

# **Medical Cost and Quality of Care Trends in the Texas Workers' Compensation System**

Texas Department of Insurance  
Workers' Compensation Research Group

Chairman, Members. Good Morning. My name is Amy Lee and I am a researcher with the Texas Department of Insurance. With me today is D.C. Campbell, the primary researcher on this project. Today we are going to present to you some research findings on the cost and quality of medical care provided to injured workers in the Texas workers' compensation system.

I understand that your agenda is very full today so I will do my best to just hit the highlights of this analysis and then answer any questions you may have. If you will turn to slide 2.

## Purpose of This Analysis

- To analyze the average medical cost per claim over time;
- To identify various medical cost drivers in the system; and
- To examine the quality of medical care provided to injured workers in Texas.

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During this presentation, we are going to present research findings related to workers' compensation medical cost trends in Texas, the various medical cost drivers in the system and the overall quality of medical care provided to injured workers in Texas.

All of the medical cost and utilization of care findings presented here were calculated using the medical data collected and maintained by the Texas Workers' Compensation Commission using the analytical methods that we outlined during the last hearing.

If you'll turn to slide 8, I'll move on to the findings.

## Seven areas of focus for the medical cost portion of this analysis:

- The average medical cost per claim
- The distribution of medical payments by injury type
- The distribution of medical payments by type of health care provider
- The percentage of health care providers that account for a majority of the medical costs

Seven areas of focus for the medical cost portion of this analysis, *continued*:

- The average number of physical medicine treatments per injured worker
- The average number of physical medicine treatments per visit
- Physical medicine treatment utilization differences for outlier health care providers

## Data Sources for Medical Cost Analysis

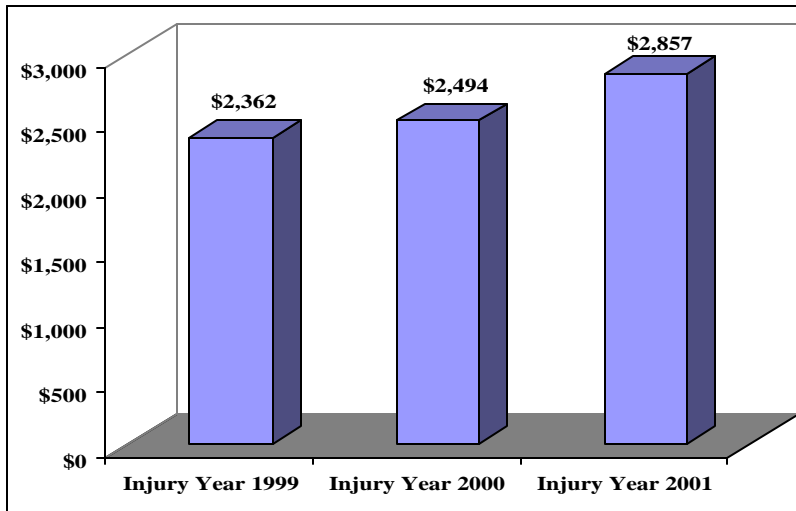
- Texas Workers' Compensation Commission (TWCC) medical database, as of October 2003
  - Contains approximately 40 million records: 1999-2003.
  - Includes medical bills for all workers' compensation claims.
  - Includes both professional service and hospital bills.
  - Currently does not contain any pharmacy bills.

## Methods for Medical Cost Analysis

- To ensure an “apples to apples” comparison, TDI grouped all diagnoses into diagnostic “buckets” according to a methodology prescribed by the American College of Occupational and Environmental Medicine (ACOEM).
- Findings for this presentation were calculated for injury years 1999-2001 at twelve months post-injury to ensure that all claims included in the analysis have the same claim maturity.

# Medical Cost Findings

### Average Workers' Compensation Medical Cost Per Claim, Injury Years 1999-2001, One-Year Post Injury



Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

Note: Average medical costs per claim do not include pharmacy costs.

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Looking at slide number 8, you'll see that the average medical cost per claim has increased approximately 21 percent from injury year 1999 to injury year 2001. It is important to note that during this timeframe, there was one TWCC fee schedule in place for professional services.

