TEXAS DEPARTMENT OF INSURANCE
WORKERS' COMPENSATION
RESEARCH AND EVALUATION GROUP

SETTING THE STANDARD

AN ANALYSIS OF THE IMPACT OF THE 2005 LEGISLATIVE REFORMS ON THE TEXAS WORKERS' COMPENSATION SYSTEM, 2016 RESULTS

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December 1, 2016

The Honorable Greg Abbott, Governor
The Honorable Dan Patrick, Lieutenant Governor
The Honorable Joe Straus, Speaker of the House

Dear Governors and Speaker:

In accordance with Insurance Code, Section 2053.012, and Labor Code, Section 405.0025, please find attached the biennial report on the impact of the 2005 House Bill 7 reforms on the affordability and availability of workers' compensation insurance for Texas employers and the impact of certified workers' compensation health care networks on return-to-work outcomes, medical costs, quality of care issues, and medical dispute resolution.

Please contact either of us or Melissa Hamilton, Director of Government Relations, at 512 676-6602 if you have any questions or to request a briefing on this information.

Sincerely,

David C. Mattax
Commissioner of Insurance

W. Ryan Brannan
Commissioner of Workers' Compensation

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EXECUTIVE SUMMARY

Texas Insurance Code, Section 2053.012, and Texas Labor Code, Section 405.0025, require the Texas Department of Insurance (TDI) to issue biennial reports to the Texas Legislature no later than December 1 every even-numbered year on the impact of the 2005 House Bill (HB) 7 reforms on the affordability and availability of workers' compensation insurance for Texas employers and the impact of certified workers' compensation health care networks (networks) on return-to-work outcomes, medical costs, access and utilization of health care, injured employee satisfaction, health-related outcomes, complaints, and medical dispute resolution. The following are key findings from this analysis of the 2005 HB 7 reforms:

Rates and Premiums in the Insurance Market

- Workers' compensation insurance has been profitable each year from 2005 to 2014, as measured by the industry's combined ratios and return on net worth.
- Since 2003, rates have decreased nearly 56 percent through 2015.
- Average premiums decreased from a high of $2.32 per $100 of payroll in 2003 to 96 cents per $100 of payroll in 2014. This is a reduction of nearly 59 percent.
- Rating tools recognizing individual risk variations, such as schedule rating and experience rating, continue to play a significant role in determining premium charged.
- Developed loss ratios are lower for claims in a network than for non-network claims. The loss ratios suggest that the filed credits for networks, which range up to 20 percent, are reasonable.

Workers' Compensation Health Care Networks

- The number of employers participating in networks and employees treated by networks has increased; about 47 percent of new claims are treated in networks, compared to 20 percent in 2010.
- Results from data calls with networks indicate that as of June 2015, about 707,524 injured employees have been treated in networks since 2006.
- Since TDI began accepting applications for networks on January 2, 2006, the agency has 30 active certified networks covering all 254 counties.

Satisfaction with Care and Health-Related Outcomes

- The results of a 2016 injured-employee survey of 4,000 injured employees (administered by Texas A&M University and analyzed by the TDI Research and Evaluation Group) show that 56 percent of injured employees surveyed in 2016 reported no problem in getting the medical care they felt they needed for their work-related injury, compared with 52 percent of injured employees surveyed in 2005. That rate, however, is lower than the 60 percent reported in 2008.
- When compared to injured employees who received non-network medical care, most networks were able to get an injured employee in to see a non-emergency doctor sooner.

- While injured employees were able to get access to medical care faster in 2016 compared to 2005, injured employees generally reported slightly lower satisfaction levels with the medical care they received, compared to 2005 results.
- A higher percentage (29 percent) of injured employees surveyed in 2016 reported that the medical care they received for their work-related injuries was worse than their routine medical care when compared to injured employees surveyed in 2005 (19 percent).
- The physical and mental functioning scores for injured employees in networks were better than the scores reported by injured employees who received non-network care.

Medical Costs and Utilization of Care

- Total medical costs for professional services decreased significantly from their 2002 peak until 2007. While they increased between 2008 and 2011, they appear to be decreasing again.
- Total hospital costs decreased from 2002 until 2005, then increased from 2006 until 2011. They have remained in a level or marginally decreasing trend since 2011.
- Total pharmacy costs have stayed at about the same level until 2011 but decreased significantly after creation of the pharmacy closed formulary in 2011.
- The average professional cost per claim also decreased from its 2002 peak until 2007, then increased by more than 30 percent between 2007 and 2013 injury years. The primary causes were increased fees for service in the 2008 Medical Fee Guideline, decreases in the number of claims, and increases in utilization for some services. Since 2013, average costs decreased by 10 percent.
- Average medical costs were higher for claims in WC health care networks than for those that were not in network until 2011. Network average costs have narrowed the gap, however, and were lower than non-network average costs in 2016.

Access to Care

- In 2015, the number of physicians participating in treating WC injured employees remained about the same over the past four years (about 18,000 physicians) while the number of claims decreased 12 percent during the same time frame. As a result, the average number of injured employees per participating physician continued to decrease, from 21 in 2000 to 15 in 2015.
- The total number of physicians actively practicing in Texas has increased steadily since 2000, reaching 50,120 in 2015. As the total number of Texas physicians increases relative to the stable number of participating physicians, the participation rate decreases.
- In absolute numbers, the total number of primary care physicians treating injured employees fell from 5,847 in 2000 to 4,514 in 2015, a 23 percent decrease. The total number of claims also fell 22 percent, however, over the same time frame.
- Decreasing participation by primary care physicians was alleviated in part by increasing emergency medicine specialist participation, which increased from 611 in 2000 to 2,729 in

2015. Participation by physician assistants also increased significantly, from 992 in 2000 to 2,047 in 2015.

- The overall workers' compensation (WC) physician retention rate is high and stable. About 80 percent of physicians who participated in workers' compensation in any given year also treated WC patients in the following year.
- The Top 20 percent of WC physicians (in terms of claim volume) account for 86 percent of total medical doctor/osteopaths (MDs/DOs) costs in 2015, and have higher retention rates: 98 percent or more of these physicians continue to treat workers' compensation patients year after year. The participation rates among these Top 20 percent physicians appear unaffected by changes in the fee schedule and rules.
- Border areas, Fort Worth, and San Antonio regions had the highest number of claims per physician in 2015.
- Overall, initial access (timeliness of care) measures show that WC patients receive non-emergency treatments faster in 2015 than in 2000: 84 percent of patients received initial care in seven days or less in 2015, up from 76 percent in 2000.
- Initial access for network patients was slightly higher than for non-network patients despite a perception that the closed nature of networks may delay medical treatment.

Return-to-Work Outcomes

- Overall, return-to-work rates have improved since the 2005 legislative reforms. A higher percentage of injured employees receiving income benefits went back to work within six months in 2013 (83 percent), compared to injuries in 2004 (74 percent).
- There has also been a marked increase in the percentage of injured employees who initially returned to work and remained employed, compared to the pre-HB 7 reform years. (In 2004, the sustained return-to-work rate was only 66 percent at six months post-injury, compared to an estimated 75 percent in 2013.)
- A higher percentage (81 percent) of injured employees surveyed in 2016 reported that they were employed at the time of the survey (compared with 65 percent in 2008).
- A lower percentage of injured employees surveyed in 2016 (11 percent compared with 19 percent in 2008) reported that they had not yet returned to work from 12 to 24 months after their work-related injuries.

Dispute Resolution and Complaints

Most dispute measures have improved since 2003:

- The number of medical disputes declined from more than 17,000 in 2003 to about 5,200 in 2015, a decrease of about 70 percent.
- TDI has received relatively few complaints about networks since 2005 (818 total complaints – of which about 30 percent were deemed justified) out of more than 700,000 injured employees treated in networks as of February 1, 2016.

- The timeframe to resolve medical disputes decreased by 74 to 90 percent from 2003 to 2015, depending on the dispute type.

Employer Participation

- Private-sector employer participation rates increased sharply, from 67 percent in 2014 to 78 percent in 2016, the highest rate since the first employer survey in 1993.
- This increase in employer participation rate, especially among small employers, resulted in an employee workers' compensation coverage rate of 82 percent.
- About 72 percent of the non-subscriber employee population is covered by some form of an alternate occupational benefit plan.
- An estimated 4 percent of private-sector employees (approximately 414,000) either do not have workers' compensation coverage or coverage through a non-subscriber occupational benefit plan in the case of a work-related injury in 2016.
- The most frequently cited reasons by non-subscribing employers for not purchasing workers' compensation coverage included having too few employees (26 percent) and lack of a legal requirement for purchasing coverage (24 percent).
- Employers' perception that workers' compensation insurance premiums were too high increased slightly, to 18 percent in 2016, but remains significantly lower than in 2010 (32 percent).
- The most frequently cited reason subscribing employers gave for participating in the Texas workers' compensation system was the ability to participate in a network (25 percent). Another 20 percent said the primary reason for participating was a belief that it is required by law, or concern about lawsuits.

1. INTRODUCTION

Medical costs have been a concern in the Texas workers' compensation system since the 76th Texas Legislature passed House Bill (HB) 3697 in 1999, which mandated a series of studies comparing the cost, quality, and utilization of medical care provided to injured employees in Texas with those in other states and health care delivery systems. The results from these and other studies showed that Texas had some of the highest average medical costs per claim and that these costs were primarily driven by the amount of medical care provided to injured employees (also known as the utilization of care).[1] These studies also highlighted that injured employees in Texas had poorer return-to-work outcomes and satisfaction with care compared with similarly injured employees in other states. Growing concerns about high medical costs and poor outcomes from policymakers and system participants led to the passage of HB 2600 by the 77th Texas Legislature in 2001 and HB 7 by the 79th Legislature in 2005.

HB 7 contained several provisions requiring TDI to evaluate the impact of these reforms on a biennial basis and to report the results to the Governor, Lieutenant Governor, Speaker of the House of Representatives, and the Legislature. Section 2053.012, Insurance Code, and Section 405.0025, Labor Code require TDI and the Workers' Compensation Research and Evaluation Group (REG) to issue these biennial reports to the Texas Legislature no later than December 1 every even-numbered year. The reports must include the impact of these legislative reforms on the affordability and availability of workers' compensation insurance for Texas employers and the impact of networks on return-to-work outcomes, medical costs, access and utilization of health care, injured employee satisfaction, health-related outcomes, complaints, and medical dispute resolution.

Specifically, this report examines the impact of the 2005 legislative reforms on:

The affordability and availability of workers' compensation insurance for Texas employers (per Section 2053.012, Texas Insurance Code), including:

- ★ projected workers' compensation premium savings realized by Texas employers,
- ★ employer participation in the system,
- ★ economic development and job creation,
- ★ market competition, including an analysis of how loss ratios, combined ratios, and individual risk variations have changed since the implementation of the reforms, and
- ★ network participation by small and medium-sized employers; and

The impact of networks (per Section 405.0025, Texas Labor Code) on:

[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: A Report to the 77th Legislature*, 2001; Research and Oversight Council on Workers' Compensation, *Returning to Work: An Examination of Existing Disability Duration Guidelines and Their Application to the Texas Workers' Compensation System: A Report to the 77th Legislature*, 2001; Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, *Medical Cost and Quality of Care Trends in the Texas Workers' Compensation System*, 2004; and Workers' Compensation Research Institute, *CompScope Benchmarks for Texas, 6th Edition*, 2006.

- ★ medical costs and utilization of care,
- ★ access to and satisfaction with medical care,
- ★ return-to-work outcomes,
- ★ health-related functional outcomes, and
- ★ the frequency, duration, and outcome of medical disputes and complaints.

TDI and TDI-DWC continue to track the results of these reforms in order to fulfill the legislature's intent to improve both the cost and quality of medical care provided to injured employees in Texas, as well as the affordability and availability of workers' compensation insurance for Texas employers.

Following the introduction, Section 2 provides an overview of the status of the Texas workers' compensation insurance market prior to and after the implementation of networks, including workers' compensation insurance rates and premiums, market competition, and loss and combined ratios.

Section 3 of the report presents the most current information available regarding network participation in the Texas workers' compensation system. This section includes the number of networks certified, as well as the geographic distribution of network coverage by county.

Section 4 provides an analysis of how access to care, satisfaction with care, and health-related outcomes have changed in the workers' compensation system since 2005. This section also compares the perceptions of injured employees treated in networks with injured employees who received non-network medical care.

Section 5 presents information about medical cost and utilization of care trends pre- and post-reforms, including information about how these trends vary by type of medical service. This section examines how fees for individual medical services have changed over time and how injury rates, claim frequency, disputes and denials, and networks have affected medical payments in the system. This section also includes results from TDI's *2016 Workers' Compensation Network Report Card*, which compares the medical care and utilization of care results between network and non-network claims.

Section 6 of the report provides a detailed analysis of how access to care has changed in the workers' compensation system since 2005, including an overview of physician participation and retention rates by provider specialty and geographic area.

Section 7 examines how return-to-work trends have improved in Texas over time and provides preliminary information about income benefit savings as a result of reductions in lost time, as well as differences in return-to-work outcomes for network and non-network claims.

Section 8 of this report considers the effect of the 2005 legislative reforms on the frequency, duration, and outcomes of disputes in the Texas workers' compensation system. This section also examines the number and type of complaints that TDI has received since 2005 regarding networks.

Section 9 provides estimates of overall employer participation in the Texas workers' compensation system and the percentage of the Texas workforce employed by non-subscribing employers. Section 9 also includes non-subscription rates categorized by industry and employer size and explores the reasons

subscribing and non-subscribing employers gave for their respective workers' compensation coverage decisions. This section also looks at the percentage of Texas non-subscribers who are knowledgeable about their reporting requirements.

2. Effects of Reforms on the Insurance Market

Introduction

HB 7 requires the commissioner to report on the affordability and availability of workers' compensation insurance for employers of Texas. This chapter looks at the effects of the HB 7 reforms by reviewing the workers' compensation insurance market's concentration and profitability, insurers' rates and premiums, insurers' use of competitive rating tools, and insurers' participation in networks.

Market Concentration

In 2015, 290 insurance companies had positive direct written premium for workers' compensation insurance in Texas. The total direct written premium for the Texas workers' compensation insurance market was $2.74 billion. Table 2.1 shows the direct written premium since 2006 along with employer payroll, which is the exposure base used to price workers' compensation insurance. Calendar years 2007 through 2010 saw decreases in direct written premium, while payroll remained relatively flat during these same policy years. Premium written then increased for the next several years, and is now at pre-recession levels, while payroll also increased during this period.

Table 2.1: Direct Written Premium and Payroll

Calendar Year	Direct Written Premium ($B)	Change in Direct Written Premium	Policy Year	Payroll ($B)	Change in Payroll
2006	$2.80		2006	$249	
2007	$2.73	-3%	2007	$270	8%
2008	$2.58	-6%	2008	$273	1%
2009	$2.18	-15%	2009	$269	-1%
2010	$1.92	-12%	2010	$285	6%
2011	$2.16	13%	2011	$308	8%
2012	$2.45	13%	2012	$330	7%
2013	$2.66	9%	2013	$353	7%
2014	$2.84	7%	2014	$376	7%
2015	$2.74	-4%			

Source: Direct Written Premium: The Texas Department of Insurance's compilation of the Texas Statutory Page 14 of the NAIC Annual Statement for Calendar Years Ending December 31, 2006–2015. Payroll: Data compiled by NCCI. A policy year includes all policies with effective dates in a calendar year. A policy year does not close until a year after the end of the calendar year when the last policy issued in a calendar year expires. Each policy year is first evaluated for premium six months after the end of the policy year to allow for audit and retro adjustments. Thus, policy year 2015 data is not yet available.

The top 10 insurance company groups write 79 percent of the market, and the top writer, Texas Mutual Insurance Company, has nearly 40 percent of the market based on its 2015 direct written premium. Texas

Mutual, formerly the Texas Workers' Compensation Fund, wrote close to $1.1 billion dollars in direct written premium. The Texas Legislature created Texas Mutual in 1991 to serve as a competitive force in the marketplace, to guarantee the availability of workers' compensation insurance in Texas, and to serve as an insurance company of last resort. While Texas Mutual is the insurer of last resort, it predominately writes voluntary business, competing with the rest of the workers' compensation market. The involuntary market makes up 0.12 percent of the workers' compensation insurance market.[2]

Table 2.2 shows historic market shares for the top 10 insurance company groups, based on each group's ranking in 2015. The table shows the market share for these same groups back to 2011, even though they may not have all been in the top 10 or at the same rank during those years. The table does not show some groups that may have been top writers historically, but were no longer active or a top 10 writer in 2015. These top groups and their respective total market share, however, have been generally consistent each year.

Table 2.2: Market Share by Group

Group	Rank (2015 Annual Statement)	2011	2012	2013	2014	2015
Texas Mutual Ins Co	1	33.8%	37.1%	38.6%	40.1%	39.7%
Travelers Grp	2	7.4%	7.3%	7.4%	7.0%	7.0%
Liberty Mutual Grp	3	9.2%	7.7%	6.2%	5.8%	5.6%
American Intl Grp Inc	4	7.0%	6.2%	6.2%	6.5%	5.4%
Zurich Ins Co Grp	5	6.6%	7.1%	6.4%	6.0%	5.3%
Hartford Fire & Cas Grp	6	7.4%	6.2%	5.7%	5.1%	5.0%
Chubb Inc Grp	7	2.0%	2.0%	2.0%	2.0%	4.7%
Service Life Grp	8	2.2%	2.4%	2.5%	2.3%	2.2%
Old Republic Grp	9	1.4%	1.5%	1.7%	2.1%	2.0%
CNA Ins Grp	10	2.6%	2.1%	2.1%	2.0%	1.9%
Total		**79.6%**	**79.6%**	**78.8%**	**78.9%**	**78.8%**

Source: The Texas Department of Insurance's compilation of the Texas Exhibit of Premiums and Losses of the NAIC Annual Statement for Calendar Years Ending December 31, 2011 - 2015.

One indicator of a competitive market is a lack of concentration by participants in the market. A commonly accepted economic measure of market concentration is the Herfindahl-Hirschman Index, or HHI, which considers the relative size and distribution of firms, or insurers, in a market. A market with an HHI index between 1,500 and 2,500 is considered moderately concentrated and one with an HHI index above 2,500

[2] Texas Mutual writes the involuntary market in its START program. Market share data is from the Texas Quarterly Legislative Report on Market Conditions.

is considered highly concentrated. The HHI, based on insurance company group market shares in 2015 for Texas was 1,785, thus the Texas workers' compensation market is considered moderately concentrated.

Profitability

Two important measures of the financial health of the Texas workers' compensation insurance market are loss ratio and combined ratio. The loss ratio is the relationship between premium collected and the losses incurred (loss amounts already paid and amounts set aside to cover future loss payments). The combined ratio is similar, except it compares the premiums collected with the losses and expenses incurred by the insurance company.

Each year, TDI analyzes historical loss and combined ratios on an accident year basis. In an accident year analysis, the losses tie back to the year in which the accident occurred, regardless of when the claimant reports the loss or the company pays the loss. For example, accident year 2012 reflects claims or losses from all accidents that happened in 2012, even if a loss was initially reported in 2014 and paid at a later date. In other words, all payments associated with a particular accident are associated with the year in which the accident occurred, regardless of when the company pays for the covered loss.

The loss ratio used in TDI's analysis equals the projected direct ultimate incurred losses divided by the direct earned premium. This ratio is a widely accepted metric that gauges underwriting results by comparing losses to premium. In its analysis, TDI uses ultimate incurred losses, an estimate of the cost of claims from a given accident year when they are ultimately or finally settled. It may take many years for a company to settle a claim because there may be ongoing payments for medical treatment or income benefits. The ultimate cost of these payments must be estimated using actuarial techniques.

To ascertain overall profitability, it is necessary to factor in other types of expenses. The combined ratio combines the loss ratio with the expense ratio to gauge overall profitability before consideration of insurance companies' investment earnings. The expense ratio includes loss adjustment expenses, other types of expenses, and policyholder dividends. Loss adjustment expenses are costs incurred in processing, investigating, and settling claims. Other types of expenses include insurance company administrative overhead, commissions, taxes, licenses, and fees. Policyholder dividends are a return of a percentage of the premiums in excess of losses and expenses to policyholders by certain types of insurance companies.

A combined ratio of less than 100 percent indicates that the insurance company earned a profit on its insurance operations (also called an underwriting profit). A ratio greater than 100 percent indicates a loss on insurance operations, although this loss may be more than offset by earnings on investments. For example, if the projected ultimate combined ratio is 110 percent, then for every $1 in premium the insurance company collects, it expects that it will use $1.10 to pay losses and expenses it incurs. The insurance company will need to find other sources to pay the 10 cents in excess of the premium. This may be earnings from investments or even a direct charge against the insurance company's surplus. For 2015, the projected accident year combined ratio was 83.0 percent. This means that for every dollar collected by an insurance company, it will pay an estimated 83 cents to cover losses and expenses, and keep the remaining amount as profit.

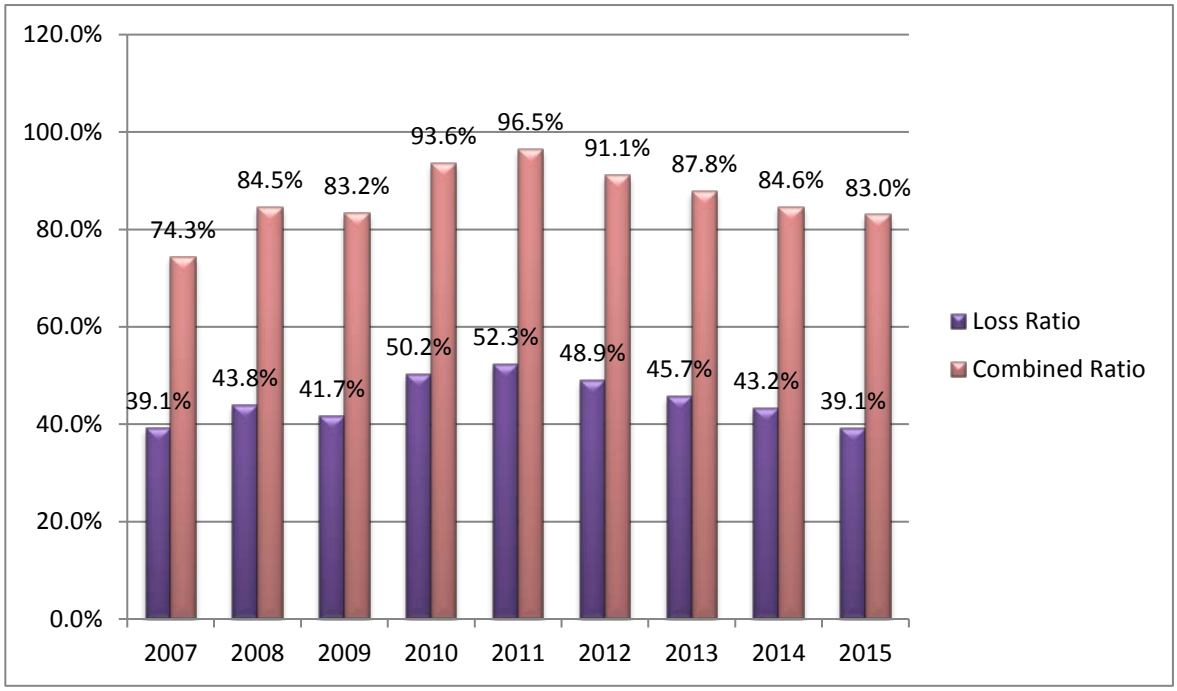
Table 2.3 and Figure 2.1 show the loss ratio and the combined ratio, both of which reflect that the last nine years have been profitable for insurance companies writing workers' compensation insurance. The combined ratio averaged 74.5% from 2003 to 2007. In 2008, concurrent with the recession, this ratio deteriorated (increased) and continued to do so until 2012 when it started to rebound. It continues to improve (decrease) each year.

Table 2.3: Projected Ultimate Calendar/Accident Year Loss and Combined Ratios

Accident Year	Direct Earned Premium	Ultimate Losses	Loss Ratio	Combined Ratio
2007	$2,199,899,123	$860,742,498	39.1%	74.3%
2008	$2,210,268,795	$967,884,307	43.8%	84.5%
2009	$1,945,668,267	$811,192,442	41.7%	83.2%
2010	$1,720,502,137	$864,470,156	50.2%	93.6%
2011	$1,804,967,360	$943,991,673	52.3%	96.5%
2012	$2,025,799,202	$991,342,112	48.9%	91.1%
2013	$2,209,371,945	$1,009,777,137	45.7%	87.8%
2014	$2,448,890,633	$1,058,886,935	43.2%	84.6%
2015	$2,385,656,273	$933,386,477	39.1%	83.0%

Source: NCCI Workers' Compensation Financial Data Call (Valuation Year 2015); The Texas Department of Insurance's compilation of the Insurance Expense Exhibit for Calendar Years Ending December 31, 2007-2015. Loss development factors used in determining the ultimate losses are from the NCCI Annual Statistical Bulletin, 2015 edition.

Figure 2.1: Projected Ultimate Calendar/Accident Year Loss and Combined Ratios



Source: NCCI Workers' Compensation Financial Data Call (Valuation Year 2015), 2015 Texas Compilation Statutory Page 14, 2015 Texas Compilation of the Insurance Expense Exhibit. Loss development factors used in determining the ultimate losses are from the NCCI Annual Statistical Bulletin, 2015 edition.

Note that these ratios exclude the experience for large deductible policies, which represent about 13 percent of 2015 direct written premium and an average of 17 percent of direct written premium historically. The ratios shown in Table 2.3 and Figure 2.1 do not fully reflect insurers' recent rate changes. Reflection of recent rate changes would increase the loss and combined ratios, because average rates have decreased.

Another measure of industry profitability is return on net worth. The return on net worth is the ratio of net income after taxes to net worth, and it indicates the return on equity. It includes income from all sources, including investment income, and reflects all federal taxes, whereas the combined ratio reflects only the income from the insurance operations and does not reflect investment income or federal taxes. The return on net worth can also be used to compare insurance companies with firms in other industries. Table 2.4 shows the return on net worth for workers' compensation insurance for Texas and countrywide, along with the return on net worth based on Fortune's Industrial and Service sectors. Texas has consistently outperformed the rest of the country in the workers' compensation market.

Table 2.4: Return on Net Worth

Year	Workers' Compensation Insurance Texas	Workers' Compensation Insurance Countrywide	All Industries Countrywide
2005	12.9%	9.6%	14.9%
2006	13.0%	10.0%	15.4%
2007	11.5%	9.0%	15.2%
2008	9.6%	5.1%	13.1%
2009	11.2%	4.2%	10.5%
2010	9.5%	3.9%	12.7%
2011	11.0%	6.2%	14.3%
2012	10.6%	5.9%	13.4%
2013	9.4%	7.2%	16.6%
2014	10.1%	7.5%	14.3%
10-Year Average	10.9%	6.8%	14.0%

Source: NAIC Report on Profitability by Line by State in 2014.

