average TIBs duration (used in this analysis as one proxy for disability duration) associated with CARF claims was somewhat shorter than that of non-CARF claims (40.8 weeks versus 47.1 weeks for CP claims and 31.7 weeks versus 32.5 weeks for WH claims). However, the duration between a worker's injury date and the service completion date (another proxy for disability duration since workers do not typically return to work un-

til the completion of WH or CP services) was significantly shorter for CARF claims receiving CP services (95.1 weeks versus 106 weeks), but slightly longer for CARF claims receiving WH services (46.5 weeks versus 45.1 weeks) (see Table 6). Regardless of whether the service was provided by a CARF-accredited program, there was no significant difference in the average service duration for either WH or CP services.

Results of Regression Analyses

As explained in the previous section, the numbers reported in Tables 8-10 provide basic descriptive statistics regarding the average utilization, cost, service duration and TIBs duration for claims that received WH or CP services from CARF and non-CARF-accredited programs. These averages, however, do not take into consideration certain claim characteristics such as injury type, severity of injury, claimant gender, and age. To control for the effect that these claim characteristics may have on the average utilization, cost and durations of WH and CP services in CARF and non-CARF-accredited programs, nine regression analyses were conducted separately on WH and CP claims.¹¹ Key findings from these regression models are provided below.

Work Hardening Services

- Claims that received services from CARF-accredited programs received on average more services per visit (an

average of 1.1 more units of service per visit), but less visits per claim (an average of 1.6 visits less) than claims that received WH services from non-CARF-accredited programs. As a result, there was not a statistically significant difference in the total number of WH services per claim between CARF and non-CARF-accredited programs.

- Claims that received WH services from CARF-accredited programs had statistically higher costs per unit of service (an average of \$9.56 higher), higher costs per visit (an average of \$120 higher) and higher costs per claim (an average of \$619 higher) than claims that received WH services from non-CARF-accredited programs. These higher costs are primarily a function of the reimbursement structure in the 1996 TWCC *Medical Fee Guideline*, which directs insurance carriers to reimburse CARF-accredited programs at a rate that is 20 percent higher than non-CARF-accredited programs.
- Despite the higher cost of WH services for CARF-accredited programs, CARF accreditation was not statistically associated with lower TIBs durations for claims, lower WH service durations and lower durations between a claim's injury date to WH service ending date.

Table 5
Distribution of Claims by Service Type, CARF Accreditation, Age, Impairment Rating and Gender

Service Type	CARF Accreditation?	Number of Claims	Avg. Age Per Claimant	Avg. Impairment Rating Per Claimant	Gender
CP	No	595	40.75	14.10	Male: N = 272 (48%) Female: N = 297 (52%)
CP	Yes	486	40.35	13.30	Male: N = 251 (54%) Female: N = 218 (46%)
WH	No	4414	37.08	9.13	Male: N = 2800 (67%) Female: N = 1369 (33%)
WH	Yes	965	36.61	8.99	Male: N = 571 (63%) Female: N = 333 (37%)

Source: Research and Oversight Council on Workers' Compensation, 2003.

Note: Due to missing data on gender in the dataset, the total number of male and female claims in each cell may not equal the total number of claims in column 3.

Table 6
Distribution of Claims by Injury Type (Diagnostic Groups)

Service Type	CARF Accreditation?	Low Back Soft Tissue	Low Back Nerve Compression	Shoulder Soft Tissue	Neck Soft Tissue	Hand Soft Tissue
CP	No	N = 173	N = 31	N = 15	N = 46	N = 5
CP	Yes	N = 74	N = 13	N = 13	N = 24	N = 3
WH	No	N = 1222	N = 364	N = 314	N = 303	N = 111
WH	Yes	N = 286	N = 62	N = 62	N = 58	N = 31

Source: Research and Oversight Council on Workers' Compensation, 2003.

Note: Claims were assigned into diagnostic groups using the most frequently billed and paid for diagnostic code for a particular claim.

Table 7
Distribution of Claims by Injury Type (Diagnostic Groups), Continued

Service Type	CARF Accreditation?	Knee Internal Derangement	Ankle and Foot Soft Tissue	Hand Nerve Compression	Multiple Body Parts	Other Injury Types
CP	No	N = 3	N = 3	N = 7	N = 38	N = 274
CP	Yes	N = 1	N = 2	N = 9	N = 6	N = 341
WH	No	N = 114	N = 68	N = 81	N = 286	N = 1551
WH	Yes	N = 22	N = 18	N = 26	N = 46	N = 354

Source: Research and Oversight Council on Workers' Compensation, 2003.

Note: Claims were assigned into diagnostic groups using the most frequently billed and paid for diagnostic code for a particular claim.