I understand that in your packet you also have medical cost slides put together by the Workers' Compensation Research Institute (WCRI). Just to clarify, the average medical cost findings presented by WCRI are for claims with more than seven days of lost time and therefore represent the average medical costs for more severe injuries, while the medical cost findings presented here are for all claims, regardless of whether the worker lost time away from work.

If you'll now turn to slide number 9.



## Distribution of Total Workers' Compensation Medical Costs by Injury Type – Injury Years 1999-2001, One-Year Post Injury

Injury Type	% of Total Medical Payments Injury Year 1999	% of Total Medical Payments Injury Year 2000	% of Total Medical Payments Injury Year 2001
Ankle & Foot Soft Tissue	1.9%	1.9 %	2.0 %
Hand & Wrist Nerve Compression	3.8%	3.9 %	3.9 %
Hand & Wrist Superficial Trauma	3.0 %	2.9 %	2.9 %
Hand & Wrist Soft Tissue	2.8 %	2.8 %	3.4 %
Knee Internal Derangement	4.6 %	4.5 %	4.6 %
Low Back Nerve Compression	7.0 %	7.3 %	7.6 %
Low Back Soft Tissue	15.8 %	16.4 %	16.0 %
Multiple Soft Tissue	1.8 %	1.8 %	1.9 %
Neck Soft Tissue	7.0 %	7.0 %	7.2 %
Shoulder Soft Tissue	7.1 %	7.9 %	8.5 %
Other Injuries	45.2 %	43.8 %	42.0 %

Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

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This slide shows you the distribution of medical payments in the system by injury type. Two findings to take away from this slide:

- 1) that low back soft tissue injuries account for the highest percentage of medical costs in the system; and
- 2) that with a couple of exceptions (notably shoulder soft tissue and hand and wrist nerve compression injuries), there hasn't been a whole lot of variation in the types of injuries over time.

If you'll turn to slides 11 and 12, we'll look at the distribution of medical payments by provider type.

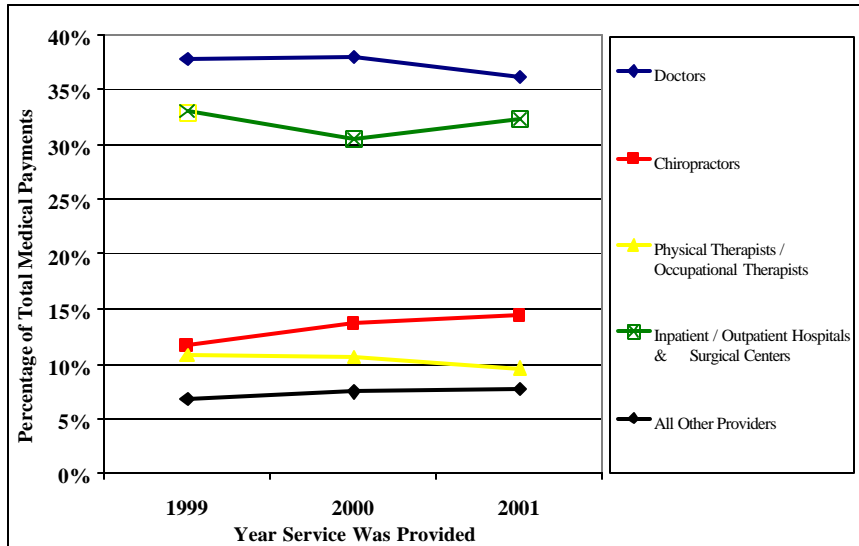
### Distribution of Total Workers' Compensation Medical Costs by Injury Type – Injury Year 2000, One-Year Post Injury

Injury Type	Total Medical Payments	% of Total Medical Payments
Ankle & Foot Soft Tissue	\$13,146,673	1.9%
Hand & Wrist Nerve Compression	\$26,362,235	3.9%
Hand & Wrist Superficial Trauma	\$19,467,726	2.9%
Hand & Wrist Soft Tissue	\$19,165,430	2.8%
Knee Internal Derangement	\$30,599,220	4.5%
Low Back Nerve Compression	\$49,462,840	7.2%
Low Back Soft Tissue	\$111,570,825	16.4%
Multiple Soft Tissue	\$12,379,939	1.8%
Neck Soft Tissue	\$47,651,886	7.0%
Shoulder Soft Tissue	\$53,742,990	7.9%
Other Injuries	\$298,402,418	43.8%

Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

Note: Total medical payments do not include pharmacy costs.