Another difference between the combined ratios shown in this report and the return on net worth is a result of the way the data is collected. The combined ratio used in this report is on an accident year basis (as described earlier) while the return on net worth is on a calendar year basis. Calendar year analysis includes all activity that occurred during the calendar year, regardless of when the accident occurred. Calendar year values do not change, whereas accident year values change over time as claim experience emerges and estimates of ultimate activity evolve.

Rates

A company may choose to base its rates on the Texas workers' compensation classification relativities established by TDI; its own independent company-specific relativities filed by the company (none are on file currently); or loss costs filed by the National Council on Compensation Insurance (NCCI). NCCI filed loss costs in Texas for the first time in 2011. Since then, about 88 percent of insurance companies are using loss costs as their rate basis. These companies represent nearly 54 percent of the direct written premium volume. Fewer than 40 companies still use relativities.

The relativities established by the Commissioner represent the relationship between classifications. Companies that choose to use the relativities as a basis for their rates file a deviation factor, which takes into consideration the company's experience. The relativities and the company's deviation are intended to cover the indemnity and medical benefits provided under the workers' compensation system in Texas, as well as agent's commissions, profits, taxes, and other expenses for the company.

The loss costs filed by NCCI for each classification are intended to cover the indemnity and medical benefits provided under the workers' compensation system in Texas, as well as the expenses associated with providing these benefits. Companies that choose to use the loss costs as a basis for their rates file a loss cost multiplier (LCM), which contemplates any other expenses associated with providing workers' compensation insurance, such as agents' commissions, profits, taxes, and other expenses for the company.

As depicted in Table 2.5, since 2003, rates have dropped nearly 56 percent through December 31, 2015. From September 1, 2003 through December 31, 2009, rates decreased by 41.2 percent. The annual rate decreases since then have been small, except for 2011, when rates decreased by 12.6 percent, coinciding with NCCI's initial loss cost filing in 2011, and in 2015, coinciding with decreases in both the loss costs and relativities that year. Preliminary results incorporating the adoption of the July 1, 2016, loss costs and relativities indicate a weighted average rate decrease of 9.4 percent in 2016 for a cumulative rate decrease of nearly 60 percent since 2003.

These figures include changes in companies' deviations as well as overall changes in the classification relativities established by TDI. These decreases also include the impact from companies using NCCI loss costs along with any changes to these companies' loss cost multipliers.

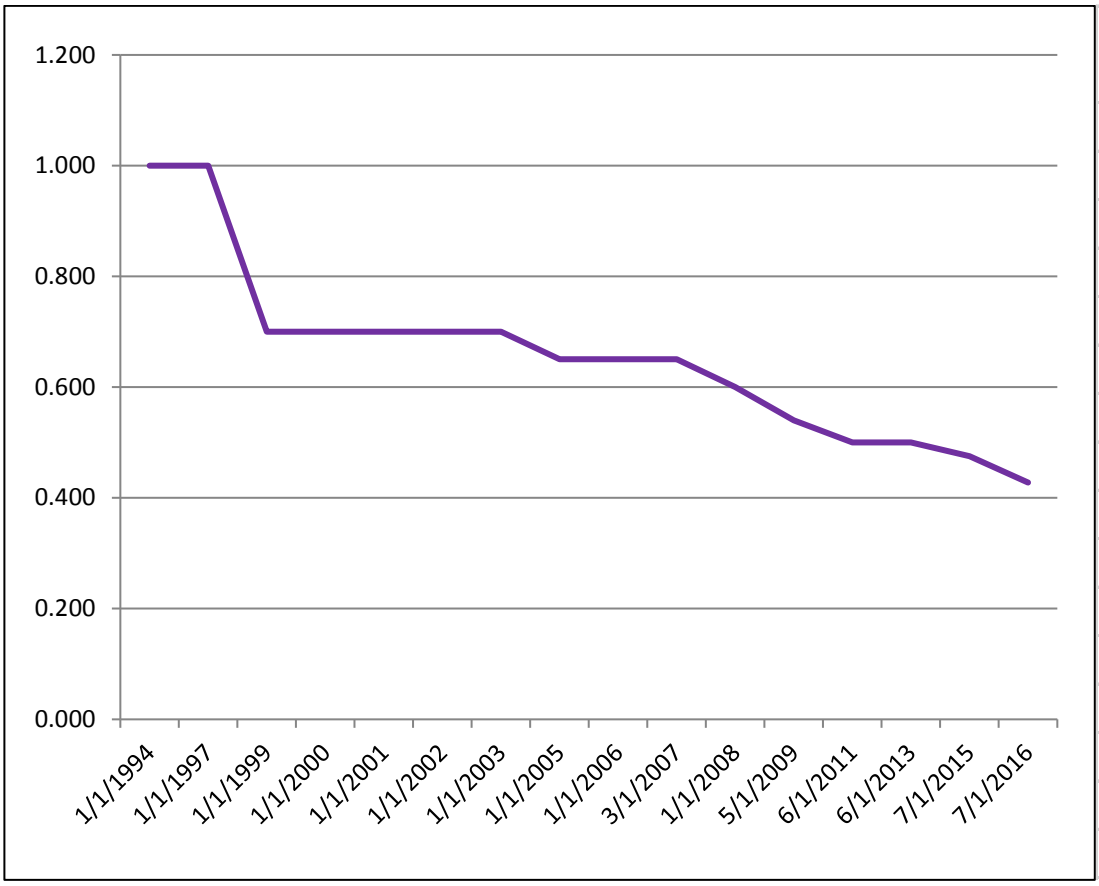
TDI revises the relativities annually or at least every two years. The general approach with these revisions is to make the overall change in relativities revenue neutral, even though a particular class' relativity may change by plus or minus 25 percent. TDI has also lowered the classification relativities many times since their inception in 1994, especially in recent years, as depicted in Figure 2.2. Figure 2.2 also shows that relativities have come down about 57 percent since their inception.

Table 2.5: Rate Trends Report

Time Period	Rate Change	Cumulative Rate Change
9/1/03 - 8/31/07	-21.7%	-21.7%
9/1/07 - 12/31/09	-24.9%	-41.2%
1/1/10 - 12/31/10	-1.7%	-42.2%
1/1/11- 12/31/11	-12.6%	-49.5%
1/1/12 - 12/31/12	-0.04%	-49.5%
1/1/13 - 12/31/13	-3.2%	-51.1%
1/1/14 - 12/31/14	-1.6%	-51.9%
1/1/15 - 12/31/15	-7.6%	-55.6%

Source: Weighted average of insurance company rate filings received by the Texas Department of Insurance. The time period represents effective dates of rate changes.

Figure 2.2: Cumulative Changes in Classification Relativities



Effective Date	Percent Change
1/1/1994	Introduced
1/1/1997	0.00%
1/1/1999	-30.00%
1/1/2000	0.00%
1/1/2001	0.00%
1/1/2002	0.00%
1/1/2003	0.00%
1/1/2005	-7.10%
1/1/2006	0.00%
3/1/2007	0.00%
1/1/2008	-7.70%
5/1/2009	-10.00%
6/1/2011	-7.40%
6/1/2013	0.00%
7/1/2015	-5.00%
7/1/2016	-10.00%

Source: Texas Department of Insurance, 2016.

Since its initial loss cost filing in 2011, NCCI has filed updated loss costs each year. The most recent filings resulted in overall loss cost decreases of 10.9 percent and 9.9 percent, as of July 1, 2015, and July 1, 2016, respectively. Relative to the initial filing in 2011, loss costs have decreased by 23 percent.

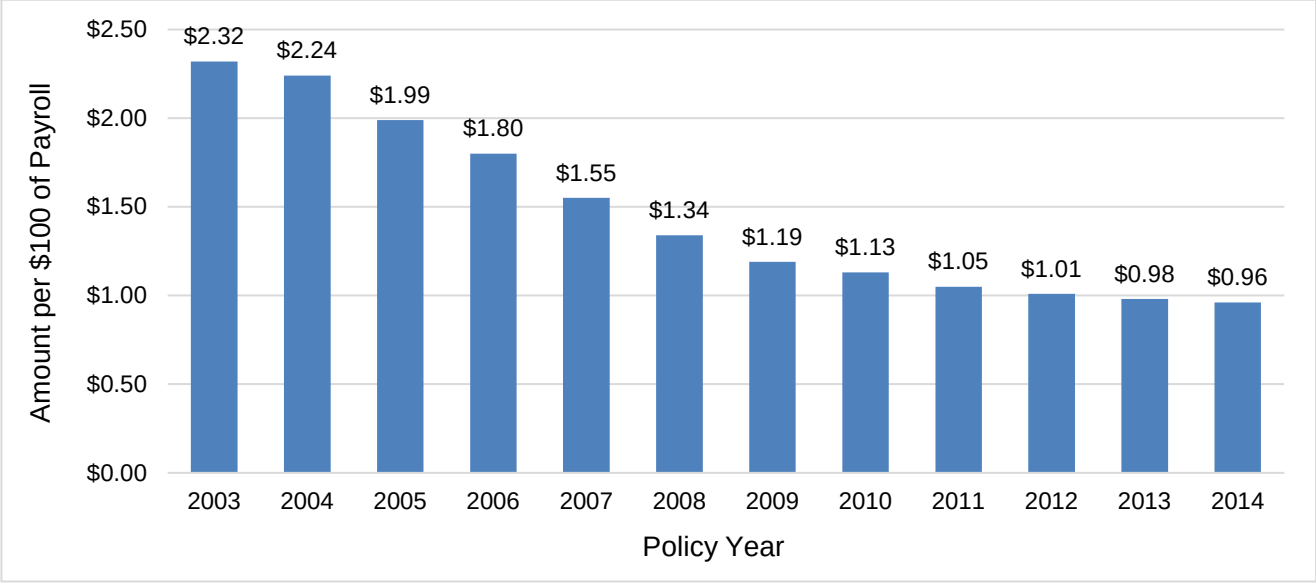
Premium

While the rate changes filed by the companies in the last few years show how much rates have dropped, the rates are just the start of the workers' compensation pricing process. What employers actually pay—the premium—reflects not only rates but also mandated rating programs, such as experience rating and premium discounts, as well as optional rating tools, such as schedule rating plans and negotiated experience modifiers that recognize individual risk variations. Insurance companies use these rating tools to modify rate changes to achieve desired premium levels.

Figure 2.3 shows the average premium per $100 of payroll for policy years 2003 through 2014. This information is on a policy year basis, which is different from the calendar year and accident year data discussed earlier. In a policy year, the premiums and losses tie back to the year in which the policy was effective.

In 2003, the average premium was $2.32 per $100 of payroll, which represents the highest point in this time period. Prior to this time, the industry had suffered underwriting losses and the average premium had been increasing. Beginning with policy year 2004, the average premium per $100 of payroll began to decrease steadily as insurance companies lowered rates and increased the use of rating tools, such as schedule rating. As of 2014, the average premium per $100 of payroll was down to 96 cents. This overall steady decrease coincided with the average rate reductions that had taken place, resulting in employers seeing the benefits of the insurance companies' filed rate decreases.

Figure 2.3: Average Premium per $100 of Payroll by Policy Year



Source: The Texas Workers' Compensation Financial Data Call and data compiled by NCCI, 2016.

The average premiums reflect insurance companies' manual rate deviations, as well as adjustments for experience rating, schedule rating, and retrospective rating. In addition, they reflect network premium credits, deductible credits for promulgated deductible plans, and premium discounts. They do not reflect policyholder dividends or the impact of other, smaller rating modifications, such as small employer premium incentives and increased limits premium. Because workers' compensation is an audit line, meaning that audited payrolls determine final premiums, the average premiums may change over time, especially for the most recent years.

Rating Tools Recognizing Individual Risk Variations

One of the revisions that HB 7 made to the workers' compensation statutes was that insurance companies must consider the effect on premiums of individual risk variations based on loss or expense considerations when setting rates. Additionally, the revisions to the statutes state that neither rates nor premiums may be excessive, inadequate, or unfairly discriminatory. Therefore, TDI evaluates insurance companies' rates and premiums based on the rate filings made by the insurance companies, as well as on the use of available rating tools used to reflect individual risk variations. Because insurance companies did not file the use or effect of these rating tools in their rate filings prior to HB 7, TDI issues periodic data calls to gather this information.

Once an insurance company determines an employer's rate based on its classification (which depends on the type of business, such as office, construction, or manufacturing) and the employer's loss experience, the insurance company can further modify the policy's premium with mandatory rating tools, such as experience rating, and optional rating tools, such as schedule rating.

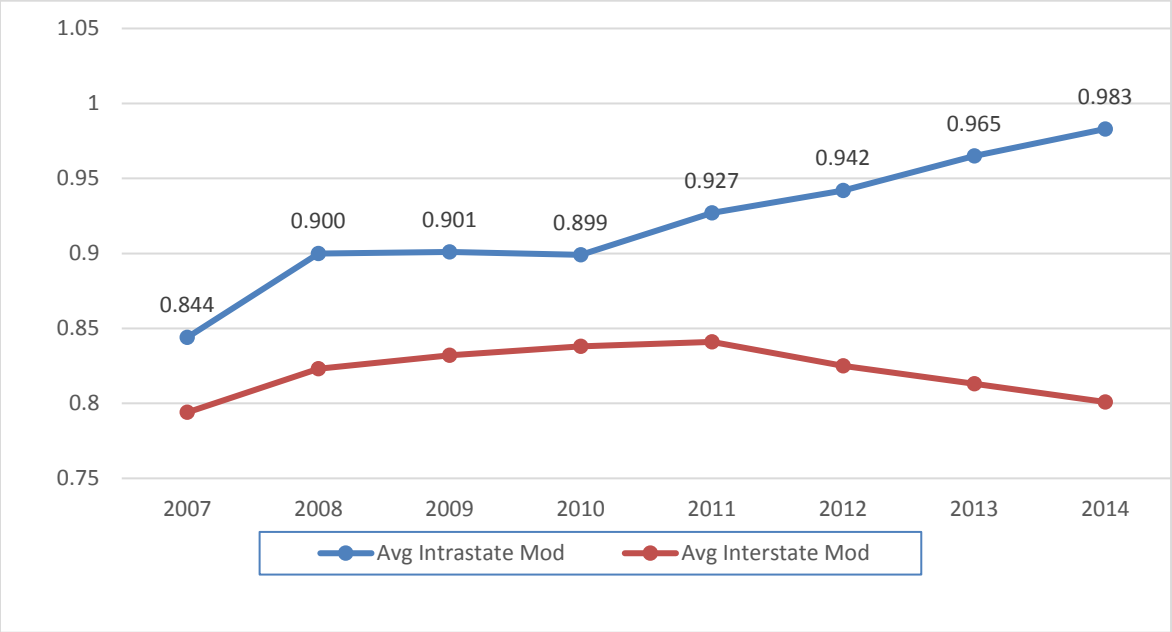
Experience rating is a method for tailoring the cost of insurance to an individual employer's risk characteristics that provides an incentive for loss prevention. If an employer's average loss experience is more costly than other employers' loss experience in the same classification, the result is a debit experience modification (e-mod >1.00), or surcharge. If an employer's experience is less costly than the industry average, then a credit e-mod (<1.00), or discount, is applied. While this tool is mandatory, it only applies when certain premium qualification thresholds are met.

There are two types of e-mods: intrastate and interstate. An intrastate modification factor is used for employers with exposures in only one state, whereas an interstate modification factor is used for employers with exposures in more than one state. Both types of e-mods have averaged less than 1.00 for several years. In other words, employers on average have been receiving a premium discount. According to data from NCCI, the intrastate discount has been steadily decreasing (e-mod is increasing) whereas the interstate discount has been steadily increasing (e-mod is decreasing). Figure 2.4 illustrates this history.

Schedule rating reflects characteristics of the employer that may not be fully reflected in the employer's past experience. The general categories often used in schedule rating include the care and condition of premises; classification peculiarities; medical facilities; safety devices; selection, training, and supervision of employees; and management's cooperation with the insurance company and safety organization. A credit or debit can be applied to the premium based on the underwriter's evaluation of the insured employer relative to each of these categories (or other categories in the insurance company's schedule rating plan as filed with TDI) up to an aggregate maximum modification, generally plus or minus 40

percent.[3] Insurance companies must file their schedule rating plan with TDI. An insurance company must also be able to support, with documentation maintained by the insurance company, the schedule ratings it uses in calculating premiums for employers.

Figure 2.4: Interstate and Intrastate Experience Rating Based on Experience Through 12/31/2014



Source: NCCI, 2015 Texas Advisory Forum.

Application of schedule rating to a policy can result in significant changes to the premium charged, even though there has been no change in the insurance company's filed rate. Based on the filings received for the 2014 biennial rate hearing, the weighted average schedule rating adjustment was a credit of 12.6 percent. Note that market forces and conditions often influence the use of schedule rating and the size of credits or debits given.

Another cost saving tool that is not reflected in the earlier analyses of loss ratios, combined ratios, and average premiums, but which is worth mentioning for completeness, is a deductible, wherein the employer reimburses the insurance company for all or part of a given loss. Promulgated deductible plans and negotiated deductibles are two types of deductible options available for use by Texas employers.[4]

[3] In the case of Texas Mutual Insurance Company's START program, the aggregate maximum modification is plus or minus 75 percent.

[4] The Texas Workers' Compensation Financial Data Call excludes large deductible policies. Insurance companies report losses for all other deductible policies on a gross basis. That is, if the total loss is $20,000 and the employer has a deductible of $5,000, the amount reported in the Department's Financial Data Call is $20,000, even though the insurance company ultimately pays only $15,000 of the loss. The direct earned premium is the amount of premium actually earned prior to the payment of policyholder dividends and the application of credits for deductible policies.

Promulgated deductible options include per accident, per claim, and medical only deductibles. Insurers wrote less than one percent of policies with a promulgated deductible in 2015.

Negotiated deductible credits are available for employers with larger premiums or larger deductible amounts that effectively allow the employer to self-insure. About 4 percent of policies were written using a negotiated deductible plan in 2015. For these policies, the average overall premium credit was substantial, at 71 percent. The average premium credit for employers with a negotiated deductible for the past seven years was also 71 percent, demonstrating the persistence of this metric.

Certified Workers' Compensation Health Care Networks

Another way for employers to reduce premiums is through participation in a TDI-certified health care network, the focus of the HB 7 reforms. The objective of these networks was to improve the quality of medical care received by injured workers at a reasonable cost for Texas employers, and to improve outcomes from injuries.

For employers that elect to participate in one of these networks, they receive a credit, or discount, on their premiums. Credits filed with TDI range up to 20 percent but the majority of actual credits used are between 5 and 12 percent. Based on a review of developed (to ultimate) loss ratios, it appears that, on average, the credits are reasonable. Tables 2.6 and 2.7 show the developed indemnity and medical loss ratios for the most recent 12 accident half-years for insurance groups that reported network experience in response to an annual network data call and that had more than 20 percent of their policies in networks. The loss ratios were determined using premium before application of the network premium credit.

Overall, the accident half-year loss ratios for claims in a network had better results than claims outside a network. This was generally the case for medical and indemnity losses; however, as expected, the impact on medical was greater than the impact on indemnity. The differential has averaged about 8 percentage points for medical and about 3 percentage points for indemnity, for a total of 11 percentage points.

Section 3 of this report provides additional information about the premium credits filed by insurance companies with TDI.

Summary

The last 11 years since the enactment of HB 7 have been profitable for the workers' compensation insurance industry, which has responded by lowering rates, utilizing rating tools, and providing discounts for participation in networks. As a result, average premiums charged to employers decreased significantly. Based on the rate actions taken by insurers in the last several years, the industry is poised to continue these trends.

Table 2.6: Indemnity Developed Incurred Loss Ratios for Network and Non-Network Experience

Accident Half Year	Non Network	Network	Difference
201012	19.2%	14.3%	4.9
201106	17.8%	15.2%	2.7
201112	20.2%	15.3%	4.9
201206	19.9%	17.6%	2.4
201212	19.0%	13.0%	6.0
201306	19.4%	14.0%	5.4
201312	17.3%	13.0%	4.3
201406	15.9%	14.3%	1.7
201412	18.8%	14.3%	4.5
201506	13.4%	13.5%	-0.1
201512	16.0%	12.3%	3.7
201601	11.4%	11.5%	-0.1
average	**17.4%**	**14.0%**	**3.4**

Source: The Texas Department of Insurance's annual network data call.

Table 2.7: Medical Developed Incurred Loss Ratios for Network and Non-Network Experience

Accident Half Year	Non Network	Network	Difference
201012	32.0%	19.2%	12.8
201106	30.9%	19.5%	11.5
201112	26.5%	20.3%	6.3
201206	29.0%	21.4%	7.6
201212	23.5%	18.1%	5.4
201306	28.0%	17.6%	10.4
201312	26.5%	16.4%	10.1
201406	21.7%	14.7%	6.9
201412	21.0%	16.1%	4.9
201506	18.0%	13.0%	5.0
201512	18.6%	14.0%	4.5
201601	22.3%	14.2%	8.1
average	**24.8%**	**17.0%**	**7.8**

Source: The Texas Department of Insurance's annual network data call.

3. WORKERS' COMPENSATION HEALTH CARE NETWORKS

An important component of evaluating the impact of the 2005 legislative reforms on the Texas workers' compensation system is the implementation of the cornerstone of these reforms—workers' compensation health care networks. In the years prior to the adoption of these reforms, rising average medical costs per claim, poor return-to-work outcomes, and high workers' compensation premiums resulted in an increase in the percentage of Texas employers that chose to leave the workers' compensation system (see section 9 of this report for employer participation trends).

In response to these trends and concerns from stakeholder (such as insurance carriers, employers, injured employees, health care providers etc.), the 79th Texas Legislature introduced a new employees' compensation health care delivery model that allows insurance carriers to establish or contract with managed care networks. The networks are certified by TDI using a method similar to the certification of health maintenance organizations (HMOs).

Overview of the Network Provisions in the 2005 Legislative Reforms

Under the 2005 legislative reforms, workers' compensation insurance carriers may elect to contract with or establish workers' compensation health care networks, as long as those networks are certified by TDI. TDI's certification process includes a financial review, validation that the network meets the health care provider credentialing and contracting requirements established in TDI's rules, and a detailed analysis of the adequacy of health care providers available to treat injured employees in each proposed network's service area. If an employer chooses to participate in the insurance carrier's workers' compensation network, the employer's injured employees must obtain medical care through the network, provided that the injured employee lives in the network's service area and receives notice of the network's requirements from the employer (including a network provider directory).[5]

Employees receiving network notices are asked to sign an acknowledgment form that indicates which certified network the employer is participating in, and acknowledge that the employee understands how to choose a treating doctor, seek medical care within the network or from a network-approved referral provider (with the exception of emergency care), and file a complaint with the network or with TDI.

Health care providers and networks negotiate fees under this new network model rather than utilize DWC's adopted fee guidelines. Workers' compensation networks may also operate under their own treatment guidelines, return-to-work guidelines, and preauthorization requirements, although they must meet minimum statutory criteria.[6]

[5] By statute, pharmacy services are exempted from workers' compensation networks. Injured workers will continue to obtain pharmaceuticals from any pharmacist willing to accept workers' compensation patients, regardless of whether or not the worker is participating in network (see §1305.101(c), Insurance Code).

[6] Treatment and return-to-work guidelines utilized by networks must be "scientifically valid, evidence-based, and outcome-focused" (see §1305.304, Insurance Code).

Under this new model, networks must have case management and return-to-work coordination services, and provide annual quality assurance and financial reports to TDI to ensure they continue to provide high quality medical care to injured employees.

HB 7 also requires TDI to publish and disseminate an annual workers' compensation network report card that evaluates networks on measures including medical costs and utilization, return-to-work outcomes, and injured employee satisfaction with and access to medical care.[7]

Growth in Workers' Compensation Networks

TDI began accepting applications for the certification of workers' compensation health care networks on January 2, 2006. As of June 1, 2015, the number of certified networks was 30, 20 of which have treated 707,524 injured workers since the first network was certified in March 2006.

Currently, certified networks cover 254 Texas counties, up from 234 in 2008. Most Texas counties support multiple networks, allowing insurance carriers and policyholders various options for network coverage. Larger metropolitan areas, such as Houston, Dallas-Fort Worth, and Austin-San Antonio support more than 20 networks.

A list of every certified network and map of their respective coverage areas is available at www.tdi.texas.gov/wc/wcnet/wcnetworks.html.

Public Entities and Political Subdivisions

In addition to TDI-certified networks, certain public entities and political subdivisions (such as counties, municipalities, school districts, junior college districts, housing authorities, and community centers for mental health and mental retardation services) can:

1. use a workers' compensation health care network certified by TDI under Chapter 1305, Texas Insurance Code;
2. continue to allow injured employees to seek heath care as non-network claims; or
3. contract directly with health care providers if the use of a certified network is not "available or practical," essentially forming their own health care network.

This report includes Alliance and other political subdivisions (authorized under Chapter 504, Texas Labor Code) that chose to contract directly with health care providers. While not required to be certified by TDI under Chapter 1305, Texas Insurance Code, the Alliance network must still meet TDI's workers' compensation reporting requirements.

[7] In accordance with Section 1305.502, Insurance Code, the Department is required to produce annual workers' compensation network report cards on key cost, utilization, and outcome measures. The sixth report card was published in September 2016 (see www.tdi.texas.gov/reports/wcreg/documents/report16.pdf to view report cards).

Premium Credits for Policyholders

Before an insurance company begins using a network, TDI requires that the insurance company provide notification of the level of premium credits that will be granted for employer network participation. The premium credits on file with TDI currently range up to 20 percent, with some insurance companies offering a standard credit to all policyholders who participate in the network. Other companies vary the credit depending on the percentage of the policyholders' employees who live within the network's service area. Table 3.4 (on page 19) summarizes the amount or ranges of premium credits that insurance companies filed with TDI as of August 1, 2016.

Number of Injured Employees Treated in Networks

In addition to tracking the participation of Texas policyholders in workers' compensation networks, DWC also tracks the number of injured employees treated by networks through separate annual data calls with all TDI-certified and Chapter 504 networks. As of June 1, 2015, about 707,524 injured employees had been treated by networks since the first network was certified (see Table 3.5).

Table 3.5: Total Number of Injured Employees Treated by Workers' Compensation Networks Since the First Network Was Certified

Network Participation Measures	As of 2/1/2014	As of 6/1/2015
Total Number of Employees Treated	416,551	707,524
Total Number of TDI-certified Networks	29	30

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

The number of injured employees treated by certified networks has continued to grow, while the number of networks treating injured employees has stabilized (see Table 3.6). The REG's 2016 network report card shows that as of June 1, 2015, roughly 47 percent of all new injuries (those that occurred between June 1, 2014 and May 31, 2015) were treated by networks, up from 20 percent in 2010.