Chronic Pain Management Services

- There was not a statistically significant difference in the number of CP services per visit between CARF and non-CARF-accredited programs.

- However, claims that received CP services from CARF-accredited programs had on average 1.7 more visits per claim than claims that received similar CP services from non-CARF-accredited

programs. As a result, claims that received CP services from CARF-accredited programs received on average 13.9 more units of CP services per claim.

- As in the case of WH services, the cost per unit of service, cost per visit and cost per claim were on average higher for claims that received CP services in CARF-accredited programs (the cost in a CARF-accredited program was on average \$30 higher per unit of service, \$113 higher per visit and \$2,828 higher per claim). The higher cost of CP services per claim for CARF patients came from both the higher cost per unit of service and a higher utilization of services per claim. Again, these higher costs are primarily a function of the reimbursement structure in the 1996 TWCC *Medical Fee Guideline*, which directs insurance carriers to reimburse CARF-accredited programs at a rate that is 20 percent higher than non-CARF-accredited programs.
- In contrast to WH services, CARF-accredited CP programs were statistically associated with lower TIBs durations (an average of 4.88 weeks lower than claims receiving CP services from non-CARF-accredited programs) and lower durations between the injury date and service ending date (8.7 weeks). However, CARF-accredited CP programs were not statis-

Table 8
Average Utilization of Chronic Pain Management and Work Hardening Services by CARF and Non-CARF-accredited Programs

Service Type	CARF Accreditation?	Average # of Services/Visit	Average # of Visits/Claim	Average # of Services/Claim
CP	No	6.1	13.9	79.2
CP	Yes	6.4	15.6	95.6
WH	No	5.7	16.8	96.1
WH	Yes	6.7	15.1	90.5

Source: Research and Oversight Council on Workers' Compensation, 2003.

tically associated with lower CP service durations, which may indicate that CARF-accredited CP programs may initiate services earlier in the claim than non-CARF-accredited programs, but that CARF and non-CARF-accredited programs generally provide the same number of weeks of CP services per claim.

Conclusion

The results suggest that despite the higher per claim costs, CARF-accredited WH programs did not result in a lower level of utilization of WH services and were not statistically associated with lower TIBs durations or service durations. On the other hand, CARF-accredited CP programs were statistically associated with shorter TIBs durations and shorter injury date to CP service ending date durations at

the expense of higher per claim costs and higher utilization of services. Since the average weekly TIBs payment between 1997 and 1999 was approximately \$284 according to TWCC's December 2002 *System Data Report*, the estimated savings on TIBs benefit payments for claims that received CP services from CARF-accredited programs is estimated to be $(4.88) * (\$284) = \$1,386$. However, given the average extra cost of \$2,828 per claim for CP services provided in CARF-accredited programs (as a result of higher fee reimbursements by carriers and higher utilization of CP services per claim), these TIBs benefit savings by themselves do not make up for the additional costs of CP services provided in CARF-accredited programs.¹²

It should be noted that this analysis is exploratory in nature and is not a complete assessment of the benefits of CARF-accred-

ited programs and their impact on return-to-work outcomes. In order to more precisely measure the impact of CARF accreditation on an injured worker's ability to return to work, more detailed data containing actual return-to-work dates of injured workers (which are not currently available in Texas administrative data) would need to be analyzed. This analysis also does not attempt to measure the impact of CARF accreditation on the quality of care provided to injured workers, which is an important component of CARF's mission statement. However, given the high medical cost situation in Texas, the results from this study shed some light on the concerns raised by system stakeholders over the perceived cost-effectiveness of services provided in CARF-accredited programs. Further research will be necessary to monitor the impact of the new 2002 TWCC *Medical Fee Guideline* (effective August 1, 2003) on the cost and utilization of WH and CP services provided by CARF-accredited programs.

Notes to pages 18-23

¹ See Research and Oversight Council on Workers' Compensation, *Striking the Balance: An Analysis of the Cost and Quality of Medical Care in the Texas Workers' Compensation System*, 2001; and Telles, Carol, Laszlo, Aniko and Te-Chun Liu, *Compscope Benchmarks: Multistate Comparisons 1994-2000*, Workers' Compensation Research Institute, Cambridge, MA, 2003.

² The Commission on Accreditation of Rehabilitation Facilities (CARF) is an independent non-profit organization that accredits a variety of medical rehabilitation, behavioral health, and assisted living programs. CARF's stated mission

Table 9
Average Cost of Chronic Pain Management and Work Hardening Services by CARF and Non-CARF-accredited Programs

Service Type	CARF Accreditation?	Average Cost Per Service	Average Cost Per Visit	Average Cost Per Claim
CP	No	\$151	\$706	\$9,351
CP	Yes	\$175	\$818	\$12,229
WH	No	\$52	\$291	\$4,923
WH	Yes	\$61	\$410	\$5,516

Source: Research and Oversight Council on Workers' Compensation, 2003.