### Distribution of Total Workers' Compensation Medical Costs by Provider Type – Service Years 1999-2001



Source: Texas Workers' Compensation Commission, System Data Report: Data as of December 2003, 2004 and the Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

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Looking at slide 11, you'll see that from calendar year 1999-2001, the medical cost share attributed to chiropractors and "all other health care providers" which include providers such as podiatrists, optometrists, nurse practitioners, among others, have increased while the medical cost share attributed to physicians and physical therapists/occupational therapists has decreased.

Please turn to slide 13.

**Distribution of Total Workers' Compensation Medical Costs  
by Provider Type – Service Years 1999-2001**  
(percentages in parentheses)

Type of Health Care Provider	1999	2000	2001
Doctors	\$388,220,563 (37.8%)	\$389,601,242 (37.9%)	\$414,744,045 (36.1%)
Chiropractors	\$119,981,711 (11.7%)	\$139,930,256 (13.6%)	\$164,752,862 (14.4%)
Physical Therapists/Occupational Therapists	\$111,048,653 (10.8%)	\$108,891,118 (10.6%)	\$109,680,775 (9.6%)
Inpatient / Outpatient Hospitals & Surgical Centers	\$338,085,492 (32.9%)	\$312,518,310 (30.4%)	\$371,031,992 (32.3%)
All Other Health Care Providers	\$70,099,908 (6.8%)	\$75,953,139 (7.4%)	\$87,193,349 (7.6%)

Source: Texas Workers' Compensation Commission, System Data Report: Data as of December 2003, 2004 and the Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

Note: Total medical costs do not include pharmacy costs.

**Percentage of Health Care Providers That Account for a Majority of Non-Hospital Medical Costs, Injury Years 1999-2001, One Year Post Injury**  
(actual # of providers in parentheses)

Percentage of Non-Hospital Medical Costs	Percentage Health Care Providers Injury Year 1999	Percentage Health Care Providers Injury Year 2000	Percentage Health Care Providers Injury Year 2001
50 percent	1.7% (1,127)	2.3% (1,681)	2.3% (1,650)
60 percent	2.8% (1,816)	3.7% (2,732)	3.6% (2,643)
70 percent	4.5% (2,915)	6.0% (4,401)	5.8% (4,186)
80 percent	7.5% (4,928)	10.1% (7,437)	9.5% (6,866)
90 percent	15.3% (9,977)	20.0% (14,724)	17.9% (13,026)
95 percent	25.2% (16,451)	33.2% (24,390)	28.9% (20,974)

Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

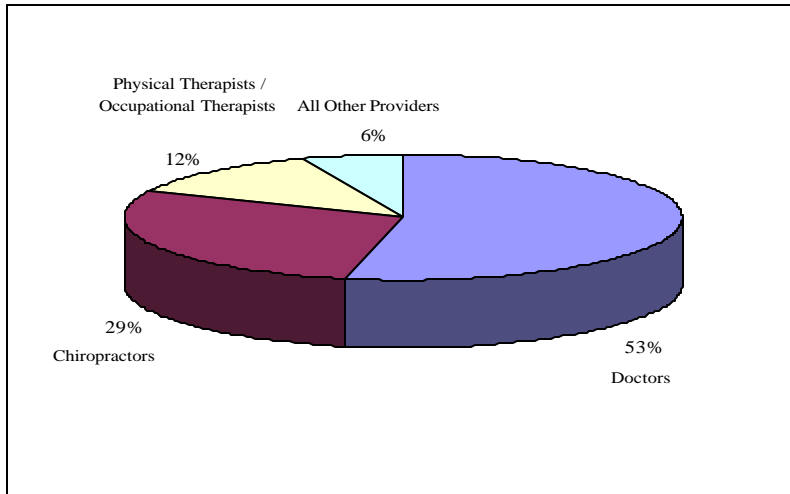
13

As you can see from this slide, a relatively small percentage of individual health care providers account for a majority of non-hospital medical costs in the workers' compensation system. For example, if you look at the table for injury year 2000, you'll see that approximately 1,700 providers or 2.3 percent of providers account for approximately 50 percent of non-hospital medical costs.