Table 3.4: Insurance Companies' Filed Network Premium Credits (as of August 1, 2016)

Group or Company Name	Credit
Accident Insurance Company Inc	10%
Allianz Insurance Group	5%
American Financial Group	10%
American International Group	0-5%
Amerisafe Group	2-12%
Amerisure Group	0-12%
Arch Insurance Group	0-12%
Berkshire Hathaway Group	5-15%
BCBS of Michigan Group	12%
Chubb Insurance Group	5%
CNA Insurance Group	12%
Columbia Insurance Group	0-12%
EMC Insurance Group	12%
Employers Holdings Group	0-15%
Everest Reinsurance Holdings Group	5%
Fairfax Financial Group	5-7%
Farmers Insurance Group	10%
Hallmark Financial Services Group	5-20%
Hartford Fire & Casualty Group	10%
Houston International Insurance Group	10%
Insurance Company of the West	5%
Liberty Mutual Group	0-12%
Meadowbrook Insurance Group	10%
Memic Indemnity Company	5%
MS & AD Insurance Group	10%
National American Insurance Company	1%
Nationwide Insurance Group	0-12%
Old Republic Group	10%
Retailers Casualty Insurance Company	10%
Samsung Fire & Marine Insurance Company Ltd	5%
Sentry Insurance Group	0-12%
Service Lloyds Group	10-12%
Starr Group	5%
State Auto Mutual Group	10-12%
Texas Mutual Insurance Company	12%
The Hanover Ins Grp	10%
Tokio Marine Holdings Inc Group	10%
StarStone National Insurance Company	10%
Travelers Group	12%
United Fire Group	5%
Utica Group	10%
White Mountains Group	10%
WR Berkley Corp Group	10-12%
Zurich Insurance Company Group	0-8%

Source: Texas Department of Insurance, Property and Casualty Actuarial Office, Regulatory Policy Division, 2016.

Table 3.6: Frequency of Injured Employees Treated as of June 1, 2016 by Workers' Compensation Networks

TDI-Certified Network	Total	Percent
AIG TX HCN	1,391	1%
Alliance	24,885	22%
BISD	463	<1%
Broadspire Workers' Comp	435	<1%
Bunch TX HCN - FH	1,004	<1%
City of San Angelo	55	<1%
Compkey Plus	1,120	1%
Coventry	9,063	8%
Dallas County Schools	1,524	1%
First Health/CSS HCN	275	<1%
First Health/Travelers	6,588	6%
First Health TX HCN	2,594	2%
Genex	1,235	1%
Houston ISD	1,152	1%
Injury Management Organization	3,980	3%
Liberty	5,035	4%
La Joya ISD	470	<1%
Majoris Health Systems	2	<1%
Prime Health Services, In	29	<1%
River View Provider Group	226	<1%
Sedgwick	3,740	3%
Texas CorCare® Network	2,243	2%
Texas Star Network	41,016	36%
The Hartford WC HCN	1,157	1%
The Lone Star Network/Corvel	587	<1%
Trinity Occupational Program	526	<1%
Zenith Health Care Network	1,479	1%
Zurich Services Corporation	1,994	2%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016. Note: Totals may not add up to 100 percent due to rounding.

Summary

HB 7 introduced a new workers' compensation health care delivery model that allows insurance carriers to establish or contract with managed care networks certified by TDI using a method similar to the certification of HMOs. Under this new system, injured employees whose employers have contracted with a certified network must obtain medical care through the network if the injured employee lives in the network's service area and receives notice of the network's requirements from the employer.

TDI began accepting applications for the certification of workers' compensation networks on January 2, 2006, and as of June 1, 2015, 30 certified networks covered all 254 counties in Texas. According to the information gathered in periodic insurance company and network data calls, the number of Texas policyholders and claims participating in workers' compensation networks has increased significantly since networks first became available in 2006. Networks treat 47 percent of new claims—more than 700,000 since 2006.

4. Satisfaction with Care and Health-Related Outcomes

Ensuring high-quality medical care for injured employees at reasonable costs for Texas employers continues to be the focus for the Texas workers' compensation system. As the number of claims decreases and costs stabilize in the system, additional pressure is placed on ensuring that every dollar spent on claims provides benefits to injured employees and enhances their ability to return to work as quickly and safely as possible. Section 3 highlighted how network participation has changed over time. This section examines quality of care issues and whether the system has seen improvements in these issues over the past few years. This section also provides indications of the impact of networks on access to care, satisfaction with care, and health-related outcomes.

Survey Design and Data Collection

The REG conducted an injured employee survey to compare injured employees' experiences with their medical care (access to care, satisfaction with care, and health-related outcomes), as well as to collect information regarding their experiences returning to work after their work-related injuries. The survey was conducted in spring of 2016. For the survey, the REG drew a random probability sample of injured employees who received at least one Temporary Income Benefit (TIBs) payment (that is, injured employees with more than seven days of lost time due to an accident or injury). The sample was further stratified by injury type, and injured employees were surveyed at about 12 to 24 months post-injury.[8] The survey instrument utilized standardized questions from the Consumer Assessment of Health Plans Study, Version 3.0, the Short Form 12, Version 2, the URAC Survey of Worker Experiences, and previous surveys conducted by the REG.

Selection of Treating Doctors Recommended by Employers

Prior to the passage of HB 7 in 2005, injured employees could select a treating doctor from the list of doctors who registered and received approval from DWC to participate on DWC's Approved Doctor List (ADL). The ADL contained approximately 14,000 medical doctors (MDs), osteopaths (DOs), chiropractors (DCs), and other doctors (dentists, podiatrists, etc.) who agreed to participate at some level in the Texas workers' compensation system. In an effort to improve access to care for non-network claims and to reduce administrative burdens for doctors treating injured employees, HB 7 eliminated the ADL.[9] At the same time, HB 7 paved the way for networks to treat injured employees. Injured employees, whose employers had agreed to participate in these networks, who lived in the networks' service area, and who received notice of the networks' requirements, were required to select a treating doctor from the networks' list of contracted doctors. Interestingly, while injured employees were allowed to select their own treating doctors prior to the passage of HB 7, a significant percentage of injured employees reported

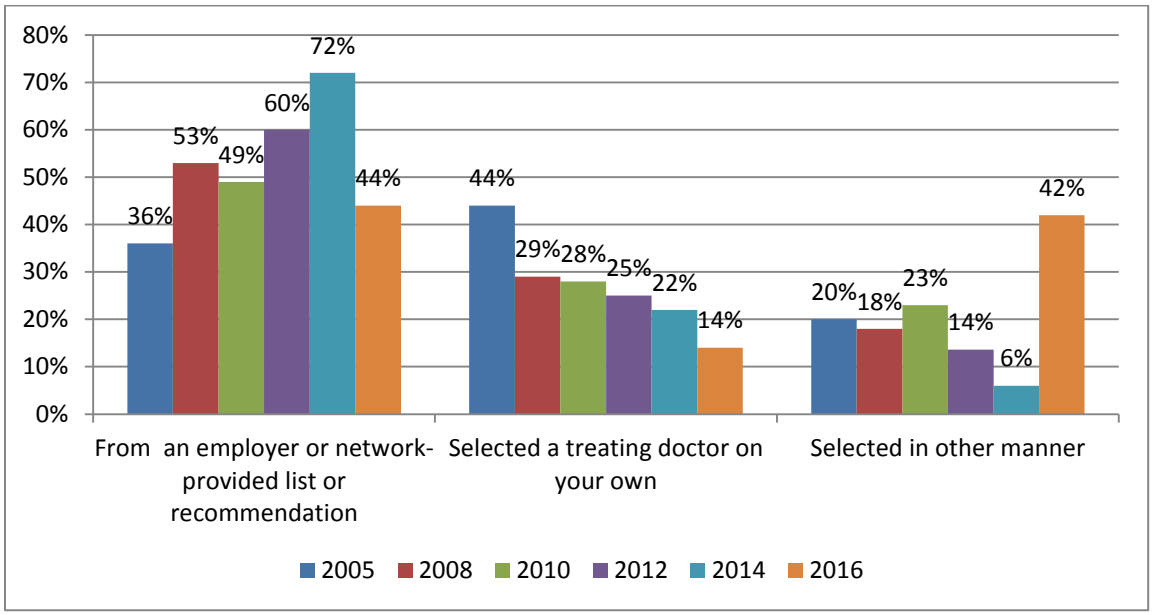
[8] A total of 4,007 injured employees were surveyed in 2016 by Texas A&M University Public Policy Research Institute and the results analyzed by the TDI Workers' Compensation Research and Evaluation Group.

[9] Even though the ADL expired on August 31, 2007, TDI continues to regulate health care providers treating injured workers in the system. Doctors must continue to disclose financial interest in other providers, practitioners and facilities, etc. to TDI, as well as obtain training and testing for the assignment of impairment ratings and maintain a medical license in good standing in the jurisdiction where care is provided.

(in this and in previous studies in Texas) that they selected a doctor recommended to them by their employer or insurance carrier.

As Figure 4.1 shows, a smaller percentage of injured employees surveyed in 2016 (44 percent) reported that they selected a treating doctor recommended to them by their employer or part of their network's list of treating doctors, compared to injured employees surveyed in 2005 (36 percent).

Figure 4.1: Methods Injured Employees Reported Using To Select Their Treating Doctor

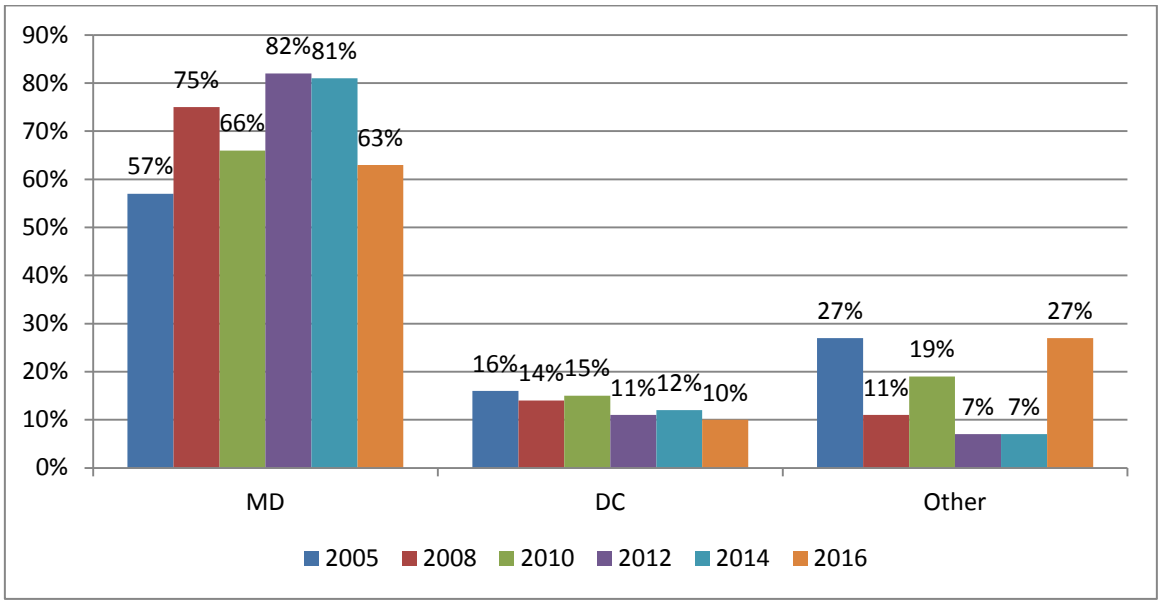


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers 2005, 2008, 2010, 2012, 2014, 2016. Note: "Selected in other manner" includes recommendations from family or friends or other coworkers, among others.

The Texas Workers' Compensation Act and Rules allow a variety of medical specialties, including MDs, DOs, DCs, dentists, podiatrists, and optometrists to serve as treating doctors for non-network claims. However, HB 7 allowed networks to select or designate certain medical specialties to serve as treating doctors for network claims. In 2016, a higher percentage of injured employees surveyed reported that they selected an MD as their first treating doctor (63 percent), compared with 2005 (57 percent).

Even with the increased usage of networks, the percentage of employees who reported that they selected a DO, DC, or other type of doctor as their treating doctor has changed little compared to 2005 (see Figure 4.2).

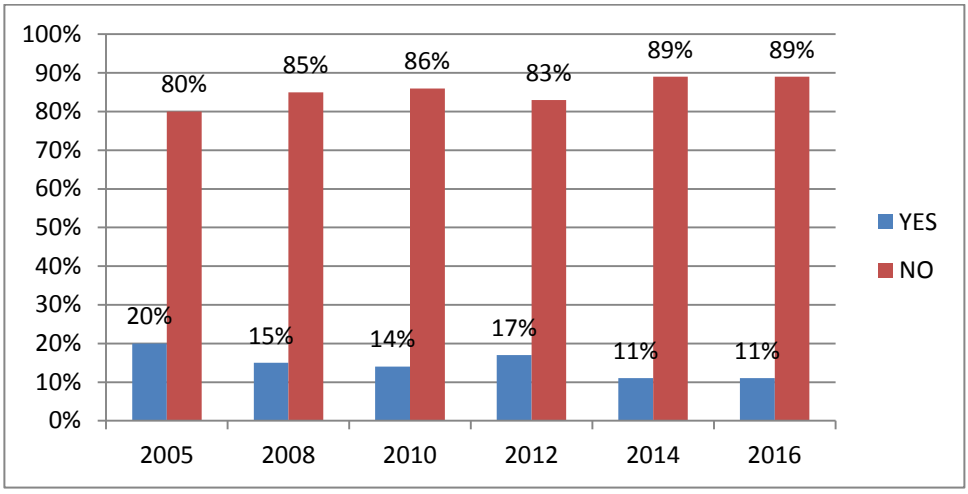
Figure 4.2: Type of First Non-Emergency Treating Doctor Selected by Injured Employees



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers 2005, 2008, 2010, 2012, 2014, 2016.

A larger percentage of injured employees surveyed in 2016 (89 percent) indicated that the doctor they saw for their workers' compensation medical care was not the doctor they normally saw for their routine medical care compared with 2005 (80 percent). This change may be the result of more injured employees seeking medical care through networks, which, to date, are not generally associated with group health plans that provide routine medical care (see Figure 4.3).

Figure 4.3: Was the Doctor Who Saw You for Your Work-Related Injury or Illness the Doctor That You Normally See for Your Routine Medical Care?



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers 2005, 2008, 2010, 2012, 2014, 2016.

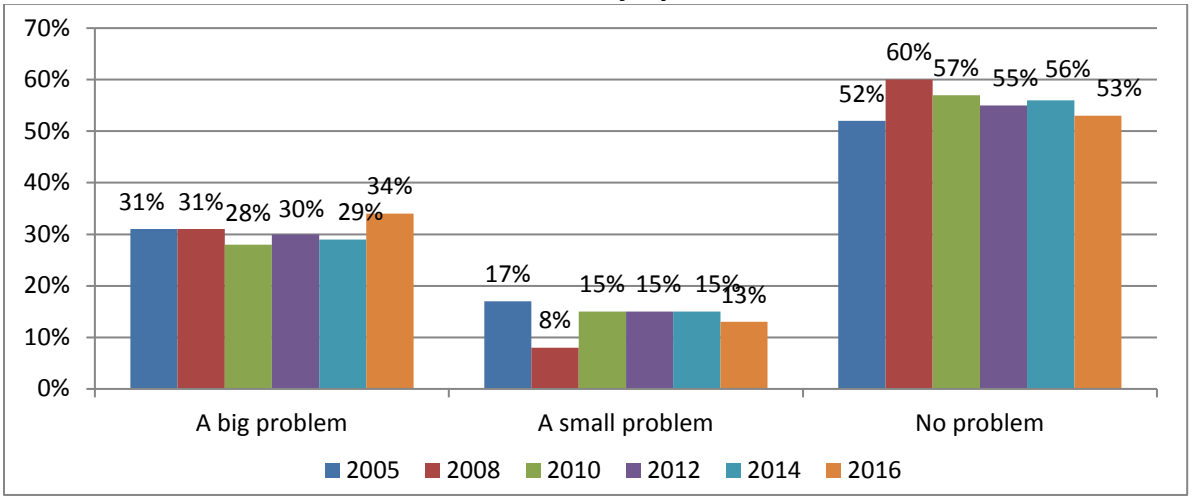
Improvements and Perceptions in Access to Care in Networks

Before the 2005 legislative session, concerns were rising about injured employees' access to care within the Texas workers' compensation system. Doctors, particularly surgical specialists, such as neurosurgeons and orthopedic surgeons, expressed resistance to taking on new workers' compensation patients. As reasons, they cited the administrative burdens related to treating workers' compensation cases and inadequate reimbursement levels resulting from the Texas Workers' Compensation Commission's adoption of the 2003 Medicare-based Medical Fee Guideline.[10]

In an attempt to increase health care provider participation in the Texas workers' compensation system, DWC adopted a new professional services medical fee guideline (effective March 1, 2008). The new professional services medical fee guideline raised reimbursement levels for doctors and added an annual inflation adjustment based on the annual Medicare Economic Index, the weighted average of price changes for goods and services used to deliver physician services. Additionally, changes made by HB 7, including the adoption of evidence-based treatment guidelines (effective May 1, 2007) and the elimination of ADL registration requirements (effective September 1, 2007) were made to increase certainty regarding the medical necessity of treatments that would be reimbursed in the system and to reduce administrative burdens.

Based on the results of recent injured worker surveys, a slightly higher percentage (53 percent) of workers surveyed in 2016 reported "no problem" in getting the medical care they felt they needed for their work-related injury, compared to 52 percent of workers surveyed in 2005. But this was down from 60 percent in 2008 (see Figure 4.4). The availability of doctors who are accepting workers' compensation patients is an issue that the Department has and will continue to monitor closely (see Section 6).

Figure 4.4: Percentage of Injured Employees Who Reported Having Problems Getting Medical Care for Their Injury



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Employees 2005, 2008, 2010, 2012, 2014, 2016.

[10] On August 1, 2003, the system's first Medicare-based professional service medical fee guideline took effect. While this medical fee guideline increased reimbursement for some categories of services, including primary care, reimbursements for specialty surgery services were significantly reduced.

As Tables 4.1 and 4.2 illustrate, injured employees who received medical care from networks generally had higher perceptions regarding their access to care, including the ability to see specialists.

A slightly larger percentage of injured employees surveyed in 2016 (17 percent) reported that their ability to schedule a doctor's appointment was worse than their normal health care, compared to 12 percent of injured employees surveyed in 2005 (see Figure 4.5).

This is likely the result of differences in injured employees' perceptions about difficulties scheduling doctor's appointments for network and non-network claims. As Table 4.3 shows, with the exception of five networks, a larger percentage of injured employees receiving medical care in networks reported that their ability to schedule a doctor's appointment was better than or about the same as that of injured employees receiving non-network medical care.

Table 4.1: Since You Were Injured, How Often Did You Get Care as Soon as You Wanted When You Needed Care Right Away?

How often did you get care?	Always	Usually	Sometimes/Never
Non-network	46%	18%	36%
504-Alliance	59%*	14%*	27%*
504-Dallas County Schools	51%	15%	33%
504-Others	52%	21%	27%
Corvel	50%	18%	32%
Coventry	52%*	12%*	36%
First Health	57%*	10%*	33%
Genex	54%	14%	32%
IMO	54%*	20%	26%*
Liberty	53%*	16%*	31%
Sedgwick	50%	21%*	29%*
Texas Star	50%*	13%*	37%
Travelers	54%*	18%	28%*
WellComp	51%	19%	31%
Zenith	58%	18%	24%*
Zurich	66%*	10%*	24%
Other networks	54%*	15%*	32%

Notes: Asterisks (*) indicate that the differences between the network and non-network are statistically significant. The figures presented above are adjusted for risk factors such as injury type, type of claim, and age differences that may exist between the groups. Percentage for each network may not add up to 100% because of rounding.

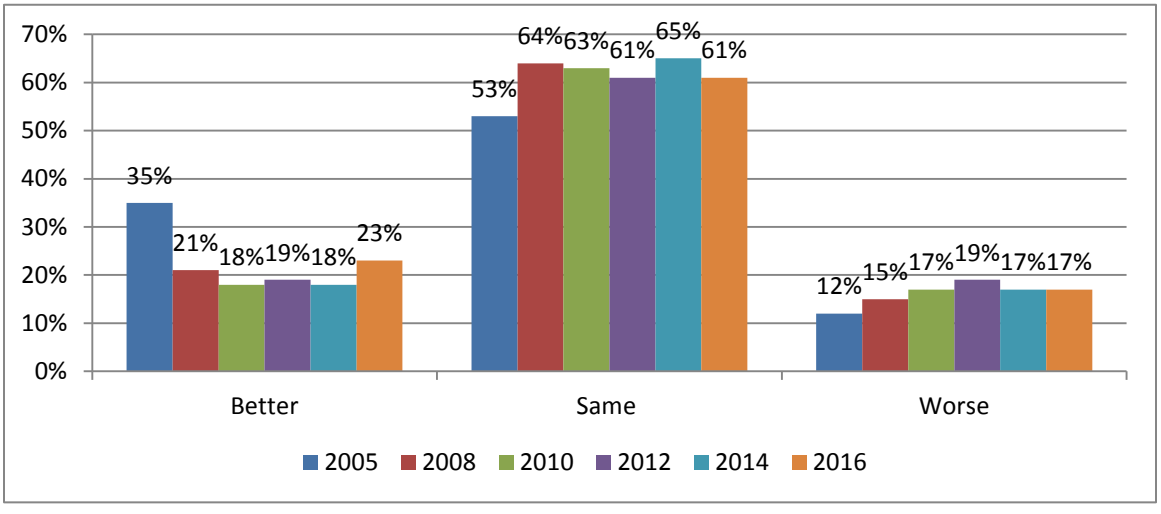
Injured employees in networks tend to get appointments to see a non-emergency doctor faster than non-network employees (see Figure 4.6 and Section 6).

Table 4.2: Overall, for Your Work-related Injury or Illness, How much of a Problem, if any, was it to get a Specialist You Needed to See? Was It…

How much of a problem?	Not a problem	A small problem	A big problem
Non-network	60%	14%	27%
504-Alliance	59%*	11%*	30%*
504-Dallas County Schools	52%*	10%*	37%
504-Others	54%*	18%	28%
Corvel	55%*	20%	25%
Coventry	51%*	13%*	36%*
First Health	56%	22%	22%
Genex	43%*	28%	29%
IMO	51%*	19%	29%*
Liberty	52%*	23%*	25%
Sedgwick	56%*	11%	33%
Texas Star	64%*	15%	21%*
Travelers	62%*	17%	21%*
WellComp	71%	7%*	22%
Zenith	61%*	11%	28%
Zurich	66%	14%	20%
Other networks	56%*	13%*	31%

Notes: Asterisks (*) indicate that the differences between the network and non-network are statistically significant. The figures presented above are adjusted for risk factors such as injury type, type of claim, and age differences that may exist between the groups. Percentage for each network may not add up to 100% because of rounding.

Figure 4.5: Compared to the Medical Care You Usually Receive When You are Injured or Sick, your Ability to Schedule a Doctor's Appointment for Your Work-Related Injury or Illness Was:



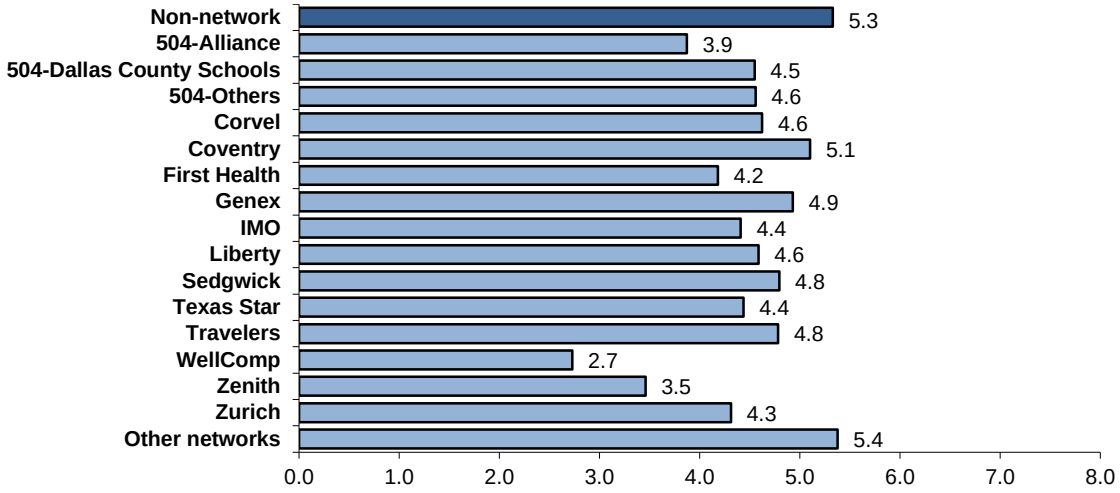
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers 2005, 2008, 2010, 2012, 2014, 2016.

Table 4.3: Injured Workers' Perceptions Regarding Their Ability to Schedule a Doctor's Appointment for Their Work-Related Injuries Compared to the Medical Care They Normally Receive When Injured or Sick

Percentage of injured workers indicating that their ability to schedule a doctor's appointment was:	Better	About the same	Worse
Non-network	22%	61%	16%
504-Alliance	20%*	66%*	14%*
504-Dallas County Schools	13%	74%	13%
504-Others	28%*	58%	14%
Corvel	24%	58%	18%
Coventry	24%	53%*	22%*
First Health	41%*	50%*	9%
Genex	25%	57%	18%
IMO	11%*	71%*	18%
Liberty	26%	59%	15%
Sedgwick	19%	66%	15%
Texas Star	30%*	58%	12%*
Travelers	28%*	60%*	11%
WellComp	21%	57%	22%
Zenith	34%	62%	4%*
Zurich	28%	59%	13%
Other networks	22%	63%	15%

Notes: Asterisks (*) indicate that the differences between the network and non-network are statistically significant. The figures presented above are adjusted for risk factors such as injury type, type of claim, and age differences that may exist between the groups. Percentage for each network may not add up to 100% because of rounding.