Table 10
Average TIBs Duration Associated with Claims that Received Chronic Pain Management and Work Hardening Services by CARF and Non-CARF-accredited Programs and Average Duration of Chronic Pain Management and Work Hardening Services by CARF and Non-CARF-accredited Programs

Service Type	CARF Accreditation?	Average TIBs Duration Per Claim (weeks)	Average Service Duration Per Claim (weeks)	Average Duration from Injury Date to Service End Date (weeks)
CP	No	47.1	8.9	106.0
CP	Yes	40.8	8.8	95.1
WH	No	32.5	6.0	45.1
WH	Yes	31.7	6.0	46.5

Source: Research and Oversight Council on Workers' Compensation, 2003.

is to promote the quality, value, and optimal outcomes of services through accreditation that centers on enhancing the lives of persons receiving services. Accreditation can be obtained through a multi-step process that includes: a provider self-evaluation to determine if it is substantially in compliance with CARF's standards; an on-site survey to determine the service provider's conformance to all CARF-applicable standards; a review of the on-site survey report by members of the CARF Board of Trustees who then render the accreditation outcome; and the submission of a Quality Improvement Plan that states the actions that have been or will be taken in response to the recommendations made in the survey report. Providers are generally awarded a three-year accreditation, although this can be reduced depending on the outcome of on-site surveys and the provider's compliance with CARF's quality of care standards.

³ See Texas Workers' Compensation Commission, *1996 Medical Fee Guideline*, 1996. For example, the Maximum Allowable Reimbursement (MAR) for work hardening services in the 1996 TWCC *Medical Fee Guideline* (which remained in effect until August 1, 2003) was \$64 per hour for CARF-accredited facilities and \$51.20 per hour for non-CARF facilities.

⁴ TWCC adopted changes to Rule 134.600 in response to statutory changes in Section 413.014, Texas *Labor Code* (77th Legislature, 2001), which mandated preauthorization for work hardening

and work conditioning services that are not credentialed by an organization recognized by TWCC.

⁵ See Adoption Preamble for Amended TWCC Rule 134.600.

⁶ This article focuses only on work hardening and chronic pain management services due to the small number of injured workers who had only work conditioning or outpatient medical rehabilitation services.

⁷ Previous analyses have indicated that work hardening and chronic pain management services are typically provided later in the claims process than most other types of medical treatments (generally six to eighteen months after the date of injury). In order to ensure that this analysis did not arbitrarily "cut off" work hardening or chronic pain management bills, injury years 1997 and 1998 were selected.

⁸ Certain medical services billed using the 97545 and 97546 CPT code were classified as work hardening services even without the inclusion of the TWCC payment modifier of WH, if the payment for the service matched the fee guideline payment mandated for work hardening services.

⁹ Any claim that did not meet the "CARF" or "non-CARF" criteria (i.e., received a high proportion of WH or CP services from both CARF and non-CARF-accredited programs) was excluded from the study.

¹⁰ The 1996 TWCC Medical Fee Guideline, which recommends but does not require CARF accreditation for all inter-

disciplinary programs, specifies that insurance carriers should reduce the Maximum Allowable Reimbursement (MAR) for work hardening services by 20 percent if the service is provided by a non-CARF-accredited facility. In the case of chronic pain management services (that do not have a MAR specified in the fee guideline), the fee guideline directs insurance carriers to reduce the reimbursement for these services to 20 percent below the usual and customary reimbursement if the chronic pain management service is not provided by a CARF-accredited facility.

¹¹ The dependent variables for these nine regression models included: number of units of services per visit, number of visits per claim, number of units of service per claim, cost per unit, cost per visit, cost per claim, TIBs duration (in weeks), WH or CP service duration (in weeks), and the duration between the injury date to WH or CP service ending date (in weeks). The explanatory variables for each of these models included: impairment rating (as a proxy for injury severity), claimant gender, claimant age, a dummy variable indicating whether the WH or CP service was provided by a CARF-accredited program and nine dummy variables specifying the nine diagnostic groups described in Tables 2 and 3 with "other" injuries used as the reference group.

¹² There are other possible income benefit savings that may be associated with CARF-accredited programs such as reductions in Impairment Income Benefits (IIBs) and Supplemental Income Benefit (SIBs) durations, but those savings are not expected to be large enough to overcome the increased medical costs associated with CP services provided by CARF-accredited programs. There may be other cost savings realized by lower disability durations such as increased employee productivity, increased earning potential for injured workers, etc., which are not easily quantified.

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