Previous studies identified three areas of medical services that are cost drivers in the Texas workers' compensation system: physical medicine services (which include services that are often associated with physical therapy), surgery and diagnostic testing. Today we are going to present to you the findings associated with one of these services areas – physical medicine. Please turn to slide 16.

(One thing I need to point out is that the numbers for injury year 1999 look slightly different than the numbers for 2000 and 2001 because the Texas Workers' Compensation Commission has improved its ability to identify individual health care providers using license numbers.)

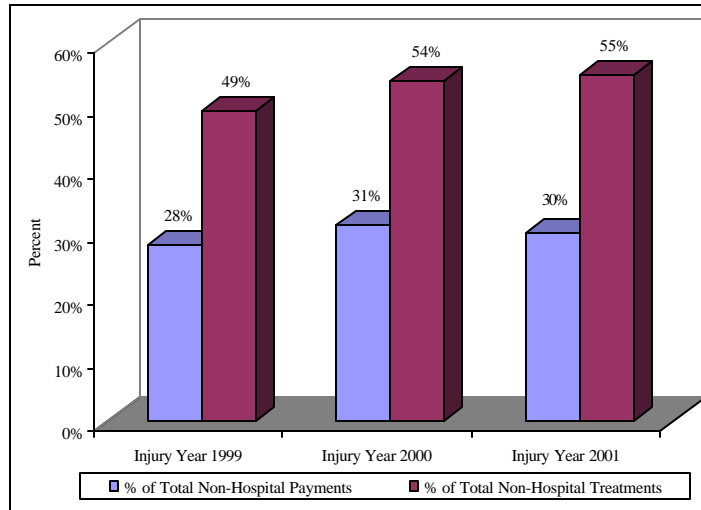
### Distribution of Health Care Providers That Account for 50 Percent of Non-Hospital Medical Costs, Injury Year 2000, One Year Post Injury



Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

# Physical Medicine Findings

## Percentage of Total Non-Hospital Medical Payments and Treatments That Are for Physical Medicine Services. Injury Years 1999-2001, One-Year Post Injury



Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

Note: Percentage of total non-hospital medical payments do not include pharmacy costs.

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To give you an understanding of what role physical medicine services play in the system, you'll see that physical medicine accounts for approximately 30 percent of all non-hospital medical payments and approximately 50 percent of all non-hospital treatments provided to injured workers in Texas.

Next slide.



### Average Number of Physical Medicine Treatments Per Injured Worker Who Received These Treatments, Injury Years 1999-2001, One-Year Post Injury

Type of Physical Medicine Service	1999	2000	2001	% Change 1999-2001
Therapeutic Exercises	21	23	28	33.3%
Manipulation	22	24	26	18.2%
Aquatic Therapy	22	27	34	54.5%
Chronic Pain Management	78	92	89	14.1%
Work Hardening	90	98	95	5.6%
Work Conditioning	44	46	48	9.1%
Neuromuscular Re-education	12	13	15	25.0%
Therapeutic Activities – Group	11	16	16	45.5%
Therapeutic Activities – One on One	11	11	13	18.2%
Unlisted Procedures	12	21	15	25.0%

Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

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This slide illustrates the average number of physical medicine treatments and services per injured worker who received these services. As you can see, the utilization of these physical medicine services has increased, in some cases significantly from injury year 1999 to 2001. Next slide.

## Average Number of Physical Medicine Treatments Per Visit, Injury Years 1999-2001, One-Year Post Injury

Type of Physical Medicine Service	1999	2000	2001	% Change 1999-2001
Therapeutic Exercises	2.1	2.2	2.3	9.5%
Manipulation	1.3	1.2	1.2	-7.7%
Aquatic Therapy	2.5	2.8	3.2	28.0%
Chronic Pain Management	6.6	7.1	7.6	7.6%
Work Hardening	5.7	5.9	5.9	3.5%
Work Conditioning	4.1	4.2	4.4	7.3%
Neuromuscular Re-education	1.3	1.4	1.4	7.7%
Therapeutic Activities – Group	1.4	1.9	1.7	21.4%
Therapeutic Activities – One on One	1.6	1.7	1.8	12.5%
Unlisted Procedures	3	5.1	4.3	43.3%

Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

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This slide shows that in addition to an increase in the number of physical medicine treatments per worker, there has also been an increase in the average number of physical medicine treatments per visit. Next slide.