Figure 4.6: Average Number of Days from Date of Injury to Date of First Non-Emergency Treatment, Six Months Post Injury

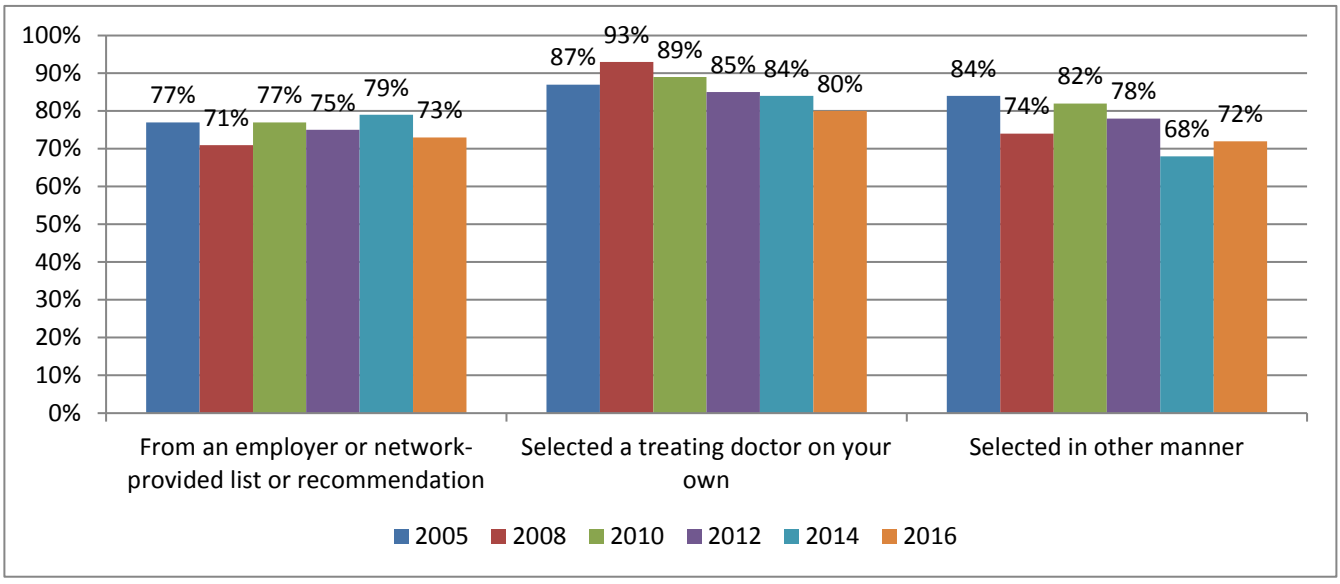


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Treating Doctor Choice and Satisfaction

Previous studies conducted by the REG show that injured employees' perceptions regarding the quality of their medical care are closely associated with their ability to choose their own treating doctor.[11] Not surprisingly then, as networks expand coverage in Texas and injured employees are increasingly required to choose a treating doctor from a list of in-network doctors, satisfaction levels will be affected. As Figure 4.7 shows, for injured employees who reported that they selected their own treating doctor, satisfaction levels decreased from 2005 to 2016 (80 percent surveyed in 2016 reported that the doctor they saw most often provided them good medical care, compared to 87 percent surveyed in 2005).

Figure 4.7: Percentage of Injured Employees Indicating Agreement That the Doctor They Saw Most Often Provided Them With Good Medical Care By Doctor Selection Method for First Non-Emergency Doctor



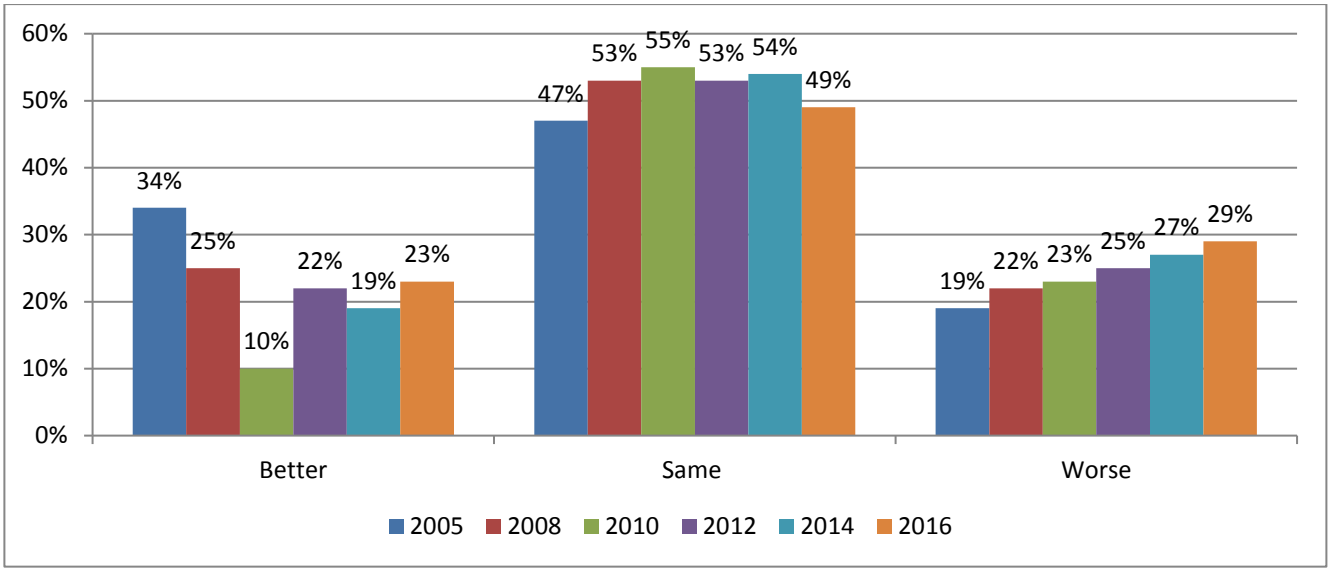
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers 2005, 2008, 2010, 2012, 2014, 2016.

Meanwhile, satisfaction levels decreased in 2016 compared to 2005 for injured employees who indicated that they selected a doctor recommended by their employer or network. Satisfaction levels for injured employees who selected a doctor some other way decreased from 84 percent in 2005 to 72 percent in 2016, which includes recommendations from family, friends, and co-workers. In general, though, satisfaction levels remained high for a majority of injured employees. Additionally, a slightly higher percentage (29 percent) of injured employees surveyed in 2016 reported that the medical care they

[11] Workers' Compensation Research and Evaluation Group, Medical Costs and Quality of Care Trends in the Texas Workers' Compensation System, 2004 and 2005.

received for their work-related injury was worse than their routine medical care compared to injured employees surveyed in 2005 (19 percent) (see Figure 4.8).

Figure 4.8: Compared to the Medical Care You Usually Receive When You Are Injured or Sick, Would You Say the Care You Received for Your Work-Related Injury or Illness Was:



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers 2008, 2010, 2012, 2014, 2016.

A network's access plan must include goals and plans for measuring health care provider and employee satisfaction, as well as a requirement that the network respond to complaints in a timely manner and maintain a complaint log that allows the network to track complaint trends and address issues in real time.[12]

Typically, TDI requests each network that had treated injured employees to address the deficiencies highlighted in the Network Report Card and submit an updated Quality Improvement Plan. TDI works to ensure that networks adequately address complaints, as well as implement their improvement plans.

It is important to note that while injured employees who received medical care from networks were generally more satisfied with the quality of the care than non-network employees, there are differences in satisfaction levels among individual networks profiled in the 2016 Workers' Compensation Network Report Card (see Tables 4.4 and 4.5). HB 7 included mechanisms to promote quality of care monitoring, including the requirement that every network produce and submit an annual Quality Improvement Plan to TDI.

[12] See Texas Insurance Code, Section 1305.403 and Texas Administrative Code, Sections 10.81 and 10.121.

Table 4.4: The Treating Doctor for Your Work-Related Injury or Illness Overall Provided You with Very Good Medical Care That Met Your Needs…

Treating doctor provided you with very good medical care	Strongly agree/Agree	Not sure	Strongly disagree/Disagree
Non-network	72%	5%	22%
504-Alliance	76%*	6%*	18%*
504-Dallas County Schools	60%*	9%*	31%*
504-Others	65%	8%	27%
Corvel	66%	10%*	23%
Coventry	67%*	6%	26%*
First Health	81%*	6%	13%*
Genex	71%	5%	23%
IMO	77%	6%	17%*
Liberty	77%	6%	16%*
Sedgwick	68%*	7%*	25%*
Texas Star	68%*	10%*	22%
Travelers	75%	4%	20%
WellComp	72%	6%	22%
Zenith	87%*	3%	10%*
Zurich	76%	2%	22%
Other networks	69%	8%	23%

Notes: Asterisks (*) indicate that the differences between the network and non-network are statistically significant. The figures presented above are adjusted for risk factors such as injury type, type of claim, and age differences that may exist between the groups. Percentage for each network may not add up to 100% because of rounding.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Table 4.5: Injured Employees' Perceptions Regarding Medical Care for Their Work-Related Injuries Compared to the Medical Care They Normally Receive When Injured or Sick

Percentage of injured employees indicating that the medical care for their work-related injuries was:	Better	Same	Worse
Non-network	25%	49%	26%
504-Alliance	16%*	59%*	25%*
504-Dallas County Schools	17%	56%	27%
504-Others	26%	46%	29%
Corvel	25%	53%	22%
Coventry	20%	51%*	29%
First Health	40%*	47%	13%*
Genex	13%*	52%	34%
IMO	16%*	61%*	23%*
Liberty	23%	51%	26%
Sedgwick	14%*	56%	30%
Texas Star	29%*	50%*	21%*
Travelers	28%	50%	21%*
WellComp	13%	57%	30%
Zenith	27%	62%*	11%*
Zurich	31%	47%	22%
Other networks	23%	51%	26%

Note: Asterisks (*) indicate that the differences between the individual network and non-network are statistically significant. The figures presented above are adjusted for risk factors such as injury type, type of claim, and age differences that may exist between the groups. Percentage for each network may not add up to 100% because of rounding.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Health Outcomes Improve in 2016

While there have been significant changes in the Texas workers' compensation system over the past few years in terms of the amount of medical care provided to injured employees as well as the introduction of new networks, injured employees' perceptions regarding their physical and mental functioning since the passage of HB 7 has also improved measurably compared to earlier years. Physical functioning is used to measure whether an injured employee gets better or physically recovers from the injury, while mental functioning is used to measure whether an injured employee is likely to experience issues such as depression after the injury.

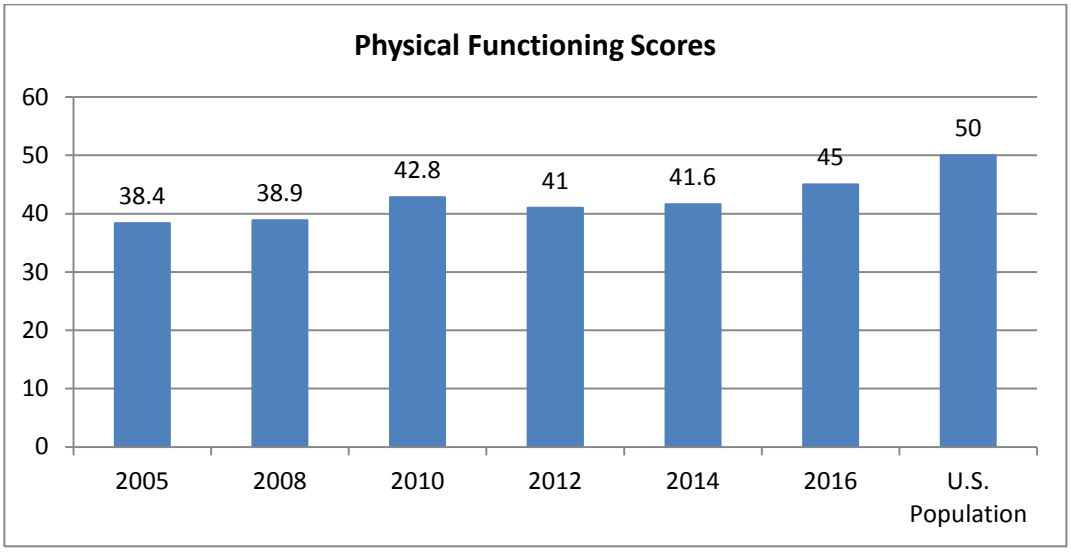
To measure the physical and mental functioning of injured employees, the REG utilized a standardized set of questions, referred to as the Short Form 12 (SF-12) survey instrument, which asks injured employees to rate their current mental health as well as their current abilities to perform certain daily activities.

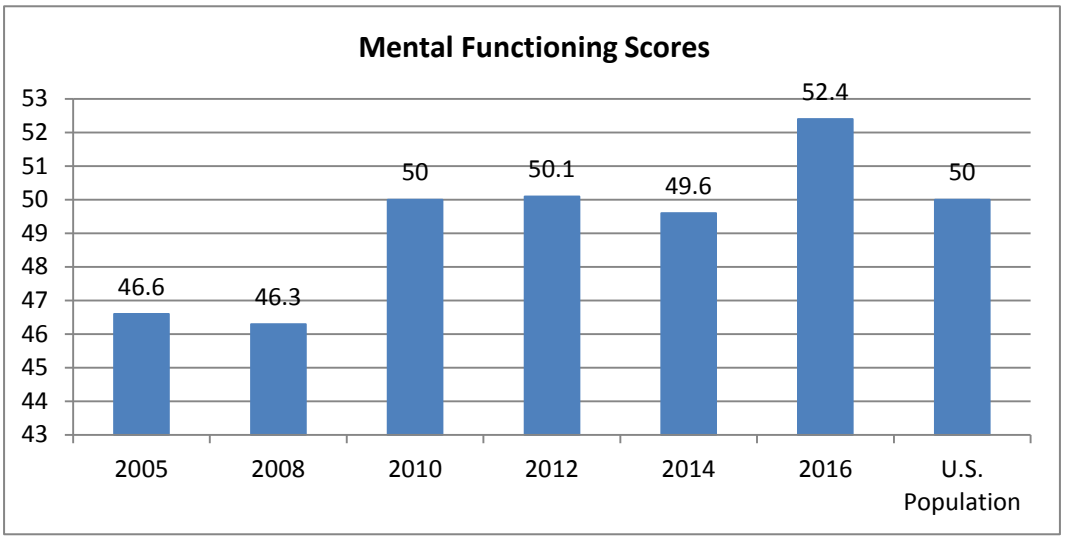
The results are calculated into two overall scores: the physical component summary and the mental component summary, which have a range of scores from zero to 100 and a mean score of 50 in a sample of the U.S. general population. Scores of more than 50 represent above-average health status, and scores at 40 or less represent people who function at a level lower than 84 percent of the population (one standard deviation).

As Figure 4.9 indicates, injured employees in Texas have improved their physical and mental functioning status significantly since 2005. The physical functioning score increased from 38.4 in 2005 to 45 in 2016, while the mental functioning score increased from of 46.6 in 2005 to 52.4 in 2016. Overall, the physical and mental functioning scores for network injured employees are higher than those for non-network claims.[13]

[13] For more detailed information about the physical and mental functioning scores for individual health care networks and non-network claims, see the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016 Workers' Compensation Network Report Card Results, 2016, which can be viewed at www.tdi.texas.gov/reports/wcreg/documents/report16.pdf.

Figure 4.9: Comparison of Injured Employee Self-Reported Mental and Physical Functioning Scores





Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers 2005, 2008, 2010, 2012, 2014, 2016.

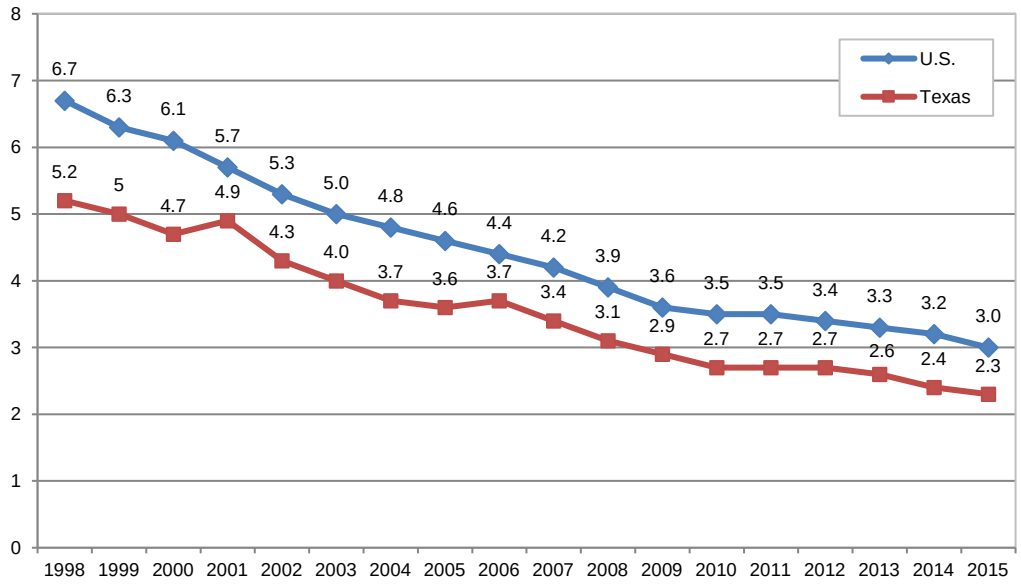
5. Medical Costs and Utilization of Care

The Texas workers' compensation system enacted various legislative and regulatory reforms through HB 2600 in 2001 and HB 7 in 2005, including medical fee guidelines, treatment guidelines, networks, and the pharmacy closed formulary. This section of the report will focus on how medical costs and utilization-of-care trends have changed in the system over time, as well as some of the factors influencing these cost trends.

Injury and Claim Trends

Occupational injury rates have declined steadily during the last two decades both nationally and for Texas, according to the nonfatal occupational injury and illness data collected and reported by the Bureau of Labor Statistics and DWC for the Survey of Occupational Injuries and Illnesses.[14] Since 1998, the nonfatal occupational injury and illness rate fell by 55 percent for the U.S. and by 56 percent for Texas (see Figure 5.1). The injury rate in Texas has been consistently below the national rate.

Figure 5.1: Texas and U.S. Nonfatal Occupational Injury and Illness Rates per 100 Full-Time Employees

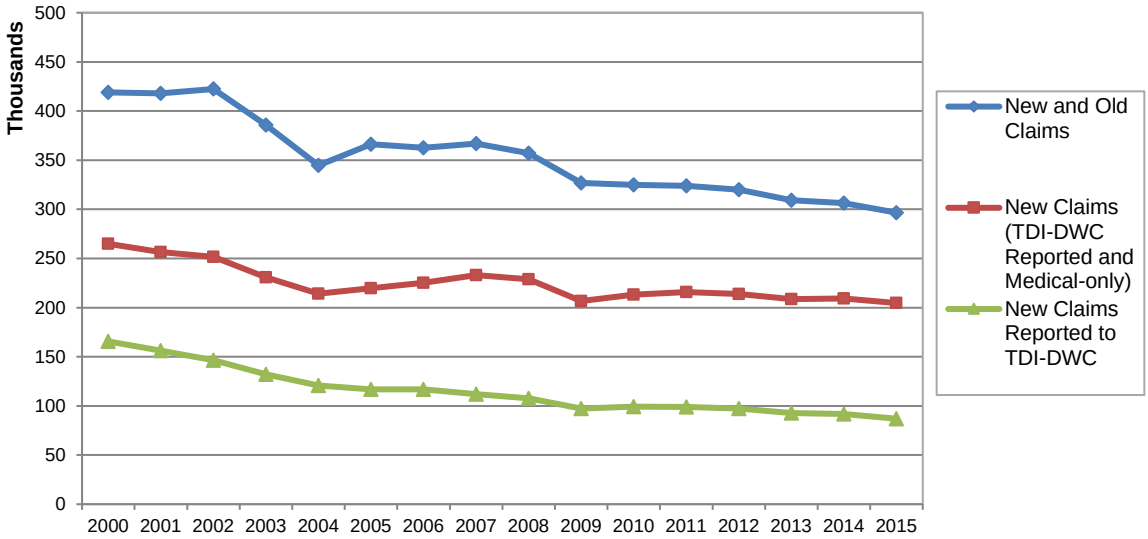


Source: Texas Department of Insurance, Division of Workers' Compensation and U.S. Department of Labor, Bureau of Labor Statistics, *Annual Survey of Occupational Injuries and Illnesses*.

[14] Changes to the OSHA recordkeeping logs in 2002 and the transition from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS) in 2003 may limit comparability of pre-2003 data series.

The decreasing rate of workplace injuries is also evident in the decreasing number of reportable claims filed with DWC.[15] In 2000, 165,609 claims with at least one day of lost time were reported to TDI-DWC, which decreased to 86,961 in 2015 (see the bottom series in Figure 5.2). Adding medical-only claims without lost time, total new claims were 264,902 in 2000, which decreased to 204,636 in 2015 (see the middle series in Figure 5.2). The top series in Figure 5.2 is the number of all unique claims treated in a given year regardless of the date of injury: 296,611 claims in 2015.

Figure 5.2: Number of Workers' Compensation Claims by Claim Type



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

The number of workers' compensation claims decreased steadily after 2000, with a period of relative stability or slight increases between 2004 and 2008. Among new claims, medical-only claims accounted for 37 percent of total new claims in 2000, and then increased steadily to 58 percent in 2015. Because medical-only claims have lower average costs per claim than those with income benefits or lost time, higher percentages of medical-only claims tends to lower the overall average cost per claim. The number of older workers' compensation claims being treated in a given calendar (or service) year was 37 percent of total claims in 2000, and 31 percent in 2015.

The decline in the number of claims, both nationally and in Texas, can be attributed to a variety of factors. Some factors include increased safety awareness among employers and employees, enhanced health and safety outreach and monitoring efforts at the federal and state level, improvements in technology, globalization, increased use of independent contractors, and the possibility of under-reporting workplace injuries and illnesses.

[15] The number of claims reported to DWC includes claims with at least one day of lost time, all occupational diseases and all fatalities. 'Lost-time' claims refer to those claims with more than seven days of lost time in which income benefits are due to the injured employee.

A decreasing number of injuries and claims results in lower total system medical costs, especially if the average cost per claim remains stable. Total and average medical costs can fluctuate up or down depending on many factors, including frequency and intensity in service utilization, expenses associated with disputes and denials, medical fees, use of managed care arrangements, and changes in injury and claim types. The remainder of this section examines these factors influencing medical costs in the Texas workers' compensation system.

Medical Cost Trends

Medical costs are direct benefits for injured employees and represent a substantial portion of the total costs of the Texas workers' compensation system, accounting for about a third of the total system cost (or premiums paid by employers). DWC collects and maintains medical data submitted by insurers according to the Texas Labor Code, Section 413.007. Medical bills are organized by provider bill type, including professional, hospital, dental, and pharmacy services. A claim is classified as 'lost-time' if the employee has more than seven days of lost time from work and receives income benefits. A claim is 'medical-only' if the employee has seven or less days of lost time without income benefits.

Professional Services

The REG examined the number of claims and costs of professional services by claim type and by injury year evaluated at six, 12, and 24 months after the injury date (see Table 5.1). For claims with six months maturity, medical-only claims accounted for 76 percent of all claims and 37 percent of the total cost in 2015.[16] Lost-time claims with more severe injuries accounted for the majority of total medical costs. Please note that the cost information provided in Table 5.1 is unadjusted, meaning that the costs reflected are actual costs reported and have not been adjusted to account for inflation changes over time.

Total costs have continued to decline since 2003 because of a variety of factors, including fewer claims filed, reductions in medical reimbursement, and decreases in the utilization of services. While average costs per claim increased rapidly prior to 2003, these costs decreased after the implementation of the 2003 Medical Fee Guideline. By 2007, average costs per claim were lower than any of the previous 10 years. This decline coincided with the passage of HB 2600 in 2001. More recent data indicate, however, that average medical costs are increasing, albeit at a slower rate than the double-digit increases experienced in the late 1990s and early 2000s. The increase is mainly due to increases in the newly adopted 2008 Medical Fee Guideline, which now contains an annual inflation factor–the Medicare Economic Index.

[16] Injury year 2015 with six months maturity is evaluated with all medical treatments up to June 30, 2016. Although medical bills are updated by this date, some bills and payments may have not been settled and reported. The total cost figures for 2015 should be considered preliminary subject to future updates. Average cost is similarly affected by the data limit, but the effect of missing bills will be relatively minimal.