### Average Number of Physical Medicine Visits Per Worker, Injury Years 1999-2001, One-Year Post Injury

Type of Physical Medicine Service	1999	2000	2001	% Change 1999-2001
Therapeutic Exercises	10	11	12	20.0%
Manipulation	17	19	22	29.4%
Aquatic Therapy	9	10	11	22.2%
Chronic Pain Management	11	12	12	9.1%
Work Hardening	16	16	16	0.0%
Work Conditioning	11	11	11	0.0%
Neuromuscular Re-education	9	9	10	11.1%
Therapeutic Activities – Group	7	8	9	28.6%
Therapeutic Activities – One on One	7	7	7	0.0%
Unlisted Procedures	4	4	4	0.0%

Source: Texas Department of Insurance, Workers' Compensation Workgroup, 2004.

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If you look at slide 19, you'll see that for many specific physical medicine services, there has also been an increase in the average number of visits per worker. Next slide.

## Median Number of Physical Medicine Treatments per Injured Worker with Low Back Soft Tissue Injuries, Injury Year 2000, One-Year Post Injury

Type of Physical Medicine Treatment	# of Services Per Worker – All Providers (50 <sup>th</sup> Percentile)	# of Services Per Worker – High Volume Providers (95 <sup>th</sup> Percentile)
Therapeutic Exercises	6	41
Manipulation	6	35
Aquatic Therapy	8	52
Chronic Pain Management	19	160
Work Hardening	50	195
Work Conditioning	28	102
Neuromuscular Re-education	4	23
Therapeutic Activities – Group	4	30
Therapeutic Activities – One on One	3	26
Unlisted Procedures	5	253

Source: Research and Oversight Council on Workers' Compensation, 2002 and 2003.

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This slide illustrates that there are significant practice pattern differences between certain high volume providers – shown on the slide as the 95<sup>th</sup> percentile and the rest of the health care provider population.

Now, let's move on to slide 22 to get a better understanding of the quality of medical care provided to injured workers in Texas.

# Quality of Medical Care

## Three areas of focus for the quality of medical care portion of this analysis:

- Selection of first non-emergency doctor
- Injured worker general satisfaction with medical care
- Return-to-work outcomes of injured workers in Texas

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To help you understand the quality of medical care provided to injured workers in Texas, we are presenting findings related to:

- The selection of the injured worker's first non-emergency doctor (also known as the treating doctor);
- The injured worker's satisfaction with the medical care provided, including how the worker's selection of doctor impacted satisfaction levels; and
- The return-to-work outcomes associated with injured workers in Texas.

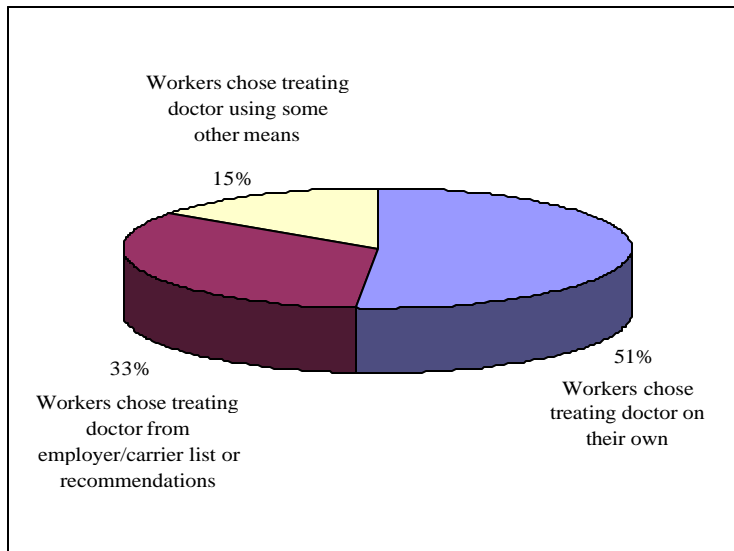
These findings come from a 2002 survey of 970 workers with low back, neck and shoulder soft tissue injuries in Texas.

See slide 24.

## Data Sources and Methods for Quality of Care Analysis

- Findings presented here are from a 2002 ROC survey of 970 private sector and state workers injured in 2000.
- All injured workers included in the survey had low back, neck and shoulder soft tissue injuries.

## Selection of First Treating Doctor



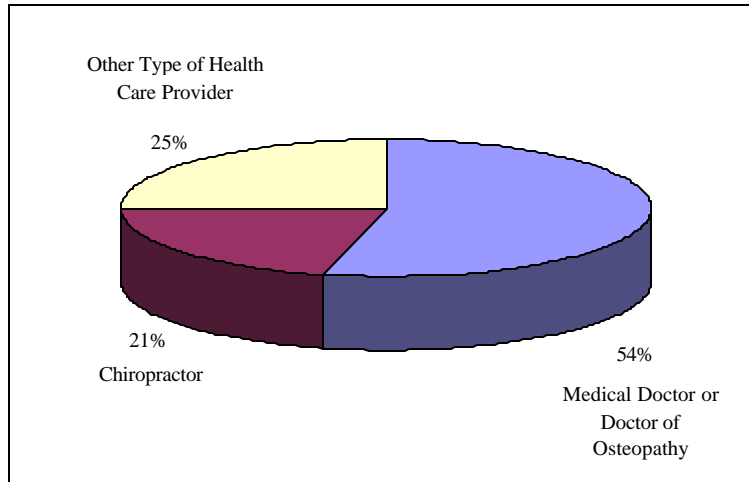
Source: Research and Oversight Council on Workers' Compensation, Survey of Injured Workers Regarding Work-Related Health Problems: Comparison of State and Private Sector Worker Experiences, 2003.

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As you can see from this slide, about half of the injured workers surveyed chose their treating doctor on their own, about a third chose a treating doctor recommended by their employer or insurance carrier and the remaining 15 percent chose their treating doctor using advice from family members, friends, coworkers, referrals from a family doctor or union. Please skip to slide 26.



## Types of Health Care Providers Selected by Injured Workers to be Treating Doctors



Source: Research and Oversight Council on Workers' Compensation, Survey of Injured Workers Regarding Work-Related Health Problems: Comparison of State and Private Sector Worker Experiences, 2003.

## Perceptions of Injured Workers Regarding the Quality of the Medical Care They Received from Their Treating Doctor

The doctor I saw most often for my work related injury or illness...	% of Injured Workers Who Agreed	% of Injured Workers Who Were Undecided	% of Injured Workers Who Disagreed
Overall, provided me with very good medical care that met my needs.	84%	2%	14%
Gave me a thorough medical examination.	84%	3%	12%
Explained my medical condition in a way that I could understand.	89%	1%	10%
Has my complete trust.	81%	3%	16%
Tried to understand my daily job tasks and duties.	85%	2%	13%
Doubted that I was really sick or injured.	22%	3%	75%
Seemed to care more about what the insurance company or employer thought about my care.	26%	5%	68%

Source: Research and Oversight Council on Workers' Compensation, Survey of Injured Workers Regarding Work-Related Health Problems: Comparison of State and Private Sector Worker Experiences, 2003.

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You can see that overall, a high percentage of injured workers said that they were satisfied with the quality of their care; however, about a fifth of the injured workers also thought that their doctor doubted whether they were really injured and a quarter said that they felt their treating doctor seemed to care more about what the insurance company or employer thought about their care. Next slide.