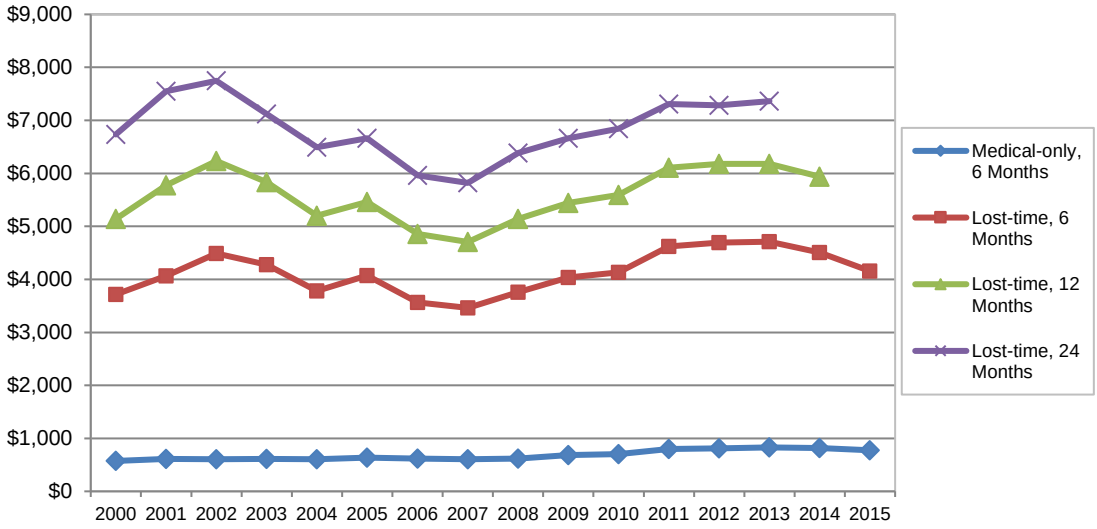
Table 5.1: Total and Average Costs by Claim Type, Professional Services, by Injury Year

Injury Year	6 Months			12 Months			24 Months		
	Total Cost (Thousand Dollars)	Number of Claims	Average Cost per Claim	Total Cost (Thousand Dollars)	Number of Claims	Average Cost per Claim	Total Cost (Thousand Dollars)	Number of Claims	Average Cost per Claim
Lost-time Claims									
2000	$258,537	69,622	$3,713	$371,118	72,164	$5,143	$498,525	74,051	$6,732
2001	$282,426	69,502	$4,064	$415,649	71,981	$5,774	$554,279	73,409	$7,551
2002	$308,345	68,657	$4,491	$436,589	70,040	$6,233	$548,006	70,743	$7,746
2003	$264,599	61,872	$4,277	$366,290	62,795	$5,833	$456,957	64,175	$7,120
2004	$222,576	58,873	$3,781	$317,217	60,971	$5,203	$399,790	61,588	$6,491
2005	$230,631	56,642	$4,072	$314,868	57,678	$5,459	$387,504	58,171	$6,661
2006	$200,910	56,404	$3,562	$277,537	57,160	$4,855	$342,616	57,485	$5,960
2007	$198,408	57,310	$3,462	$272,805	57,977	$4,705	$339,485	58,330	$5,820
2008	$219,641	58,403	$3,761	$303,937	59,116	$5,141	$379,332	59,417	$6,384
2009	$219,241	54,294	$4,038	$298,268	54,830	$5,440	$366,489	55,033	$6,659
2010	$235,184	56,889	$4,134	$320,608	57,335	$5,592	$393,500	57,497	$6,844
2011	$262,090	56,698	$4,623	$348,686	57,117	$6,105	$418,655	57,273	$7,310
2012	$257,283	54,779	$4,697	$340,605	55,132	$6,178	$402,658	55,279	$7,284
2013	$248,074	52,663	$4,711	$327,790	53,049	$6,179	$391,851	53,200	$7,366
2014	$239,106	53,075	$4,505	$317,605	53,502	$5,936			
2015	$207,081	49,844	$4,155						
Medical-only Claims									
2000	$112,038	195,280	$574	$130,599	198,228	$659	$147,804	200,603	$737
2001	$114,321	187,139	$611	$133,209	190,002	$701	$149,068	191,818	$777
2002	$110,440	183,015	$603	$126,032	184,847	$682	$137,979	185,783	$743
2003	$103,541	168,846	$613	$116,277	170,103	$684	$125,448	171,027	$734
2004	$94,107	155,402	$606	$105,270	157,017	$670	$112,913	157,850	$715
2005	$103,911	163,169	$637	$114,100	164,269	$695	$121,199	164,885	$735
2006	$103,909	168,828	$615	$114,202	169,853	$672	$120,723	170,376	$709
2007	$106,465	175,851	$605	$116,107	176,822	$657	$122,739	177,361	$692
2008	$105,501	170,446	$619	$113,746	171,327	$664	$119,350	171,841	$695
2009	$104,042	152,259	$683	$111,285	153,028	$727	$116,071	153,456	$756
2010	$110,276	156,342	$705	$118,614	157,067	$755	$123,914	157,439	$787
2011	$126,932	159,061	$798	$136,009	159,804	$851	$141,265	160,199	$882
2012	$128,910	159,093	$810	$136,772	159,750	$856	$141,116	160,164	$881
2013	$129,186	155,843	$829	$137,001	156,580	$875	$141,562	156,989	$902
2014	$127,439	156,305	$815	$134,876	156,980	$859			
2015	$120,352	154,792	$778						

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Average costs increased and decreased at distinct periods of time (see Figure 5.3). A decrease in average costs from 2002 to 2007 reflected clear impacts from the adoption of the 2003 Medicare-based professional services medical fee guideline and the 2005 HB 7 reforms. Since 2007, however, professional service costs had also increased. The average cost evaluated at six months maturity increased by 34 percent for medical-only claims and by 39 percent for lost-time claims between 2007 and 2013. Since 2013, average costs have decreased.

Figure 5.3: Average Cost per Claim by Claim Type, by Injury Year, Professional Services



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Hospital Services

For hospital and institutional services, lost-time claims at six months maturity comprised 38 percent of all claims in 2015 but accounted for 81 percent of the total cost (see Table 5.2). Since 2000, total hospital payments evaluated at six months maturity increased 50 percent by 2015 for lost-time claims while payments decreased by 0.5 percent for medical-only claims. During the same period, the number of claims decreased by 23 percent for lost-time claims and by 32 percent for medical-only claims. Average hospital costs per claim increased for both lost-time and medical-only claims by 99 percent and 50 percent, respectively (see Figure 5.4).

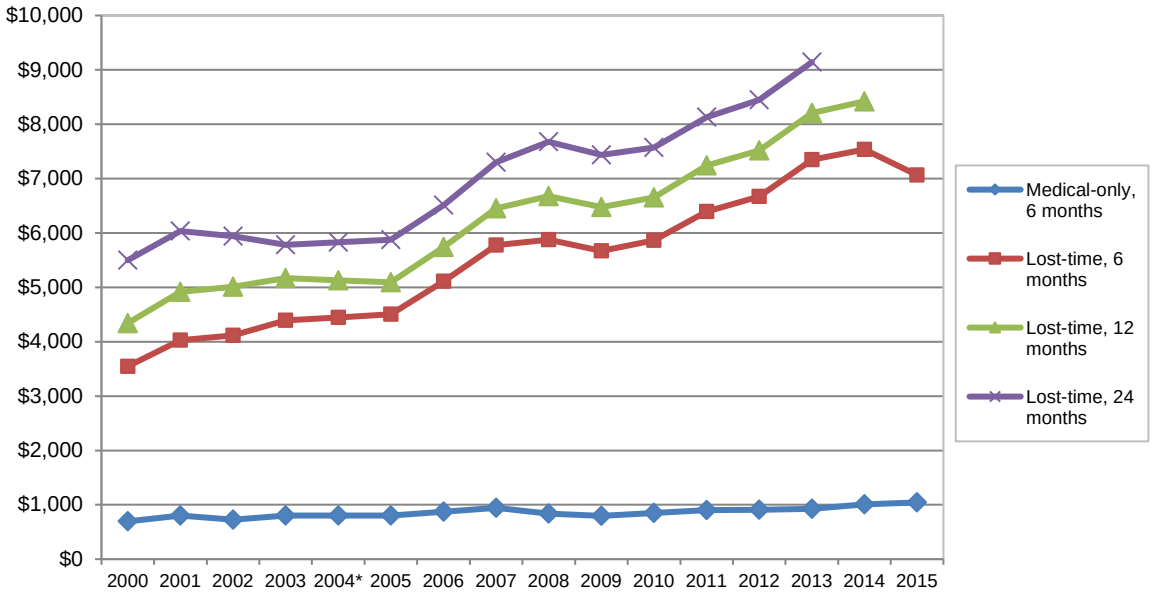
The increase in hospital costs was likely due to the fact that, prior to March 1, 2008, the system did not have an outpatient hospital services fee guideline and the inpatient hospital fee guideline in place was significantly outdated (adopted in 1997)leading to an increase in the number of inpatient hospital services paid at "fair and reasonable" levels. This resulted in a significant number of medical fee disputes between insurance carriers and hospitals. Figure 5.4, however, indicates that the new hospital fee guideline moderated the growth in per-claim hospital costs in 2008 and 2009, but costs increased significantly since 2010, while the number of claims decreased.

Table 5.2: Total Cost by Claim Type (Thousand Dollars), Hospital Services, by Injury Year at 6, 12, and 24 Months Post Injury

Injury Year	Lost-time Claims			Medical-only Claims		
	6 Months	12 Months	24 Months	6 Months	12 Months	24 Months
2000	$120,698	$165,704	$226,355	$43,568	$50,635	$58,675
2001	$145,486	$200,634	$262,493	$50,317	$57,715	$64,435
2002	$158,462	$212,738	$262,730	$44,626	$50,865	$55,781
2003	$155,408	$198,164	$228,816	$45,372	$49,593	$52,523
2004	$113,317	$137,415	$165,411	$37,181	$39,890	$42,187
2005	$118,262	$144,343	$174,119	$36,107	$38,788	$40,899
2006	$146,428	$175,663	$205,567	$43,211	$45,745	$47,925
2007	$175,880	$208,310	$243,052	$49,879	$52,458	$55,103
2008	$182,768	$220,501	$260,903	$41,875	$43,634	$45,384
2009	$161,991	$195,399	$230,552	$35,152	$36,987	$38,608
2010	$177,720	$212,613	$247,625	$39,008	$41,105	$43,254
2011	$196,140	$232,527	$266,790	$42,992	$45,495	$46,786
2012	$193,733	$228,530	$262,136	$40,659	$42,454	$43,762
2013	$205,760	$240,893	$274,367	$40,064	$41,902	$44,470
2014	$210,903	$247,140		$43,309	$45,060	
2015	$181,496			$43,386		

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 5.4: Average Cost per Claim for Hospital Services, by Claim Type by Injury Year



Note: 2004 figures are shown as an average of 2003 and 2005 due to incomplete data.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Pharmacy Services

Total pharmacy costs in 2015 were $104 million, 29 percent lower than $146 million in 2005 (see Table 5.3).[17] Payments for lost-time claims decreased by 23 percent since 2005, while those for medical-only claims decreased by 51 percent. Lost-time claims accounted for the majority of pharmacy costs (87 percent of the total in 2015). Pharmacy costs were also concentrated in older claims (see Table 5.4). Claims with four or more years of maturity accounted for 58 percent of all costs in 2015.

Pharmacy costs have decreased significantly since 2011. The main reason for the decrease was the pharmacy closed formulary that became effective for new claims in September 2011 and for old (legacy) claims in September 2013. Specific effects of the closed formulary will be discussed in a section below.

Table 5.3: Total and Average Costs by Claim Type and Service Year, Pharmacy Services

Service Year	Lost-time Claims			Medical-only Claims		
	Number of Claims	Total Costs (Thousand Dollars)	Cost per Claim	Number of Claims	Total Costs (Thousand Dollars)	Cost per Claim
2005	93,496	$117,739	$1,259	78,691	$27,778	$353
2006	90,745	$122,476	$1,350	80,942	$29,349	$363
2007	91,094	$125,164	$1,374	89,250	$29,887	$335
2008	89,855	$131,958	$1,469	85,754	$27,564	$321
2009	85,858	$133,273	$1,552	74,879	$29,146	$389
2010	86,907	$134,802	$1,551	73,690	$24,955	$339
2011	85,259	$130,442	$1,530	71,735	$23,062	$321
2012	80,872	$120,203	$1,486	69,582	$19,683	$283
2013	76,199	$107,752	$1,414	65,025	$18,507	$285
2014	72,439	$96,546	$1,333	60,314	$14,847	$246
2015	66,491	$90,206	$1,357	55,597	$13,505	$243

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Table 5.4: Total Pharmacy Cost by Maturity, by Service Year (Thousand Dollars)

Service Year	First Year Maturity	Second Year Maturity	Third Year Maturity	4+ Years Maturity
2005	$27,401	$13,602	$11,543	$92,972
2006	$27,773	$14,100	$10,550	$99,401
2007	$31,541	$13,603	$10,361	$99,546
2008	$32,762	$14,135	$10,321	$102,304
2009	$33,740	$15,976	$11,072	$101,631
2010	$32,728	$15,713	$10,813	$100,502
2011	$30,687	$14,045	$10,343	$98,427
2012	$27,396	$13,561	$9,503	$89,425
2013	$25,647	$11,724	$8,741	$80,147
2014	$28,315	$11,041	$7,318	$64,718
2015	$25,804	$10,711	$6,617	$60,577

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

[17] Payment data for pharmacy services began with the new electronic data interchange (EDI) data collection process in 2005.

Utilization of Health Care

Medical costs are affected not only by the fees for services but also by the amount of medical care provided to injured employees (the utilization of care). Past studies indicated that higher medical costs in Texas during the early 2000s were primarily driven by overutilization of certain types of medical services.

Specifically, Texas injured employees received more physical medicine services, surgical services, and diagnostic testing than similarly injured employees in other states. the adoption of the 2003 Medical Fee Guideline has significantly changed the amount of certain types of medical services provided to injured employees in Texas.

The amount of medical care provided to injured employees can be measured by the percentage of injured employees receiving certain types of medical services, as well as the amount of those services received per injured employee. Table 5.5 shows that, overall, there has been little change over time in terms of the percentage of injured employees receiving professional and hospital services. The decrease in pharmacy services since 2011 resulted from the pharmacy closed formulary.

Table 5.5: Percentage of Injured Employees Receiving Health Care Services, by Service Year

Service Year	Professional Services	Hospital/ Institutional Services	Pharmacy Services
2000	96.3%	30.4%	
2001	96.1%	31.3%	
2002	97.0%	32.6%	
2003	97.5%	32.9%	
2004	97.5%	30.9%	
2005	92.4%	25.1%	47.0%
2006	92.3%	27.2%	47.3%
2007	92.0%	28.2%	49.1%
2008	91.8%	28.0%	49.2%
2009	92.7%	28.2%	49.2%
2010	93.7%	29.0%	49.4%
2011	94.2%	29.7%	48.5%
2012	94.4%	28.4%	47.0%
2013	94.4%	28.2%	45.7%
2014	94.4%	28.3%	43.3%
2015	94.8%	27.9%	41.2%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

However, the percentage of injured employees receiving specific professional services changed significantly. Utilization of services increased slightly in evaluation and management (E/M) services, diagnostic, pathology and laboratory services, and other surgery services (see Table 5.6). Utilization of services in two service groups—durable medical equipment, prosthetics, orthotics and supplies (DMEPOS)" and "impairment rating (IR) examination and report services—increased substantially while that of spinal surgery and 'other' services declined significantly. Utilization of physical medicine services

increased until 2004, but by 2006 had decreased to its 2000 level. As expected, employees with lost-time claims received more services than medical-only claims in all service categories.

Table 5.6: Percent of Claims Receiving Certain Professional Services by Claim Type, by Injury Year at 12 Months Post Injury

Injury Year	DMEPOS	Diag/Path/ Lab	E/M	IR Exam & Report	Other Services	Physical Medicine	Surgery - Other	Surgery - Spinal
Lost-time Claims								
2000	47.1%	78.9%	95.0%	74.1%	55.8%	60.3%	39.1%	9.9%
2001	47.1%	80.1%	95.6%	79.7%	57.4%	62.3%	42.1%	10.9%
2002	52.0%	84.1%	97.0%	83.7%	61.0%	64.3%	45.0%	11.1%
2003	61.2%	85.5%	97.0%	85.5%	56.2%	65.3%	47.3%	10.4%
2004	64.1%	82.2%	95.4%	85.5%	45.1%	63.5%	46.1%	9.0%
2005	61.9%	84.6%	96.2%	86.6%	45.9%	62.5%	49.5%	8.4%
2006	65.6%	84.4%	96.4%	86.2%	45.7%	59.5%	50.1%	7.2%
2007	67.4%	85.4%	97.0%	85.6%	45.6%	58.5%	49.6%	5.9%
2008	66.5%	85.8%	97.3%	86.6%	46.1%	57.7%	49.9%	5.2%
2009	67.4%	86.7%	97.8%	88.2%	46.0%	58.9%	49.4%	4.9%
2010	66.2%	86.5%	98.1%	87.9%	45.1%	58.4%	49.0%	4.5%
2011	65.6%	86.1%	98.2%	87.6%	45.3%	57.2%	50.2%	4.0%
2012	65.5%	85.7%	98.2%	87.4%	44.3%	57.0%	49.5%	3.6%
2013	64.7%	85.5%	97.9%	86.7%	44.8%	57.7%	49.1%	3.4%
2014	63.5%	84.4%	97.7%	86.8%	43.7%	57.7%	47.9%	3.0%
Medical-only Claims								
2000	24.0%	50.6%	88.4%	50.1%	34.5%	20.9%	17.1%	0.6%
2001	22.6%	51.2%	89.3%	56.6%	34.5%	22.4%	17.2%	0.7%
2002	23.5%	52.9%	90.9%	59.6%	36.5%	22.2%	17.5%	0.6%
2003	30.5%	54.8%	91.1%	61.9%	30.0%	22.6%	18.5%	0.5%
2004	36.6%	54.6%	91.4%	64.2%	17.6%	23.3%	17.9%	0.5%
2005	33.8%	55.5%	92.4%	64.6%	17.3%	21.9%	19.3%	0.4%
2006	36.4%	56.1%	92.3%	66.0%	18.0%	21.2%	19.2%	0.4%
2007	37.7%	57.3%	92.9%	65.9%	18.3%	20.7%	18.4%	0.3%
2008	36.5%	57.5%	93.4%	66.8%	18.6%	19.4%	18.4%	0.2%
2009	36.5%	58.1%	94.1%	68.9%	18.7%	19.6%	18.2%	0.2%
2010	35.1%	57.6%	94.3%	68.9%	17.9%	19.1%	18.4%	0.2%
2011	34.7%	57.1%	94.7%	69.1%	17.5%	18.5%	18.7%	0.2%
2012	34.9%	56.2%	94.8%	69.9%	17.6%	19.0%	18.3%	0.1%
2013	34.2%	56.5%	94.2%	69.5%	18.0%	20.0%	17.4%	0.2%
2014	32.8%	55.8%	93.9%	69.9%	18.4%	20.4%	16.6%	0.1%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

In terms of per-claim services provided to injured employees, Table 5.7 shows that there have been significant reductions in the utilization of E/M services, physical medicine services, and 'other' services since the adoption of the 2003 professional services fee guideline.[18] Spinal surgeries also decreased but at a more moderate rate. On the other hand, IR examination and report services increased significantly. Utilization of diagnostic/pathology/laboratory services increased among lost time claims.

Table 5.7: Average Number of Services per Claim Receiving Certain Professional Services by Claim Type, by Injury Year at 12 Months Post Injury

Injury Year	DMEPOS	Diag/Path/ Lab	E/M	IR Exam & Report	Other Services	Physical Medicine	Surgery - Other	Surgery - Spinal
Lost-time Claims								
2000	6.9	8.3	17.3	5.9	6.5	110.6	3.9	4.9
2001	7.4	9.1	18.8	7.6	7.0	125.3	4.3	5.1
2002	7.9	9.8	20.2	8.4	6.8	145.7	4.6	5.3
2003	11.4	10.1	16.8	8.8	6.1	139.1	4.5	4.8
2004	13.1	8.6	13.2	8.2	4.5	118.0	4.5	4.4
2005	13.7	9.1	12.7	9.2	4.5	107.1	5.1	5.0
2006	11.5	8.7	10.9	8.5	4.2	80.2	5.1	4.9
2007	10.9	8.7	10.2	8.3	4.0	72.5	5.0	4.7
2008	10.5	9.0	10.4	8.6	3.9	72.3	5.0	4.5
2009	9.9	8.7	10.1	8.5	3.7	69.2	5.0	4.5
2010	8.7	8.8	10.0	8.2	3.6	67.4	5.0	4.1
2011	8.5	9.7	9.9	8.2	3.6	65.5	5.2	3.9
2012	8.0	9.7	9.8	8.2	3.4	67.7	5.2	4.0
2013	7.8	10.0	9.9	8.6	3.5	70.6	5.0	3.6
2014	7.6	10.6	9.9	8.5	3.4	69.3	5.2	3.5
Medical-only Claims								
2000	3.0	2.6	3.8	2.3	3.1	37.9	1.7	3.6
2001	3.0	2.6	3.8	2.8	3.1	38.9	1.8	3.7
2002	3.1	2.6	3.7	2.9	3.1	38.9	1.7	3.7
2003	3.7	2.6	3.4	2.9	2.8	38.1	1.7	3.4
2004	4.2	2.5	3.0	2.9	2.2	32.1	1.7	3.2
2005	4.3	2.6	3.0	3.2	2.1	31.6	1.7	3.4
2006	4.1	2.6	3.0	3.0	2.1	27.3	1.8	3.5
2007	3.8	2.5	2.9	2.8	2.0	25.1	1.8	3.3
2008	3.7	2.5	2.9	2.8	2.0	24.4	1.7	2.9
2009	3.5	2.5	2.8	2.8	1.9	24.5	1.6	3.3
2010	3.3	2.6	2.8	2.8	1.9	25.3	1.6	2.7
2011	3.1	2.6	2.9	2.8	1.9	25.3	1.7	2.8
2012	2.9	2.6	2.9	2.8	1.9	26.0	1.7	2.6
2013	2.9	2.6	2.9	2.9	2.0	27.3	1.7	2.2
2014	2.8	2.7	2.9	2.9	2.0	28.1	1.7	2.4

Note: Non-payable functional reporting G-codes in the HCPCS Level II (required since 2013) are not included in the utilization metrics. Drug screening and drugs of abuse test G-codes (effective from 2015) are included in the Diag/Path/Lab service group. All other HCPCS Level II codes are included in the DMEPOS service group.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

[18] While the unit of service is a bill for most services, the unit of service for physical medicine services is a 15-minute session or other billing unit specified by DWC.

Effects of Medical Fee Guidelines

The adoption of the 2003 and 2008 professional services medical fee guidelines not only changed the reimbursement amounts for individual categories of services but also adopted, by reference, Medicare's billing rules and payment policies. This affected how insurance carriers reviewed the medical necessity of certain types of treatments. As a result, the cost impact of the medical fee guidelines varied considerably for individual categories of services.

From August 1, 2003, to March 1, 2008, professional medical services were paid at 125 percent of Medicare's reimbursement rates (conversion factors) under the 2003 medical fee guideline. While the same reimbursement rate was used across the board for all professional services, the difference between the reimbursement rates under the 1996 and 2003 professional services medical fee guidelines varied considerably depending on the category of professional service.

On March 1, 2008, the new professional services medical fee guideline began to use a conversion factor fixed at $52.83, with the exception of surgery services, which used a separate fixed factor at $66.32 as a conversion factor. These factors are adjusted annually using the Medicare Economic Index. In 2015, the effective conversion factors were $56.20 and $70.54, respectively (a 6.4 percent increase from 2008).

Table 5.8 shows average costs per claim by service group by injury year at 12 months post injury. Until 2007, per-claim costs decreased for diagnostic services, E/M services, physical medicine, and spinal surgeries while costs for DMEPOS, disability exam, non-spinal surgeries, and 'other' services increased. Increasing costs may be the result of two factors: 1) an increase in fees for these services (the case for E/M) as a result of new medical fee guidelines, or 2) an increase in the amount of services provided to injured employees (the case for DMEPOS and IR exam and report services), or both (the case for other surgical services).

For physical medicine services, diagnostic/pathology/laboratory services, and spinal surgery services, lower costs per claim were the result of lower fees for these services under the 2003 medical fee guideline. Additionally, lower costs per claim for physical medicine services, spinal surgical services, and 'other' services were also the result of a decrease in the amount of services provided to injured employees.

Since 2007, per-claim costs increased substantially for all services except diagnostic and IR exam and report services, in part as a result of annual updates in the 2008 medical fee guideline. To analyze trends in average fees for service, Table 5.9 presents actual average fees for service for selected services. To help compare price trends, Figure 5.5 presents indices of these fees normalized in 2000 prices as 100.

Table 5.8: Average Cost per Claim by Service Type for Professional Services, by Injury Year at 12 Months Post-Injury

Injury Year	DMEPOS	Diag/Path/ Lab	E/M	IR Exam & Report	Other Services	Physical Medicine	Surgery - Other	Surgery - Spinal
Lost-time Claims								
2000	$544	$816	$913	$364	$463	$3,368	$1,380	$2,789
2001	$601	$922	$951	$456	$498	$3,642	$1,454	$2,857
2002	$611	$970	$946	$522	$525	$3,794	$1,487	$2,861
2003	$591	$845	$883	$620	$544	$3,522	$1,209	$1,764
2004	$576	$715	$800	$650	$578	$3,044	$1,271	$1,646
2005	$700	$742	$816	$723	$619	$2,830	$1,577	$1,832
2006	$688	$675	$752	$727	$593	$2,188	$1,568	$1,728
2007	$754	$595	$763	$763	$582	$1,945	$1,590	$1,765
2008	$752	$660	$843	$754	$633	$2,097	$1,996	$1,983
2009	$738	$671	$891	$760	$634	$2,213	$2,268	$2,114
2010	$757	$670	$951	$732	$649	$2,347	$2,393	$2,179
2011	$839	$755	$1,059	$726	$677	$2,632	$2,638	$2,346
2012	$913	$711	$1,069	$727	$672	$2,749	$2,687	$2,539
2013	$990	$609	$1,101	$745	$672	$2,848	$2,594	$2,253
2014	$996	$552	$1,086	$724	$672	$2,731	$2,529	$2,210
Medical-only Claims								
2000	$123	$185	$202	$82	$96	$1,015	$342	$1,920
2001	$140	$199	$205	$95	$92	$1,020	$343	$1,828
2002	$128	$195	$198	$100	$84	$972	$302	$1,812
2003	$123	$172	$207	$108	$88	$936	$284	$1,100
2004	$119	$149	$223	$103	$105	$847	$300	$1,177
2005	$135	$158	$231	$114	$109	$845	$339	$1,164
2006	$132	$158	$237	$112	$110	$712	$355	$1,170
2007	$139	$145	$248	$108	$103	$660	$332	$1,068
2008	$133	$151	$261	$101	$99	$690	$340	$1,020
2009	$133	$162	$286	$111	$101	$785	$350	$1,256
2010	$132	$162	$305	$107	$112	$857	$371	$1,153
2011	$154	$185	$349	$111	$127	$1,017	$388	$1,361
2012	$145	$175	$356	$102	$119	$1,082	$389	$1,210
2013	$151	$156	$370	$102	$127	$1,128	$375	$1,054
2014	$161	$142	$359	$100	$128	$1,131	$380	$1,194

Note: Non-payable functional reporting G-codes in the HCPCS Level II (required since 2013) are excluded. Drug screening and drugs of abuse test G-codes (effective from 2015) are included in the Diag/Path/Lab service group. All other HCPCS Level II codes are included in the DMEPOS service group.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Generally, the reimbursement for E/M services (office visits) increased under the 2003 and 2008 Medical Fee Guidelines. However, the reimbursement for certain spinal surgical services varied under the 2003 professional services medical fee guideline. For example, the reimbursement level for low back disc surgery decreased, while the reimbursement level for spinal fusion procedures increased. Most services show an increasing trend since 2008, mainly because the current professional services medical fee guideline adjusts service fees for medical inflation.

Fees for miscellaneous durable medical equipment have increased substantially since 2005, but this category of service includes various types of equipment. Therefore, the increase may be due to a changing mix of more expensive equipment in recent years. The MRI service fee showed a significant decrease since 2013 because Medicare prices for these services decreased.