### Percentage of Injured Workers in Agreement with Various Statements Regarding the Quality of Care They Received from Their Treating Doctor, by Method of Doctor Selection

The doctor I saw most often for my work related injury or illness...	Treating Doctor Selected from Employer/Carrier List or Recommendations	Treating Doctor Selected by Injured Worker
Overall, provided me with very good medical care that met my needs.	77%	85%
Gave me a thorough medical examination.	74%	87%
Explained my medical condition in a way that I could understand.	83%	92%
Has my complete trust.	74%	84%
Tried to understand my daily job tasks and duties.	82%	89%
Doubted that I was really sick or injured.	25%	19%
Seemed to care more about what the insurance company or employer thought about my care.	31%	18%

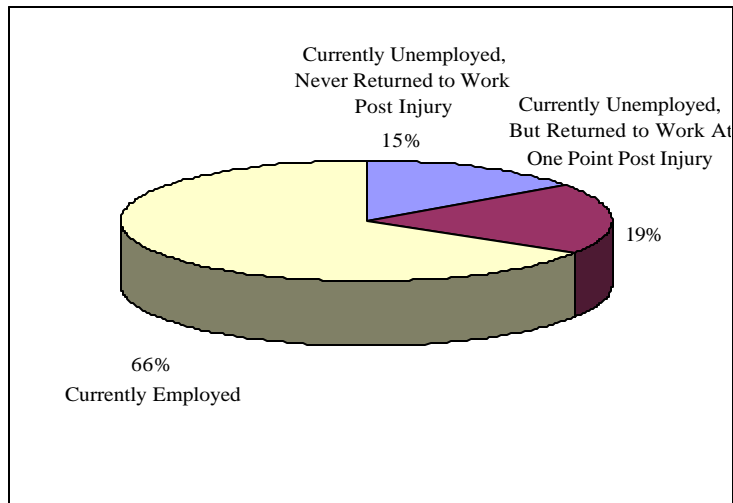
Source: Research and Oversight Council on Workers' Compensation, Survey of Injured Workers Regarding Work-Related Health Problems: Comparison of State and Private Sector Worker Experiences, 2003.

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This slide shows how injured worker perceptions regarding the quality of their medical care vary somewhat depending on whether the injured worker chose their own treating doctor or whether they selected a treating doctor who was recommended by their employer or insurance carrier.

As you would reasonably expect, injured workers who chose their own treating doctor were generally more satisfied with their medical care than workers who chose a doctor recommended by their employer or carrier. However, it is important to note that regardless of choice, the overall medical care satisfaction levels remain high. Next slide.

## Return-to-Work Outcomes for Injured Workers in Texas, 21 to 33 Months Post-Injury



Source: Research and Oversight Council on Workers' Compensation, Survey of Injured Workers Regarding Work-Related Health Problems: Comparison of State and Private Sector Worker Experiences, 2003.

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Overall, approximately one-third of the injured workers surveyed were not currently employed almost two years after their injury and 15 percent never went back to work after their injury. Remember, these are injured workers with soft tissue injuries.

# Summary

- The average medical cost per claim has increased approximately 21 percent from injury years 1999-2001.
- The findings in this presentation demonstrate that these medical cost increases are not a result of changes in injury patterns, but rather from increased utilization of medical care.
- As an example, this presentation shows that there have been increases in the amount and the intensity of physical medicine services provided to injured workers in Texas from 1999-2001.

## Summary, *continued*

- Specifically, there are significant utilization differences between the top 95<sup>th</sup> percentile of providers and the rest of the health care provider population.
- Chiropractors and other types of health care providers have seen increases in their total medical cost market share from service year 1999 to 2001, while medical doctors and physical therapists/occupational therapists have experienced a decline.
- A relatively small percentage of providers account for a majority of the medical costs in the system.

## Summary, *continued*

- Although injured workers whose choice of treating doctor was influenced by their employer/carrier were less satisfied with the quality of the medical care they received, it is important to note that a significant majority of injured workers were still satisfied with the quality of care they received.
- Even two years after their injury, a significant percentage of injured workers with soft tissue injuries are not currently employed and 15 percent never went back to work after their injury.

# Future Analyses

The TDI Workers' Compensation Research Group plans to:

- Examine medical treatment utilization and intensity rates for diagnostic testing and surgical procedures;
- Examine medical cost differences by provider type; and
- If data permits, examine the preliminary impact of the 2002 Texas Workers' Compensation Commission Medical Fee Guideline on medical costs.