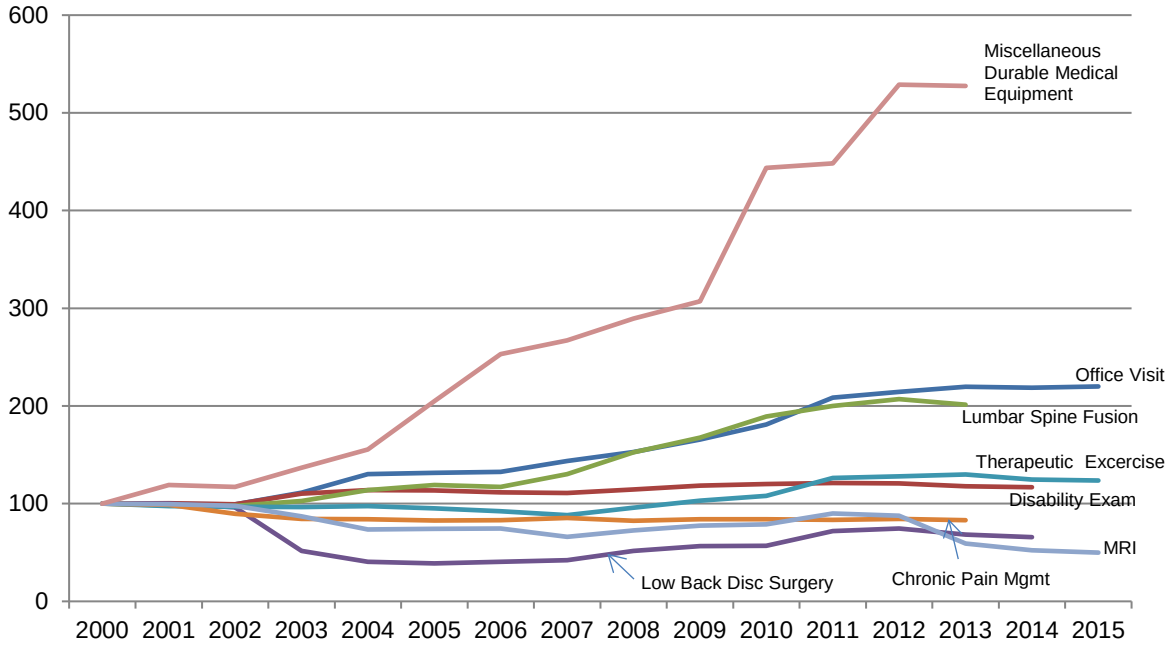
Table 5.9: Average Cost per Service by Injury Year, Lost-time Claims in Selected Services*

Injury Year	Office Visit	Disability Exam	Lumbar Spine Fusion	Low Back Disc Surgery	Therapeutic Exercise	Chronic Pain Mgmt	MRI	Miscella-neous DME
2000	$46	$395	$914	$1,849	$34	$124	$578	$79
2001	$46	$396	$895	$1,848	$33	$123	$575	$94
2002	$46	$392	$893	$1,777	$33	$111	$566	$92
2003	$51	$436	$938	$955	$33	$105	$502	$108
2004	$60	$449	$1,040	$750	$33	$104	$426	$122
2005	$61	$449	$1,089	$718	$33	$103	$429	$162
2006	$61	$440	$1,071	$746	$32	$103	$432	$200
2007	$66	$437	$1,191	$781	$30	$106	$381	$211
2008	$70	$452	$1,394	$957	$33	$102	$419	$228
2009	$76	$467	$1,531	$1,045	$35	$104	$448	$242
2010	$83	$474	$1,730	$1,050	$37	$105	$456	$350
2011	$96	$478	$1,828	$1,333	$43	$104	$520	$353
2012	$99	$476	$1,891	$1,379	$44	$105	$506	$417
2013	$101	$464	$1,839	$1,262	$44	$103	$341	$416
2014	$101	$460		$1,215	$43		$302	
2015	$101				$42		$288	

*Office visit, therapeutic exercise, and MRI services are measured at six months maturity; disability exam and low back disc surgery services at 12 months maturity; and lumbar spine fusion, chronic pain management, and miscellaneous DME services at 24 months maturity. Prices are averaged over all bills without regard to modifiers, except for chronic pain management services, for which only bills with a "CP" modifier are considered.

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 5.5: Average Cost per Service, Selected Services, Normalized in 2000 Price



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Costs and Utilization in WC Networks

Information from the annual workers' compensation network report card produced by TDI in September 2016 provided some insight into the early implementation of networks.[19] Fourteen certified networks (Alliance, 504-Dallas County Schools, Corvel, Coventry, First Health, Genex, IMO, Liberty, Sedgwick, Texas Star, Travelers, WellComp, Zenith, and Zurich) had sufficient claim volume to be compared with each other and with non-network claims. In addition, the 2016 report card included a separate group of networks authorized under Chapter 504, Texas Labor Code.

This group was referred to in the report as 504-Others and consisted of Brownsville ISD, City of San Angelo, Houston ISD, La Joya ISD, Tarrant County-River View, Valley Healthcare Network, and the Trinity Occupational Program (Fort Worth Independent School District). The remaining eight certified networks that had reported treating injured employees according to the TDI's October 2015 certified network data call were combined into an "other networks" category for comparison purposes.

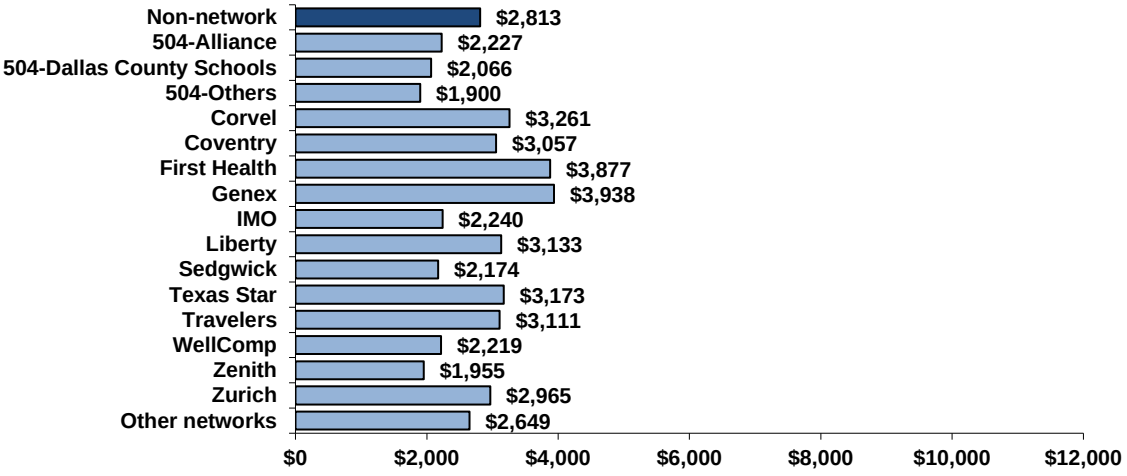
All of the cost and utilization findings presented in the report card had been statistically adjusted to account for differences in injury or claim types (that is, medical-only and lost-time claims) that might have occurred in these claim populations over time. As a result, changes in costs and utilization over time cannot be attributed to changes in the types of injuries sustained by injured employees or the relative severity of those injuries. Cost and utilization differences between network and non-network outcomes as well as between the networks can be the result of a wide range of factors, such as differing methods of medical care delivery, fees, and utilization review.

In general, differences began to emerge among individual networks. As Figure 5.6 shows, at six months post-injury, the average medical cost per claim for the networks was higher than non-network claims. Generally, in 2016 the average medical cost per network claim was lower than non-network claims for the first time, up 1 percent from 2015. Overall, most networks experienced either cost reductions or lower increases than non-network, while non-network average costs increased by 3 percent from 2015.

When medical costs are further broken down into professional, hospital, and pharmacy services, the average medical cost per claim for professional services was larger for network claims than non-network claims at six months post injury (see Figure 5.7). However, network claims had lower hospital and pharmacy costs per claim than non-network claims at six months post-injury (see Figure 5.8 and Figure 5.9). In order to be certified by TDI, a network must offer hospital, as well as professional services. HB 7 excluded the delivery of pharmacy services from networks, meaning that networks are not allowed to direct injured employees to an "in-network" pharmacy, but rather injured employees are able to get prescriptions filled at any pharmacy participating in the Texas workers' compensation system. During the initial formation of many of the networks certified by TDI, networks and hospitals engaged in fierce fee negotiations, which resulted in many hospital fee contracts being reimbursed at levels that are higher than what hospitals are paid for similar services under TDI's hospital fee guidelines.

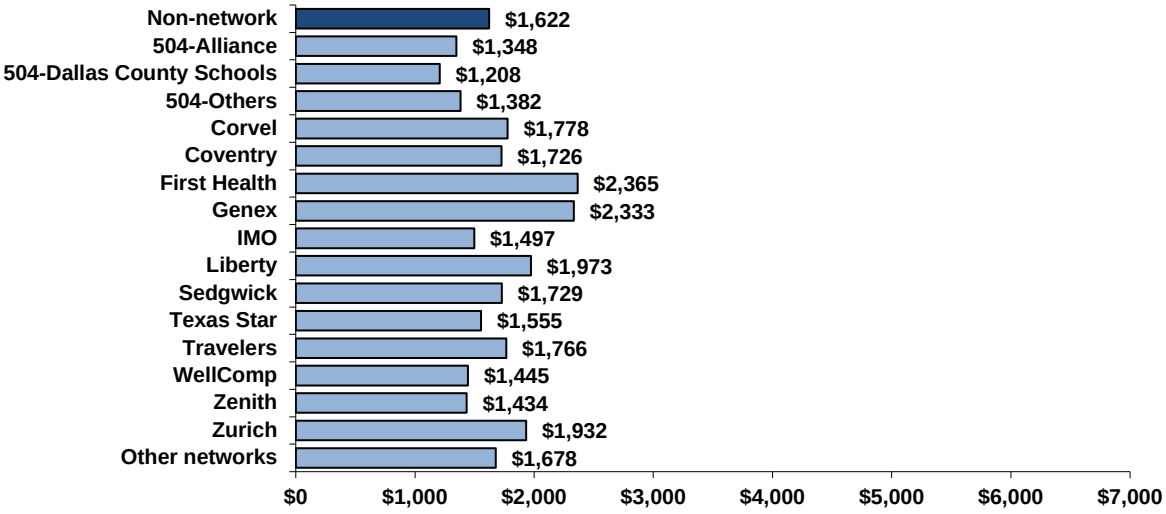
[19] For more information about how individual networks compare with each other and with non-network claims on a variety of cost, utilization, access to care, satisfaction with care, return-to-work, and health outcomes measurements, see "*2016 Workers' Compensation Network Report Card Results*" by Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, available online at (www.tdi.texas.gov/reports/wcreg/index.html).

Figure 5.6: Average Medical Cost per Claim, Network and Non-Network Claims, Six Months Post Injury



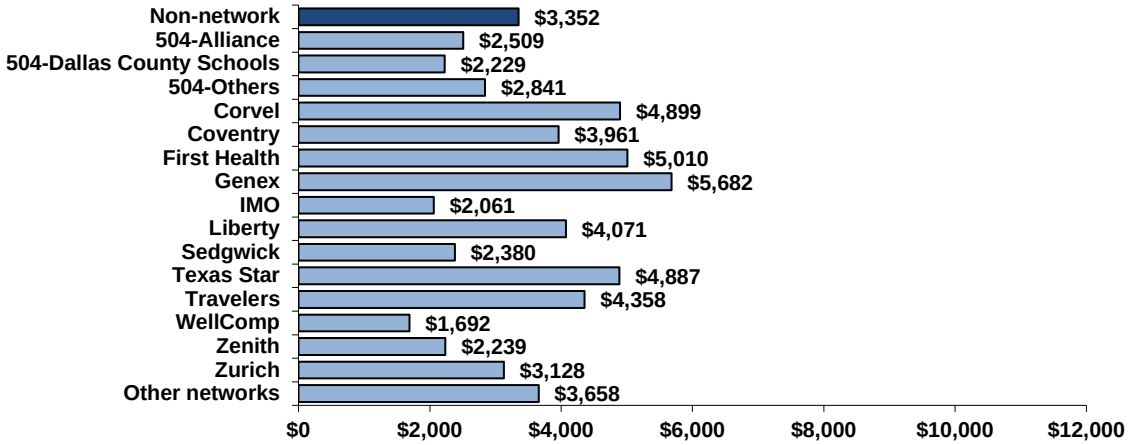
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 5.7: Average Medical Cost per Claim for Professional Medical Services, Network and Non-Network Claims, Six Months Post Injury



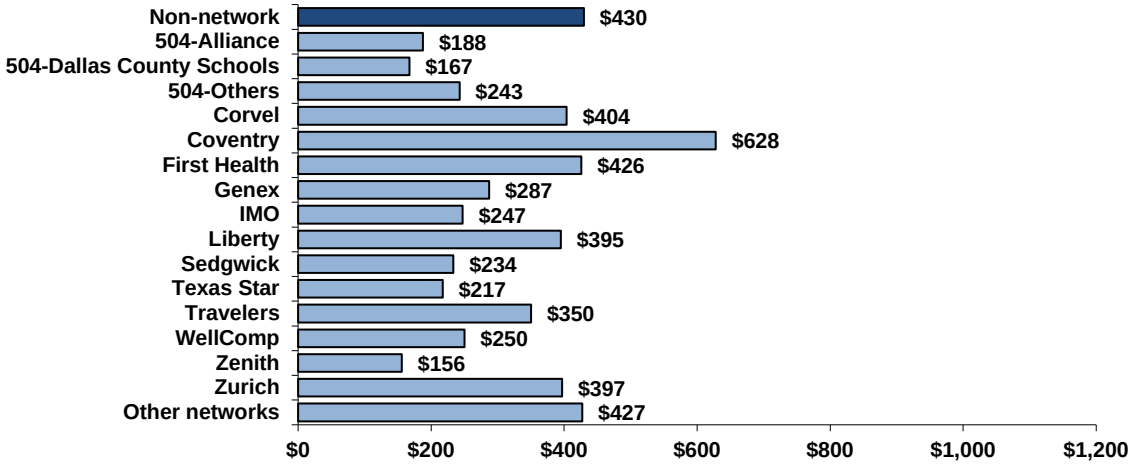
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 5.8: Average Medical Cost per Claim for Hospital Medical Services, Network and Non-Network Claims, Six Months Post Injury



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 5.9: Average Medical Cost per Claim for Pharmacy Medical Services, Network and Non-Network Claims, Six Months Post Injury



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Networks as a group have improved medical cost performance relative to non-network. Networks' average medical costs rose by 1 percent (from $2,767 in 2015 to $2,801 in 2016) but are now slightly lower than non-network average claim costs, which increased by 3 percent (from $2,734 in 2015 to $2,813 in 2016).

Table 5.9 shows the percentage of injured employees receiving professional, hospital, and pharmacy services in the 16 certified network entities, as well as non-network, as highlighted in the 2016 Workers' Compensation Network Report Card. Generally, a higher percentage of injured employees receiving medical treatment in networks received professional and pharmacy services compared to non-network claims, while a lower percentage of network claims received hospital services (services in inpatient or outpatient hospital settings and ambulatory surgical centers).

Table 5.10: Percentage of Injured Employees Receiving Professional, Hospital, and Pharmacy Services, Six Months Post Injury

	Non-network	504-Alliance	504-Dallas County Schools	504-Others	Corvel	Coventry	First Health	Genex	IMO	Liberty	Sedgwick	Texas Star	Travelers	WellComp	Zenith	Zurich	Other networks
Professional	94%	96%	100%	98%	97%	97%	98%	97%	96%	97%	99%	94%	97%	96%	96%	97%	97%
Hospital	34%	34%	35%	14%	27%	28%	27%	27%	33%	25%	14%	32%	28%	43%	23%	29%	23%
Pharmacy	37%	42%	50%	53%	47%	42%	48%	44%	43%	48%	45%	44%	45%	44%	37%	44%	39%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

When the percentage of injured employees receiving professional medical services is examined more closely, it appears that, with some exceptions, a higher percentage of injured employees in networks received E/M services (for example, office visits), other physical medicine services, other diagnostic tests and other professional services than non-network claims (see Table 5.11)

Networks generally provided more pharmacy services (in terms of writing more prescriptions to a higher percentage of similarly injured employees) than non-network care (see Table 5.12). This was likely due to the statutory provision in HB 7, which allows certified networks to designate the specialties of doctors who serve as treating doctors (that is, primary care providers). As of this report, certified networks have only designated medical doctors (MDs) or Osteopaths (DOs) as network treating doctors.

Chiropractors do not generally serve as network treating doctors, but rather as referral providers. This differs from non-network medical care because the Texas labor Code and TDI-DWC rules allow non-network employees to select chiropractors as well as MDs, DOs, podiatrists, dentists, and optometrists as treating doctors. As a result, the doctors who serve as treating doctors in networks are providers who have the authorization to write prescriptions and utilize pharmacy services as part of their treatment protocols.

In addition to a higher percentage of network employees receiving certain types of professional medical services, networks generally provided higher amounts of service per claim in E/M services than non-network claims (see Table 5.13). Networks provide lower amounts of service per claim in other types of professional services, such as PM-Modalities, CT scans, MRIs, nerve conduction studies, and other diagnostic testing services than non-network claims.

Table 5.11: Percentage of Injured Employees Receiving Professional Medical Services, by Type of Professional Service, Six Months Post-Injury

Type of service	Non-network	504-Alliance	504-Dallas County Schools	504-Others	Corvel	Coventry	First Health	Genex	IMO	Liberty	Sedgwick	Texas Star	Travelers	WellComp	Zenith	Zurich	Other networks
Evaluation & Management	95%	97%*	99%*	99%*	96%*	97%*	98%*	98%*	98%*	97%*	99%*	97%*	97%*	96%	97%*	97%*	96%*
PM-Modalities	5%	6%*	1%*	6%*	4%	5%	5%	4%	3%*	3%*	5%	5%	5%	3%*	2%*	6%	5%
PM-Other	26%	24%*	7%*	34%*	30%*	30%*	39%*	38%*	25%	40%*	37%*	27%*	33%*	29%*	28%	34%*	33%*
DT-CT SCAN	2%	2%*	2%	1%*	2%*	2%*	3%	3%	2%	2%*	1%*	3%*	3%	2%	1%*	2%	2%
DT-MRI	13%	13%	15%	11%*	10%*	14%	16%*	17%*	16%*	14%	17%*	13%	14%	15%	10%*	14%	14%
DT-Nerve Conduction	1.3%	0.9%*	0.9%	0.6%*	1.2%	1.7%*	1.5%	0.8%	0.9%*	1.7%*	1.7%*	1.1%*	1.4%	1.9%	0.6%*	1.6%	1.7%*
DT-Other	55%	56%*	69%*	64%*	54%	55%	61%*	65%*	59%*	61%*	56%	56%*	58%*	62%*	55%	63%*	56%*
Spinal Surgery	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.0%	0.2%*	0.2%	0.3%	NA	NA	0.1%
Other Surgery	23%	19%*	12%*	15%*	29%*	23%	28%*	21%	18%*	26%*	18%*	29%*	28%*	17%*	24%	26%*	22%*
Path. & Lab	9%	7%*	4%*	6%*	6%*	9%	12%*	7%	7%*	7%*	8%*	9%	10%*	7%	12%*	11%*	8%
All Others	79%	78%*	98%*	95%*	87%*	87%*	93%*	94%*	86%*	92%*	96%*	82%*	89%*	77%	87%*	90%*	89%*

Note: * denotes where differences between the network and non-network are statistically significant.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Table 5.12: Percentage of Injured Employees Receiving Pharmacy Services, by Pharmaceutical Classification Group, Six Months Post-Injury

Type of service	Non-network	504-Alliance	504-Dallas County Schools	504-Others	Corvel	Coventry	First Health	Genex	IMO	Liberty	Sedgwick	Texas Star	Travelers	WellComp	Zenith	Zurich	Other networks
Analgesics-Opioid	50%	41%*	57%*	38%*	53%	48%*	51%	45%*	50%	53%*	45%*	54%*	54%*	53%	53%	55%*	47%*
Analgesics-Anti-inflammatory	61%	59%*	69%*	75%*	64%	67%*	70%*	69%*	65%*	70%*	68%*	62%	66%*	62%	62%	66%*	66%*
Musculoskeletal therapy	35%	33%*	38%	36%	34%	38%*	42%*	39%*	35%	42%*	40%*	33%*	38%*	37%	29%*	39%*	40%*
Central Nervous System Drugs	8%	6%*	5%*	4%*	8%	8%	8%	5%*	5%*	8%	5%*	9%	8%	7%	3%*	6%	8%
Other	43%	43%	34%*	30%*	41%	45%*	43%	33%*	37%*	42%	37%*	45%*	44%	33%*	40%	43%	43%

Note: * denotes where differences between the network and non-network are statistically significant.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Table 5.13: Average Number of Professional Services Billed per Claim by Type of Professional Service, Six Months Post-Injury

Type of service	Non-network	504-Alliance	504-Dallas County Schools	504-Others	Corvel	Coventry	First Health	Genex	IMO	Liberty	Sedgwick	Texas Star	Travelers	WellComp	Zenith	Zurich	Other networks
Evaluation & Management	4.2	3.7*	4.8*	4.4	5.5*	4.9*	5.5*	5.1*	4.7*	5.6*	4.6*	4.7*	4.8*	4.9*	3.9*	4.6*	4.7*
PM-Modalities	9.5	8.1*	7.0*	6.6*	8.3	7.6*	8.5	9.8	7.7*	5.9*	6.7*	9.1	7.9*	7.5*	4.9*	7.8	7.5*
PM-Other	36.5	28*	24*	30*	41*	36.8	40*	52*	33*	46*	31*	29*	37.5	38.8	30*	35.9	37.3
DT-CT SCAN	1.5	1.4*	1.2*	1.4	1.6	1.3*	1.6	1.4	1.3*	1.4	1.2*	1.5	1.5	1.4	1.3	1.3	1.6
DT-MRI	1.4	1.4*	1.2*	1.4	1.6*	1.3*	1.3*	1.3	1.4	1.3*	1.4	1.3*	1.3	1.5	1.4	1.4	1.4
DT-Nerve Conduction	4.0	3.1*	2.7*	3.2	2.9*	3.8	3.2	3.0	3*	3.8	2.7*	2.8*	3.2*	4.8	2.6*	3.9	2.7*
DT-Other	2.4	2.2*	2.2*	2.3*	2.8*	2.5	2.6*	2.2*	2.4	2.3*	2.1*	2.7*	2.3	2.5	2.2*	2.2*	2.3*
Spinal Surgery	3.9	2.8*	3.0	2.3	6.3	4.8	2*	8.0	5.4	3.1	2.0	3.8	3.1	6.3	NA	NA	2.7
Other Surgery	3.1	2.6*	2.7	2.9	3.7*	3.7*	4.1*	3.0	3.0	3.2	2.9	3.2	2.9	2.9	3.3	3.0	3.0
Path. & Lab	10.9	8*	10.4	7*	10.3	9.9	12.3	10.9	7*	15*	7*	10.8	10.6	9.5	7*	10.9	9.5
All Others	11.8	10*	8*	10*	14*	14*	20*	12.5	11*	14*	11*	13*	15*	11.9	11*	13*	12.4

Note: * denotes where differences between the network and non-network are statistically significant.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Effects of the Pharmacy Closed Formulary

DWC adopted one of the nation's first workers' compensation pharmacy closed formularies in September 2011. For injuries on or after September 1, 2011, pharmacy benefits were subject to the closed formulary. The closed formulary includes all FDA-approved drugs, with the exception of drugs identified with a status of "N" in the current edition of the *Official Disability Guidelines Treatment in Workers' Comp, Appendix A – ODG Workers' Compensation Drug Formulary*, or any compound that contains an "N" status drug, and any investigational or experimental drug. By rule, all drugs that are excluded from the closed formulary must be preauthorized by the insurance carrier prior to being dispensed by a pharmacy. As of September 2014, there were 164 drugs on the "N" list. Legacy claims—injuries that occurred prior to September 1, 2011—became subject to the closed formulary on September 1, 2013.

In general, N-drug usage is higher in older claims and before implementation of the formulary. In 2010, prior to the implementation of the closed formulary, N-drugs accounted for 23 percent of the total pharmacy costs among newer claims (with three years or less maturity), and 34 percent of the total pharmacy costs among older claims (with more than three years maturity) (see Table 5.14). After the formulary's implementation in 2013, N-drugs accounted for only four percent of the total cost for newer claims and 18 percent for older claims. The average cost per prescription for N-drugs was twice that of other drugs.

Table 5.14: Total and Average Costs, by N-Drug Status by Maturity

Service Year	N-drug					Other				
	Total Cost (Thousand Dollars)	Number of Rx	Number of Claims	Average Cost per Rx	Average Cost per Claim	Total Cost (Thousand Dollars)	Number of Rx	Number of Claims	Average Cost per Rx	Average Cost per Claim
0 to 3 Years										
2005	$8,894	106,056	27,042	$84	$329	$43,652	799,271	140,529	$55	$311
2006	$9,601	111,648	28,285	$86	$339	$42,823	848,965	142,243	$50	$301
2007	$9,557	103,394	27,874	$92	$343	$45,949	868,527	149,978	$53	$306
2008	$10,834	103,512	29,957	$105	$362	$46,383	824,138	147,464	$56	$315
2009	$12,962	105,444	30,274	$123	$428	$47,827	751,510	133,655	$64	$358
2010	$13,426	101,511	29,164	$132	$460	$45,828	732,958	133,218	$63	$344
2011	$10,831	84,678	24,433	$128	$443	$44,244	727,477	131,372	$61	$337
2012	$5,496	40,980	11,417	$134	$481	$44,965	703,205	127,938	$64	$351
2013	$1,928	15,795	5,774	$122	$334	$44,184	658,831	121,123	$67	$365
2014	$714	7,507	3,369	$95	$212	$45,961	646,646	116,416	$71	$395
2015	$679	6,707	3,096	$101	$219	$42,452	546,012	106,846	$78	$397
More than 3 Years										
2005	$31,560	203,748	19,556	$155	$1,614	$61,411	663,131	38,622	$93	$1,590
2006	$35,759	215,199	19,501	$166	$1,834	$63,642	709,723	37,612	$90	$1,692
2007	$35,879	198,323	18,480	$181	$1,941	$63,668	649,176	35,482	$98	$1,794
2008	$35,652	188,015	17,073	$190	$2,088	$66,652	635,821	33,981	$105	$1,961
2009	$35,296	176,232	15,748	$200	$2,241	$66,334	592,460	31,799	$112	$2,086
2010	$34,574	165,488	14,818	$209	$2,333	$65,928	570,384	29,666	$116	$2,222
2011	$31,906	147,366	13,364	$217	$2,387	$66,521	558,404	27,632	$119	$2,407
2012	$23,676	110,071	11,333	$215	$2,089	$65,749	509,226	25,556	$129	$2,573
2013	$14,271	62,692	8,392	$228	$1,700	$65,876	481,991	23,728	$137	$2,776
2014	$4,729	18,687	2,853	$253	$1,658	$59,989	439,252	21,478	$137	$2,793
2015	$3,720	13,546	2,156	$275	$1,726	$56,856	379,351	19,282	$150	$2,949

Note: Rx = prescription.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

To evaluate the effects of the pharmacy closed formulary on cost and utilization, REG compared a group of pre- and post-formulary claims.[20] Accounting for the first 24 months of service from the injury date, Table 5.15 shows a significant drop in the cost and utilization of N-drugs among the post-formulary group (beginning with the 2012 fiscal injury year covering new claims from September 1, 2011 to August 31, 2012). Total N-drug costs dropped by 78 percent, and their share in all pharmacy costs decreased by 74 percent (from 20 percent to 5 percent) after the adoption of the closed formulary. The total number of N-drug prescriptions decreased by 77 percent and the average cost per N-drug prescription dropped by 5 percent.

While the closed formulary had significant reduction effects on N-drug cost and utilization, it also led to slight decreases in the utilization for other drugs. This indicates that the closed formulary did not simply shift N-drug usage into non-N drugs. The report also shows a significant drop in the N-drug usage among legacy claims that became subject to the formulary in September 2013. Table 5.16 shows significant

[20] For more details, see REG's report titled "*Impact of the Texas Pharmacy Closed Formulary*" (July 2016) available at www.tdi.texas.gov/reports/wcreg/index.html.

decreases in N-drug costs and utilization in 2014 fiscal service year when legacy claims became subject to the closed formulary.

Table 5.15: Cost and Utilization of N-drugs in Sample Cohorts before and after the Pharmacy Closed Formulary

	Fiscal injury year					2011-2012 percentage change
	2009	2010	2011	2012	2013	
Total cost of N-drug prescriptions	$11,852,476	$11,293,506	$8,912,618	$1,950,151	$1,007,033	-78%
Total cost of Other drug prescriptions	$37,764,273	$34,969,165	$35,632,424	$36,069,681	$35,663,481	1%
Number of N-drug prescriptions	113,333	98,251	74,081	16,974	8,979	-77%
Number of Other drug prescriptions	575,131	559,253	591,017	576,221	536,889	*-3%*
Number of N-drug claims	31,556	29,835	24,286	8,120	4,181	-67%
Number of Other drug claims	101,947	99,746	103,219	102,663	95,622	-1%
N-drug cost as a percentage of total drug costs	23.89%	24.41%	20.01%	5.13%	2.75%	-74%
Average cost per N-drug prescription	$105	$115	$120	$115	$112	-5%
Average N-drug cost per claim	$376	$379	$367	$240	$241	-35%

Note: A fiscal injury year begins on September 1 of the previous year and ends on August 31 of the injury year.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Table 5.16: Pharmacy Cost and Utilization by Service Year, New and Legacy Claims

Fiscal service year	Number of Rx		Number of claims		Cost		Cost per Rx		Rx per claim	
	N-drugs	Other drugs	N-drugs	Other drugs	N-drugs	Other drugs	N-drugs	Other drugs	N-drugs	Other drugs
2009	335,077	1,186,198	59,952	159,062	$51,006,149	$111,128,666	$152	$94	5.6	7.5
2010	321,501	1,158,220	57,830	154,221	$52,360,103	$107,494,833	$163	$93	5.6	7.5
2011	278,955	1,187,527	49,006	153,875	$50,759,286	$107,188,896	$182	$90	5.7	7.7
2012	197,169	1,155,590	29,743	151,673	$39,428,037	$104,816,056	$200	$91	6.6	7.6
2013	129,485	1,070,659	18,971	141,968	$28,550,025	$104,747,764	$220	$98	6.8	7.5
2014	37,983	1,020,103	8,496	135,809	$9,993,590	$102,090,009	$263	$100	4.5	7.5
2015	26,701	880,265	5,851	124,962	$7,215,930	$98,714,027	$270	$112	4.6	7.0

Note: A fiscal service year begins on September 1 of the previous year and ends on August 31 of the service year.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Summary

Overall, the average medical cost per claim for professional services decreased significantly from the peak in 2002 until 2007. Stabilized costs and the substantial reduction in utilization of care between 2001 and 2007 were directly related to various reform measures of HB 2600 and HB 7, especially the passage of the 2003 professional services medical fee guidelines and the expanded preauthorization requirement for physical medicine services. Over this same time period, much of the reduction in total medical payments

occurred because of reductions in injury rates and the total number of reportable claims filed with -DWC. Also, increased scrutiny by insurance carriers in terms of compensability and medical necessity issues, as well as changes in reimbursement amounts, the adoption of the Medicare payment policies in 2003, networks, and treatment guidelines have helped reduce overutilization and medical cost inflation in Texas.

Nonetheless, a combination of decreasing number of claims, increasing utilization in some professional and hospital services, and the 2008 professional service medical fee guideline's annual adjustments for inflation resulted in increasing average costs between 2008 and 2011. Since 2011, average costs remained stable as Medicare prices stabilized. Hospital service costs continued to outpace professional service costs.

During the 2005 legislative session, as well as during the adoption of network rules and certification processes at TDI, various system participants expressed concerns about whether the implementation of a new "managed care" health care delivery model in the Texas workers' compensation system would result in employees receiving significantly less medical care and/or poor quality medical care. Ten years after the implementation of the first network in 2006, it appears that injured employees are receiving as much medical care, and in some cases more early medical care, than non-network claims with similar types of injuries.

The most recent Network Report Card in 2016 indicated that networks delivered these medical services sooner and at lower costs. DWC and REG will continue to monitor the implementation of networks as well as the new medical fee guidelines (effective March 1, 2008), the treatment guidelines (effective May 1, 2007), and the pharmacy closed formulary (effective September 1, 2011) on medical costs and utilization of care outcomes for Texas injured employees.

6. Access to Medical Care

One of the primary goals of an effective workers' compensation program is to ensure that employees with work-related injuries receive prompt and appropriate medical treatment. Delayed medical care may negatively affect health outcomes, resulting in increased costs and return-to-work delays. Obtaining timely medical care in workers' compensation can be a complex process, as it involves reporting the injury, compensability and extent of injury determination, utilization reviews, preauthorization, and other rules. However, once the workers' compensation claim is found to be compensable, timely and appropriate access to medical care depends on the availability of providers who will accept workers' compensation patients.

Policymakers and system participants continue to express the need for increased numbers of health care providers in the Texas workers' compensation system. Anecdotal evidence suggests that some injured employees have difficulties finding appropriate health care providers. To assess access to care, the REG conducted an extensive study of the availability and participation of treating doctors in the workers' compensation system, and evaluated the timeliness of medical care.[21] Covering the period injury years 2000 to 2015, the study's results indicate that access to care conditions for workers' compensation patients in Texas have improved, but some access challenges exist.

Access to Care Measurements and Data

REG's access-to-care study focused on injured employees' primary and initial access to physicians for non-emergency care.

For non-emergency professional services, primary access to care is measured by how timely an initial treatment was received after an injury. Timeliness of care is defined by the number of days from the date of injury to the first non-emergency treatment. All claims are evaluated within six months from the injury date. This timeliness measure is influenced by the number of claims (demand) and the number of treating physicians (supply). Therefore, the timeliness measure is also reflected in the claims-to-physician ratio, which is the total number of WC claims divided by the total number of participating workers' compensation physicians. When there are fewer doctors treating the same number of workers' compensation patients, the number of injured employees treated per physician will increase, competition for care will rise, and access may become more difficult.

To survey physician supply conditions, DWC obtained annual lists of licensed physicians from the Texas Medical Board (TMB). Then, active physicians in the TMB lists were matched to DWC medical billing and payment data to measure workers' compensation participation. The workers' compensation participation rate is the number of participating in workers' compensation divided by the total number of active physicians in Texas. "Active" physicians are those licensed by TMB, whose registration status is active, not in military practice, directly providing patient care, and whose practice location is in Texas. "Participating" physicians are those who submitted medical bills for one or more WC patients in a given year.

[21] For more details, see REG's access to care reports and updates available at www.tdi.texas.gov/reports/wcreg/index.html.

In addition, this report examines the availability and participation by non-physician health care providers (HCPs), such as chiropractors, physician assistants, physical therapists, and occupational therapists. About 75 percent of workers' compensation health care providers are physicians, and they provide the first treatment after injury in about 90 percent of the claims. However, while the share of physicians on the first visit has decreased, that of non-physician HCPs has increased since 2012.

Physician Participation in Workers' Compensation

The total number of active physicians in Texas increased steadily, from 30,600 in 2000 to 50,120 in 2015, at an average *annual* growth rate of 3 percent (see Figure 6.1). At the same time, the number of physicians participating in workers' compensation fluctuated from 17,318 in 2000 to 19,180 in 2011, and to 18,127 in 2015.

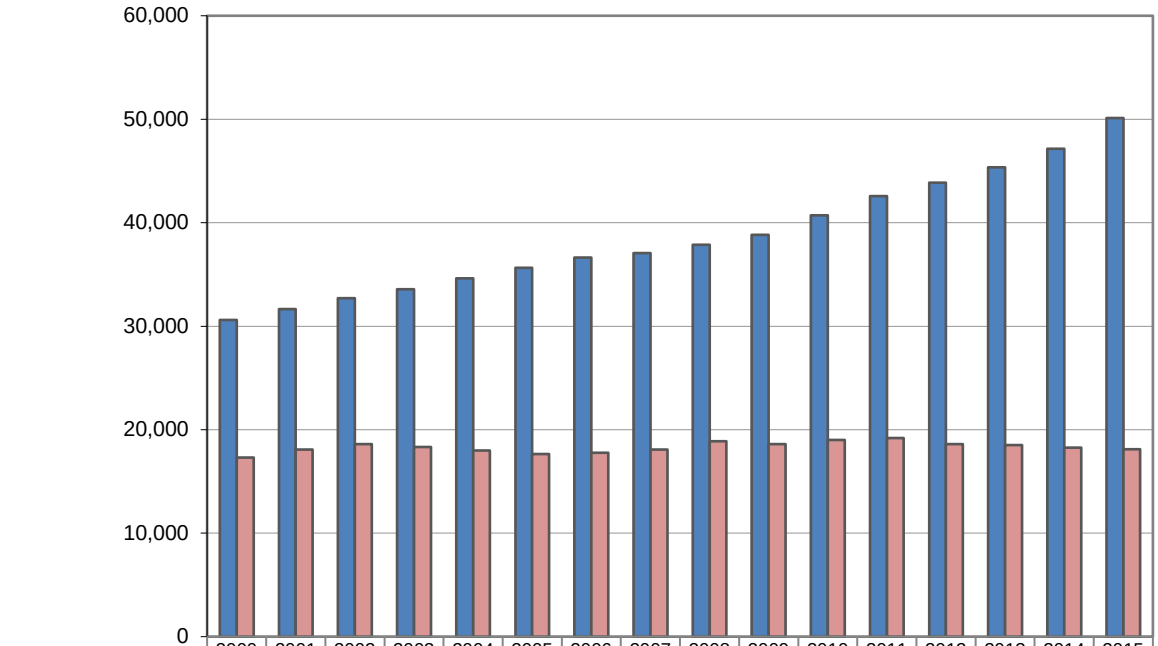
Because the total number of active physicians in Texas grew faster than the number of physicians participating in workers' compensation, the participation rate for physicians participating in workers' compensation decreased from 57 percent in 2000 to 36 percent in 2015 (see Figure 6.2).[22] Figure 6.2 shows the participation rate for workers' compensation physicians in a service year treating all workers' compensation patients (both old and new injuries) and the rate based on new patients only. The latter group may also treat old as well as new patients, but exclude physicians who treat only established patients whose injuries occurred in prior years.

The decrease in the workers' compensation participation rate between 2002 and 2005 may have been impacted by the implementation of the ADL in September 2003, as well as the adoption of the Texas Workers' Compensation Commission's Medical Fee Guideline in 2003.

The participation rate has been declining steadily since 2009, but more as a result of the relatively rapid increase in the aggregate number of doctors in Texas than from actual reductions in the number of participating doctors (see Figures 6.1 and 6.2). The number of participating doctors was stable over the past five years, even as the number of reportable claims (with one or more days of lost-time) fell by about 12 percent over the same time frame.

[22] Medical billing and payment data reported to the Division of Workers' Compensation began to use EDI procedures in 2005. Reported data in 2004 were incomplete. Therefore, all figures for 2004 in the following graphs show an average of 2003 and 2005.

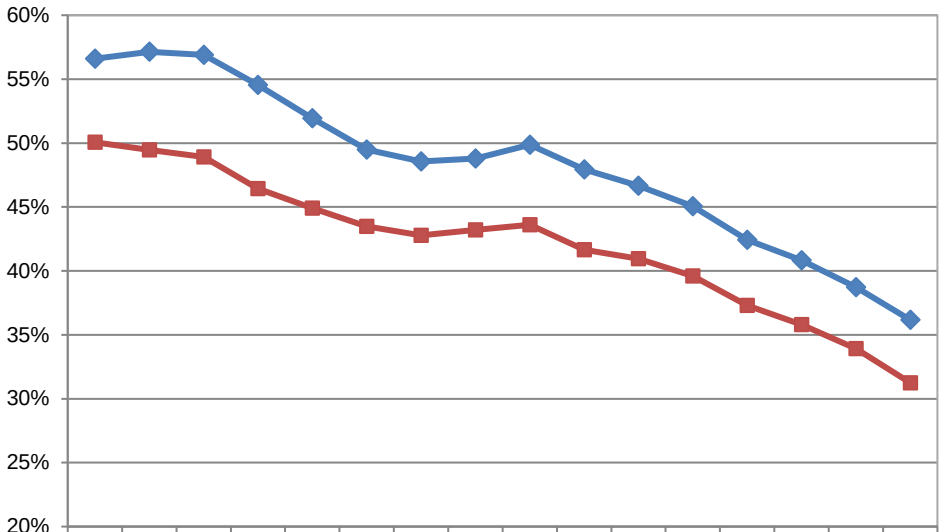
Figure 6.1: Number of Active and WC Participating Physicians



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Active in TMB	30600	31656	32698	33581	34620	35,659	36,623	37,080	37,880	38,833	40724	42574	43882	45353	47137	50120
Treating WC patients	17318	18087	18606	18317	17983	17649	17787	18087	18886	18614	19005	19180	18619	18517	18259	18127

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 6.2: Participation Rate - Percent of WC Treating Physicians among Active Physicians

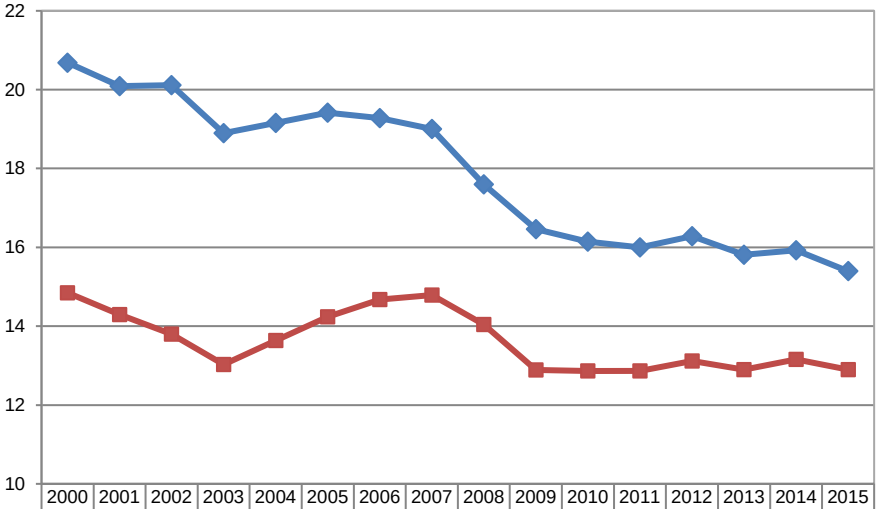


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Treating all patients	57%	57%	57%	55%	52%	49%	49%	49%	50%	48%	47%	45%	42%	41%	39%	36%
Treating new patients	50%	49%	49%	46%	45%	43%	43%	43%	44%	42%	41%	40%	37%	36%	34%	31%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

While the number of physicians participating in workers' compensation was stable, the number of reportable and medical-only workers' compensation claims decreased steadily. The number of new claims decreased from 227,448 in 2000 (358,234 unique claims including all those that received at least one service regardless of injury year), to 202,052 (279,061 including all injury years) in 2015.[23] As a result, the average number of workers' compensation patients per participating physician decreased from 21 patients per physician in 2000 to 15 patients per physician in 2015, a 26 percent decrease (see Figure 6.3). For new patients only, the average number decreased from 15 in 2000 to 13 in 2015. This rate increased between 2003 and 2007, but the overall trend has been a decrease since 2000.

Figure 6.3: Average Number of Claims per WC Participating Physician



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Treating all patients	21	20	20	19	19	19	19	19	18	16	16	16	16	16	16	15
Treating new patients	15	14	14	13	14	14	15	15	14	13	13	13	13	13	13	13

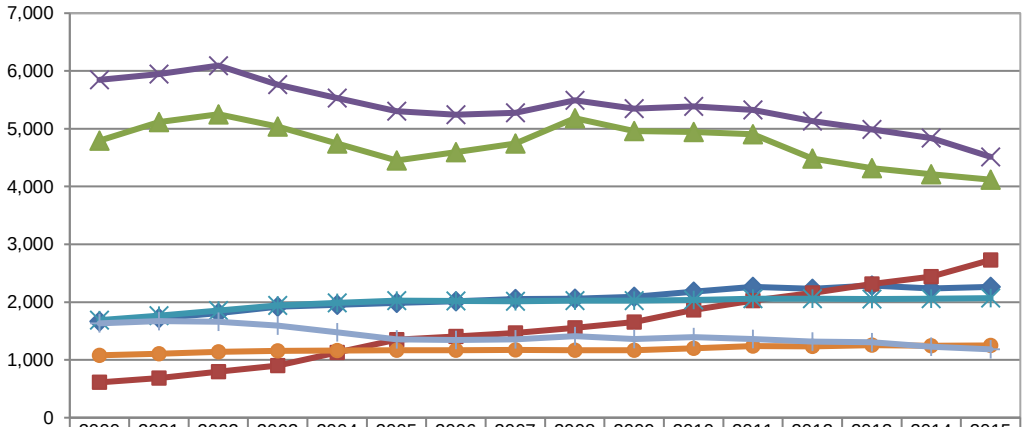
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Physician Workers' Compensation Participation by Specialty

Participation rates are not identical across physicians with different specialties. A critical factor in the initial access to care is the workers' compensation participation of primary care physicians. In 2000, there were 5,847 primary care physicians participating in workers' compensation. In 2015, this decreased to 4,574 (see Figure 6.4). Participation rates decreased from 62 percent in 2000 to 33 percent in 2015 (see Figure 6.5). Although the 2003 and 2008 Medical Fee Guidelines raised fees for Evaluation & Management services, primary care physicians' workers' compensation participation rate continued to decline, indicating that primary care physician shortage issues that exist across Texas may also exist in the Texas workers' compensation system.

[23] Note that these claim numbers do not match the number of claims reported to the Division of Workers' Compensation since only fatalities, occupational diseases, and injuries that result in at least one day of lost time are reportable, according to the Workers' Compensation Act.

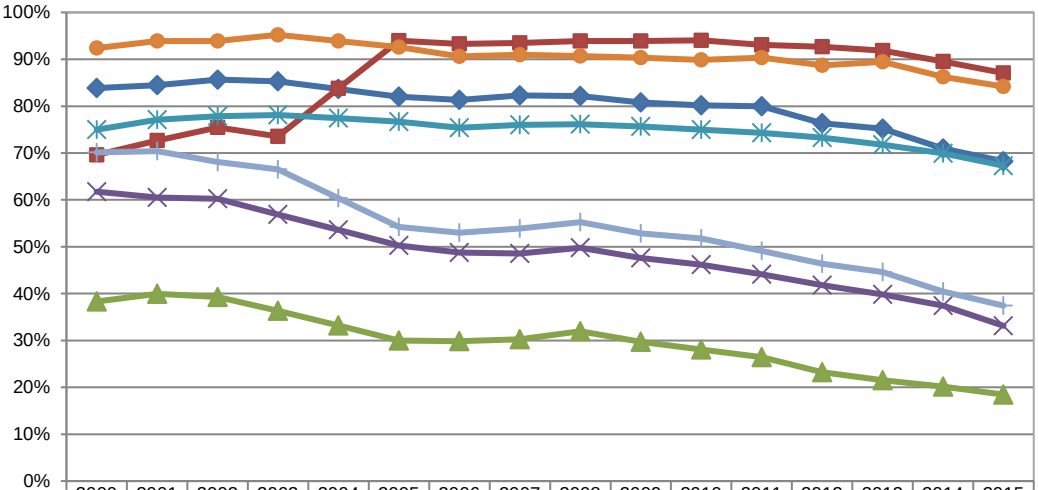
Figure 6.4: Number of WC Participating Physicians by Specialty



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Anesthesiology	1665	1720	1811	1919	1954	1,989	2,012	2,051	2,057	2,094	2,179	2,264	2,231	2,287	2,234	2,262
Emergency Med	611	683	799	902	1127	1,352	1,403	1,468	1,554	1,656	1,864	2,024	2,159	2,315	2,442	2,729
Other Specialty	4795	5114	5251	5038	4745	4,452	4,593	4,746	5,184	4,963	4,945	4,906	4,484	4,316	4,213	4,119
Primary Care	5847	5947	6093	5762	5533	5,303	5,245	5,275	5,491	5,346	5,388	5,325	5,131	4,988	4,837	4,514
Radiology/ Pathology	1688	1767	1853	1945	1986	2,026	2,019	2,015	2,024	2,024	2,035	2,060	2,060	2,051	2,057	2,069
Surgery - Orthopedic	1080	1106	1141	1157	1163	1,169	1,169	1,175	1,167	1,169	1,198	1,237	1,235	1,255	1,247	1,251
Surgery - Other	1632	1672	1658	1594	1476	1,358	1,346	1,357	1,409	1,362	1,396	1,364	1,319	1,305	1,229	1,183

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 6.5: Workers' Compensation Participation Rates by Specialty



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Anesthesiology	84%	84%	86%	85%	84%	82%	81%	82%	82%	81%	80%	80%	76%	75%	71%	68%
Emergency Med	70%	73%	75%	74%	84%	94%	93%	94%	94%	94%	94%	93%	93%	92%	90%	87%
Other Specialty	38%	40%	39%	36%	33%	30%	30%	30%	32%	30%	28%	26%	23%	21%	20%	18%
Primary Care	62%	61%	60%	57%	54%	50%	49%	49%	50%	48%	46%	44%	42%	40%	37%	33%
Radiology/ Pathology	75%	77%	78%	78%	77%	77%	75%	76%	76%	76%	75%	74%	73%	72%	70%	67%
Surgery - Orthopedic	92%	94%	94%	95%	94%	93%	91%	91%	91%	90%	90%	90%	89%	89%	86%	84%
Surgery - Other	70%	70%	68%	67%	60%	54%	53%	54%	55%	53%	52%	49%	46%	45%	40%	37%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

The decrease in primary care physicians' participation in workers' compensation was somewhat alleviated by emergency medicine specialists, whose participation increased from 611 specialists in 2000 to 2,729 in 2015, and their participation rate increased from 70 percent in 2000 to 87 percent in 2015. Emergency medicine physicians are a small group relative to others, but are they the fastest growing participant group. A related trend is the rapid growth in participation by physician assistants, discussed below.

Also increasing in number are radiology/pathology, anesthesiology, and orthopedic surgeons participating in workers' compensation. Eighty four percent of active orthopedic surgeons and 87 percent of emergency medicine physicians participated in 2015, while only 18 percent of other specialty physicians participated. This is to some extent expected because "others" include specialties that are less relevant for workers' compensation, such as pediatrics and OB/GYN.

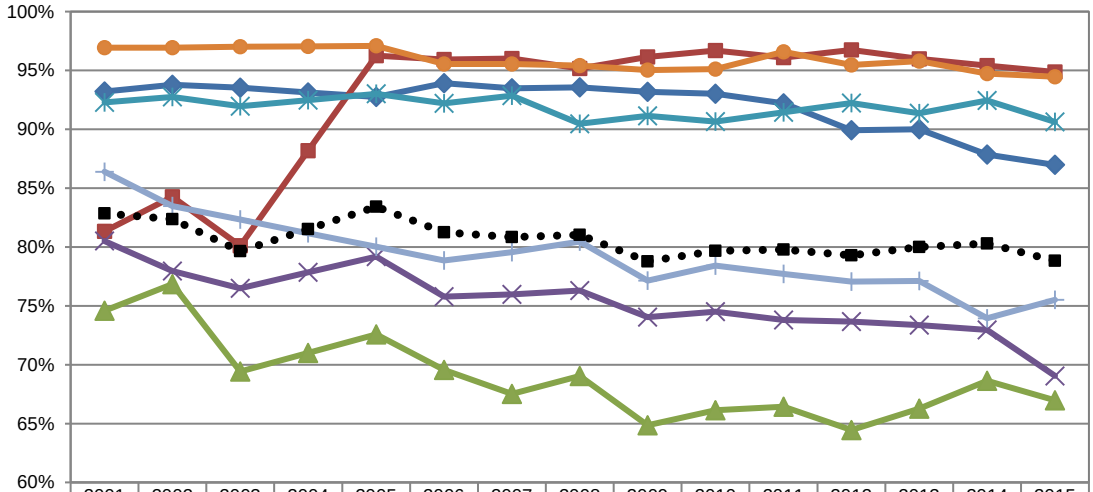
Retaining Physicians as WC Participants

One of the major goals of the workers' compensation system is to maintain a sufficient and effective number of participating physicians. The group of physicians treating injured employees, however, does not remain static from year to year. In a given year, some physicians decide to leave the workers' compensation provider market, while others enter as new providers. Their reasons for exit and entry may not be related to workers' compensation—for example, changes in practice patterns, relocation, and retirement—or the reasons may be highly correlated with practice incentives due to changes in workers' compensation rules and procedures. While it is difficult to identify specific reasons for exit and entry, retention rates reveal a general trend.

Retention rate is measured as the percentage of a prior year's workers' compensation participants who also participated in workers' compensation in the following year. From 2000 to 2015, the overall retention rate remained stable at around 80 percent. In other words, about 80 percent of all physicians one year continued to treat injured employees in the following year. That retention rate is a relatively high percentage, considering changes in practice patterns. Although this implies that 20 percent of the current year participants did not treat any workers' compensation patients in the following year, there were new physicians entering the system who are not reflected in the retention measure.

Retention rates also differ across medical specialties. Retention rates for physicians with specialties in anesthesiology, orthopedic surgery, and radiology/pathology were above 90 percent (see Figure 6.6). Other surgery specialties showed a noticeable decline in the retention rate while the rate increased significantly for emergency medicine specialists. The retention rate for primary care physicians decreased from 81 percent in 2000 to 69 percent in 2015.

Figure 6.6: Year-to-Year (Consecutive) Retention Rate by Specialty



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Anesthesiology	93%	94%	94%	93%	93%	94%	93%	94%	93%	93%	92%	90%	90%	88%	87%
Emergency Med	81%	84%	80%	88%	96%	96%	96%	95%	96%	97%	96%	97%	96%	95%	95%
Other Specialty	75%	77%	69%	71%	73%	70%	68%	69%	65%	66%	66%	64%	66%	69%	67%
Primary Care	81%	78%	76%	78%	79%	76%	76%	76%	74%	75%	74%	74%	73%	73%	69%
Radiology/ Pathology	92%	93%	92%	92%	93%	92%	93%	90%	91%	91%	91%	92%	91%	92%	91%
Surgery - Orthopedic	97%	97%	97%	97%	97%	96%	96%	95%	95%	95%	97%	95%	96%	95%	94%
Surgery - Other	86%	83%	82%	81%	80%	79%	80%	80%	77%	78%	78%	77%	77%	74%	76%
Overall	83%	82%	80%	82%	83%	81%	81%	81%	79%	80%	80%	79%	80%	80%	79%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Participation by Top 20 Percent Physicians

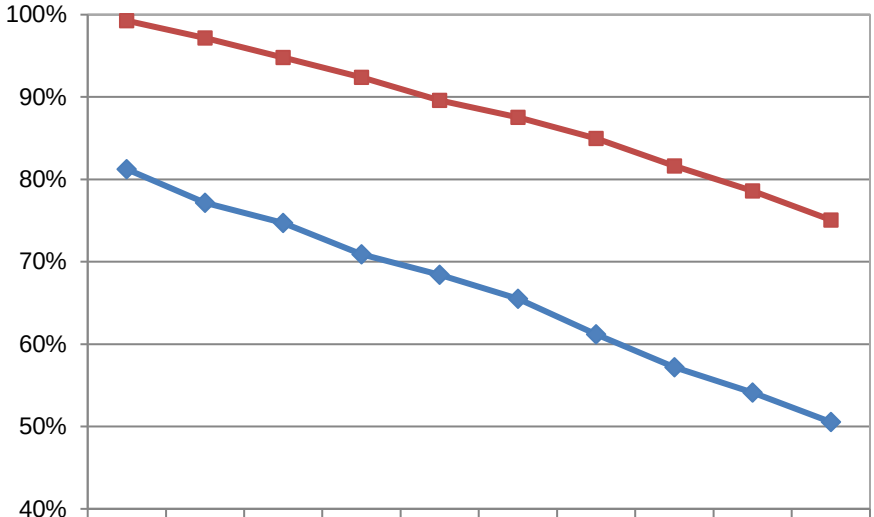
Retention rates presented above are calculated based on all physicians who treated at least one injured employee in a year. How DWC defines the level of workers' compensation participation may influence the number of participating physicians and the retention rate because workers' compensation medical expenses, as well as physician participation, are highly skewed by a small number of claims and doctors. We have defined "top 20 percent" physicians by the number of workers' compensation patients they treat in a given year. On average, a top 20 percent physician treats at least 30 to 40 different injured employees in a year. In 2015, there were 3,676 physicians in the top 20 percent group, and they accounted for 86 percent of the total medical payments to physicians.

Top 20 percent physicians have higher workers' compensation participation and retention rates than the lower 80 percent, which include physicians treating injured workers' compensation employees only occasionally. The annual exit rate of top 20 percent group is only 3 percent, resulting in a 97 percent annual retention rate. In addition, about 85 percent of the physicians continue to be in top 20 percent in the following year, indicating that a number of active physicians account for more than 86 percent of total medical payments, and continue to participate in workers' compensation year- in and year-out. This reflects the fact that the workers' compensation health care market is highly specialized, due to the nature of occupational injuries, reimbursement and review process, regulatory rules, and the initial investment costs for the providers (training for exams and reports, adapting to rules and procedures, special devices,

etc.). This concentrated nature of the workers' compensation health care market is similar across all states.[24]

The static nature of actively participating physicians is shown in Figure 6.7. Beginning with those physicians participating in 2005, the graph shows how many of the same physicians continued to treat injured employees year after year. For top 20 percent physicians, 75 percent of those participants in 2005 were still treating injured employees in 2015. The comparable cumulative retention rate for all participating physicians was 51 percent after 10 years—more than half of all 2005 participating physicians were still treating injured employees in 2015. Also noticeable in Figure 6.7 is that the attrition rate is gradual and consistent from year to year despite new fee guidelines, treatment guidelines, and adoption of the pharmacy closed formulary during that time frame.

Figure 6.7: Cumulative Retention Rates for 2005 WC Participating Physicians



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
All	81%	77%	75%	71%	68%	65%	61%	57%	54%	51%
Top 20%	99%	97%	95%	92%	90%	88%	85%	82%	79%	75%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Top 20 Percent Physician Participation by Specialty

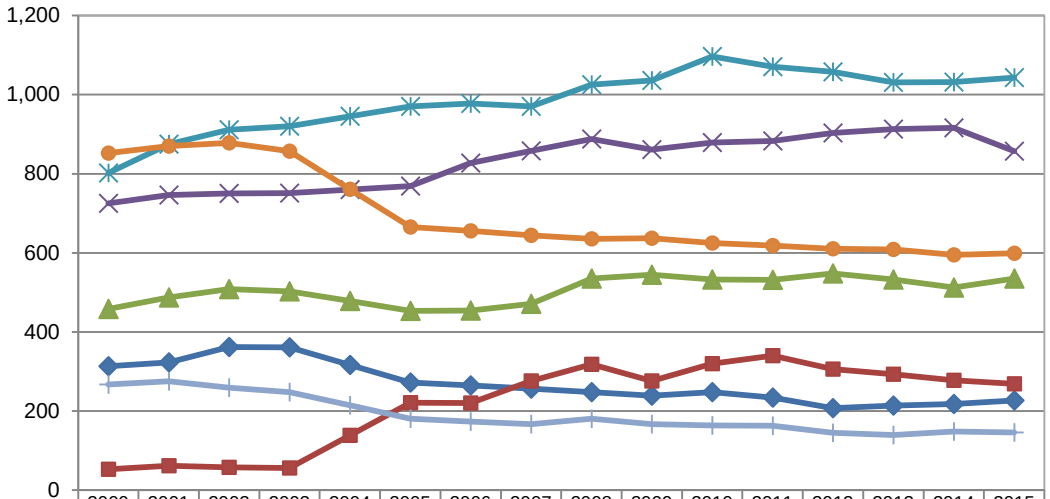
The composition of the top 20% physicians participating in workers' compensation by specialty also indicates that they have market incentives different from those of the 80 percent of physicians with lower claim counts. Figure 6.8 shows the absolute numbers of the top 20 percent physicians by specialty. Primary care, radiology/pathology, emergency medicine, and other specialty physicians actually increased while

[24] Bernacki et al. reports that 3.8% of physicians accounted for 78% of medical costs in Louisiana in 1998-2002. See Bernacki, Tao, and Yuspeh, "The impact of cost-intensive physicians on workers' compensation", *Journal of Occupational and Environmental Medicine*, 52(1): 22-29, January 2010.

orthopedic surgery, other surgery, and anesthesiology physicians decreased. Orthopedic surgeons, who were the most numerous group in 2000 (25 percent), decreased to 16 percent of the total in 2015.

Significant changes occurred in 2004 and 2005, when major reforms were implemented. It is noteworthy that primary care physicians represent a larger share of the top 20 percent since 2006, which is consistent with specific changes made in the 2008 Medical Fee Guideline to incentivize primary care and encourage health care provider participation in the Texas workers' compensation system. Although primary care physicians are participating in workers' compensation at a lower rate overall, their share in the top 20 percent group of providers has increased.

Figure 6.8: Number of Participating Physicians by Specialty – Top 20 Percent

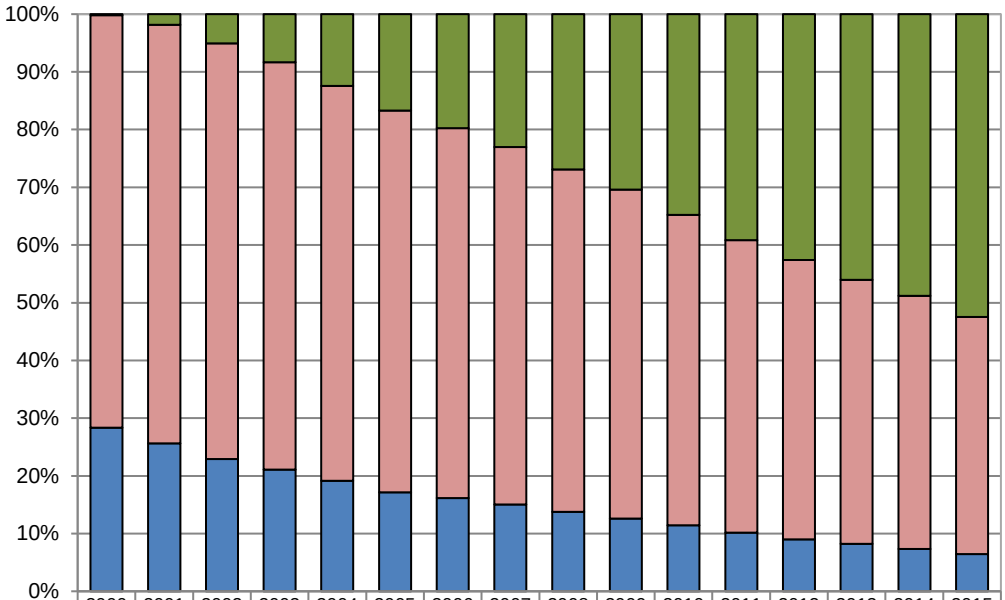


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Anesthesiology	313	323	362	361	317	272	265	257	248	239	248	234	207	214	218	227
Emergency Med	53	62	58	56	139	221	220	276	318	276	320	340	306	293	278	269
Other Specialty	458	487	508	503	478	453	454	471	535	545	533	532	548	533	512	535
Primary Care	725	746	750	751	760	769	827	858	888	861	879	883	903	913	916	857
Radiology/Pathology	802	875	911	920	945	970	978	970	1025	1036	1097	1071	1058	1031	1032	1043
Surgery - Orthopedic	852	870	878	857	761	665	656	644	635	637	625	618	610	609	595	599
Surgery - Other	267	275	259	248	215	181	173	167	181	167	164	163	145	139	148	146

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Physician participation and retention analyses show doctors entering and exiting the workers' compensation health care market. Figure 6.9 shows relative shares of participating physicians by year of license. Physicians licensed prior to 1978 constituted 28 percent of the total in 2000. Their share in 2015 decreased to six percent. At the same time, those licensed in 2000 or later accounted for 53 percent of the total in 2015. This graph shows a generational change taking effect gradually, as expected in any professional group.

Figure 6.9: Shares of Participating Physicians by Year of License



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
2000 or later	29	334	939	1530	2241	2952	3515	4168	5085	5657	6606	7506	7928	8521	8908	9515
1978 - 1999	12383	13117	13405	12927	12301	11675	11395	11202	11197	10610	10227	9723	9012	8475	8014	7448
Prior to 1978	4906	4636	4262	3860	3441	3022	2877	2717	2604	2347	2172	1951	1679	1521	1337	1164

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Non-Physician Participation in Workers' Compensation

In addition to physicians (about 75 percent of the health care providers in the workers' compensation system are MD/DO physicians),other health care providers (HCPs), such as chiropractors and physical/occupational therapists, also provide medical services to injured employees. While the number of chiropractors treating injured employees decreased from 4,726 (13 percent of total HCPs) in 2005 to 1,445 (5 percent) in 2015, participation by other HCP types have also experienced measurable changes. Participation by physician assistants, for example, more than doubled, from 992 participants in 2005 to 2,047 in 2015 (7 percent).

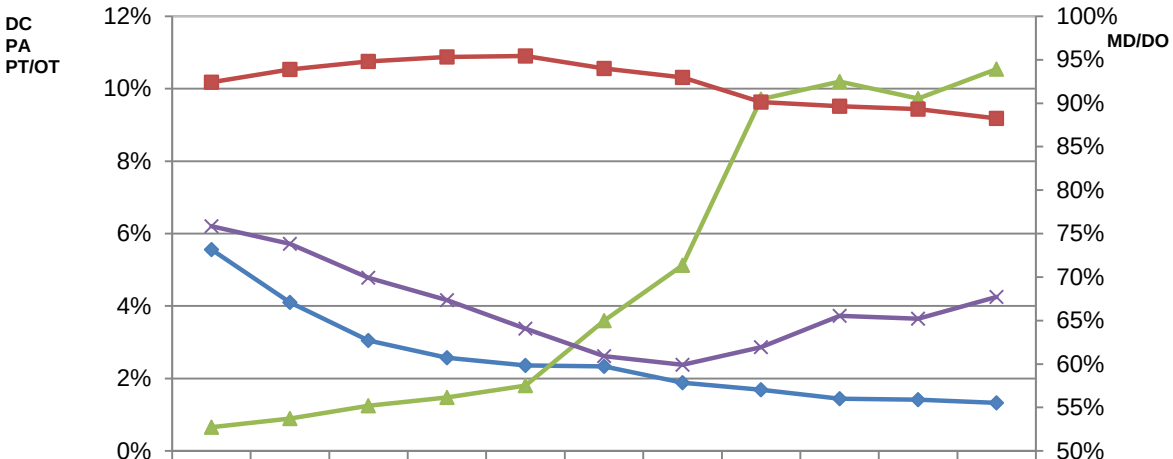
Table 6.1: Participating Health Care Providers in the Professional Billing Data

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
DC	4,726	3,053	2,775	2,712	2,328	2,161	1,931	1,636	1,668	1,626	1,445
MD/DO	24,649	24,906	26,163	27,882	26,736	26,347	25,366	23,838	23,176	23,063	22,110
PA	992	1,024	1,111	1,201	1,207	1,387	1,596	1,824	1,925	2,029	2,047
PT/OT	5,215	4,308	4,386	4,040	3,767	3,600	3,675	3,719	3,695	3,834	3,915
Total	35,582	33,291	34,435	35,835	34,038	33,495	32,568	31,017	30,464	30,552	29,517

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

On the first day of treatment after injury, about 90 percent of the injured employees received services from an MD/DO physician (see Figure 6.10). Since 2005, a decreasing share of injured employees are receiving services from chiropractors and therapists. However, the share of physician assistants increased rapidly, from 1 percent of the injured employees seeing a physician assistant on the first day in 2005 to 11 percent in 2015.

Figure 6.10: Share of Health Care Providers on First Visit



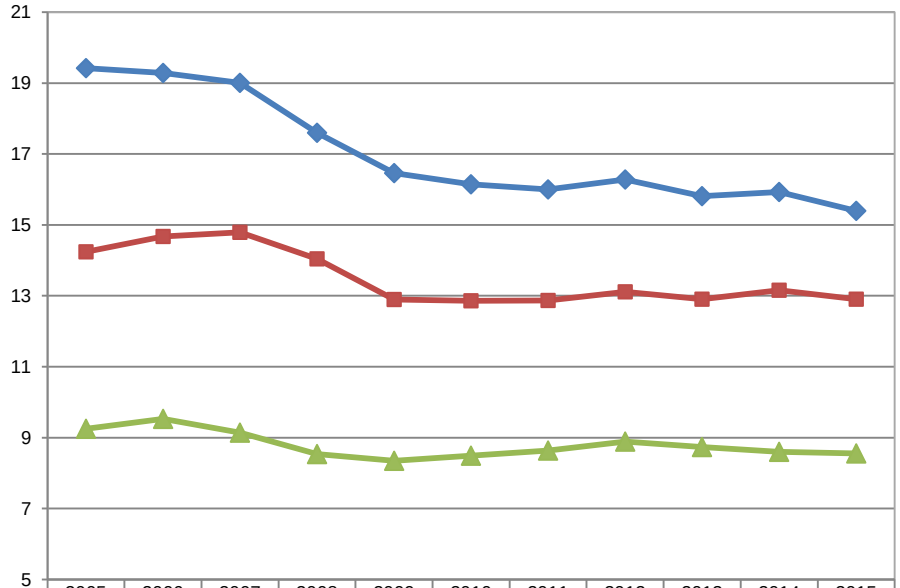
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
DC	6%	4%	3%	3%	2%	2%	2%	2%	1%	1%	1%
PA	1%	1%	1%	1%	2%	4%	5%	10%	10%	10%	11%
PT/OT	6%	6%	5%	4%	3%	3%	2%	3%	4%	4%	4%
MD/DO	92%	94%	95%	95%	95%	94%	93%	90%	90%	89%	88%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Measures for access to medical care are augmented by the availability of and participation by non-physician HCPS. When DWC considered non-physician HCPs, the number of injured employees per HCP stayed stable, at around nine injured employees since 2005 (see Figure 6.11). While there is concern regarding the decreasing number of participating primary physicians, the increase in emergency medicine specialists and physician assistants appear to compensate for those declining numbers.

In terms of timeliness, the average number of days between injury and the first non-emergency treatment in 2015 was 3.8 days for physician assistants, shorter than the 4.5 days for physicians (see Figure 6.12). This delay for initial treatment was longer for those who saw chiropractors and physical/occupational therapists, which is partially explained by the fact that those with low back and other musculoskeletal injuries may not seek immediate treatment.

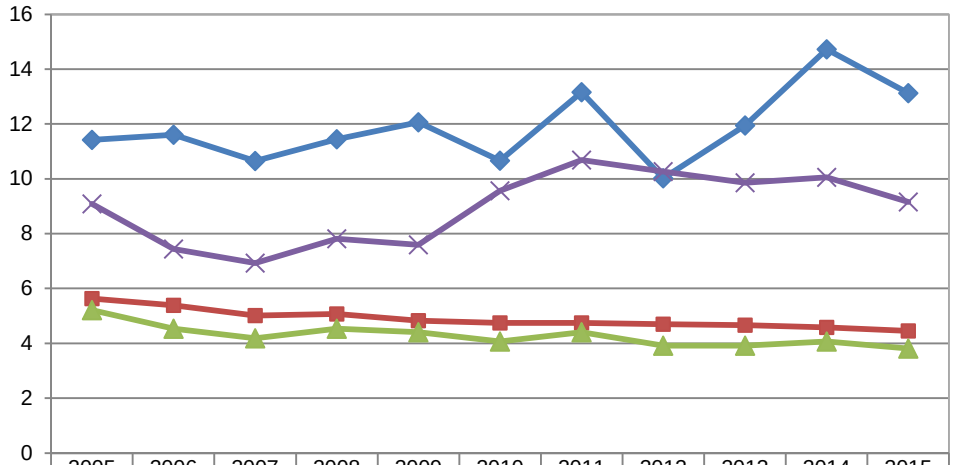
Figure 6.11: Number of Injured Employees per Health Care Provider



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
MD/DO: Treating all patients	19	19	19	18	16	16	16	16	16	16	15
MD/DO: Treating new patients	14	15	15	14	13	13	13	13	13	13	13
All HCPs in service year	9	10	9	9	8	8	9	9	9	9	9

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Figure 6.12: Average Number of Days between Injury and First Visit



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
DC	11.4	11.6	10.6	11.4	12.1	10.7	13.2	10.0	11.9	14.7	13.1
MD/DO	5.6	5.4	5.0	5.1	4.8	4.8	4.7	4.7	4.7	4.6	4.5
PA	5.2	4.5	4.2	4.5	4.4	4.1	4.4	3.9	3.9	4.1	3.8
PT/OT	9.1	7.4	6.9	7.8	7.6	9.6	10.7	10.3	9.9	10.1	9.2

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

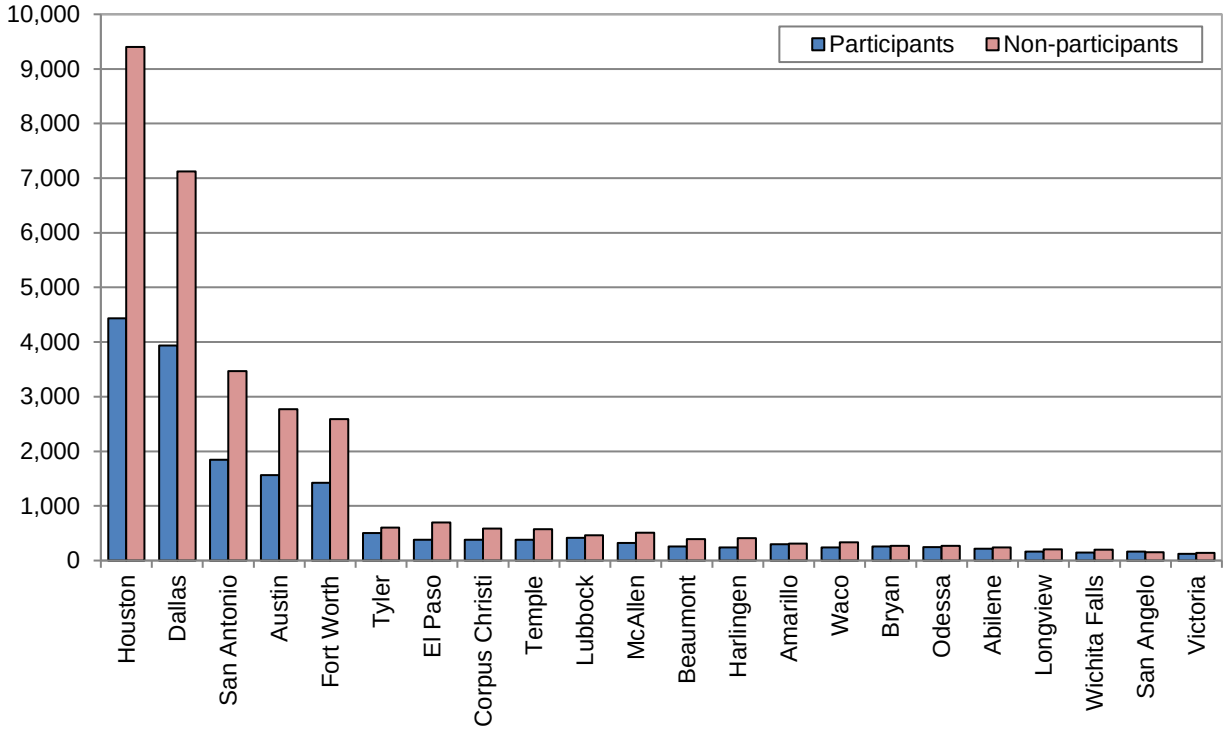
Access to Care by Geographical Region

Problems related to access to care are often regional, as practicing physicians may not be distributed evenly in relation to the general population. Urban centers generally attract more doctors than rural areas. To assess geographical differences in access to care, the distribution of participating physicians was compared with the distribution of claims. For geographical boundaries, the REG utilized Hospital Referral Regions (HRRs) created by The Dartmouth Atlas of Health Care.

HRRs are constructed using Medicare hospitalization records and patient referral patterns, closely resembling the pattern of medical care and access. There are 24 HRRs in Texas that roughly correspond to major metro areas; two HRRs that have primary medical centers are Arkansas and Louisiana were removed from the analysis.

Overall, 36 percent of Texas physicians participated in the workers' compensation system in 2015. Seventy-four percent of participating physicians were located in the five largest metro areas: Houston, Dallas, San Antonio, Austin, and Fort Worth (see Figure 6.13). These areas also accounted for 78 percent of all active physicians in Texas, a slightly higher concentration than for participating doctors. As a result, the workers' compensation participation rate in large metro areas was 34 percent, slightly lower than the overall 36 percent. However, about 71 percent of all workers' compensation claims were filed in these areas. Therefore, for large metro areas, the share of participating physicians was only slightly higher than the share of claims (74 percent physician share vs. 71 percent claim share in 2015).

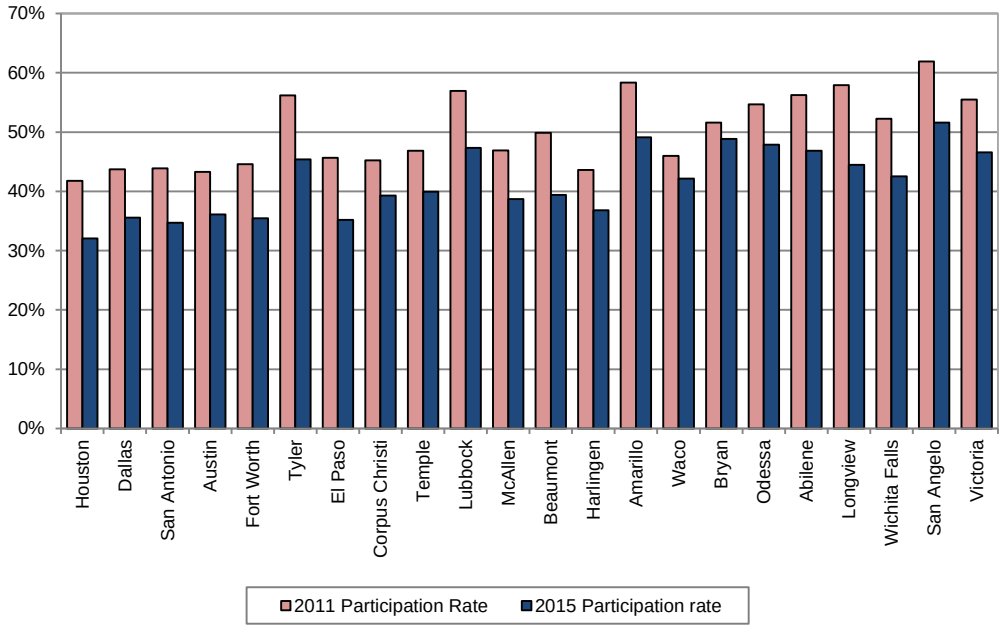
Figure 6.13: Number of Physicians and WC Participation Status by HRR, 2015



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Between 2011 and 2015, most areas experienced decreasing rates of participation. As discussed earlier, this was largely due to an increasing number of active physicians and a stable number of physicians participating in workers' compensation. Lack of access to physicians in those areas was due primarily to the low overall number of practicing physicians rather than a low workers' compensation participation rate. Consequently, smaller urban centers generally have higher participation rates (see Figure 6.14). In 2015, 30 percent of physicians in Houston HRR participated in workers' compensation while 52 percent of them participated in San Angelo HRR.

Figure 6.14: WC Physician Participation Rates by HRR



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Some non-metro areas and border regions have more workers' compensation patients per physician (less access to care) despite the fact that they have higher workers' compensation physician participation rates than metro areas. The number of claims per participating physician, reported in Table 6.2, shows a great deal of difference across regions. In 2015, Bryan HRR had the lowest ratio of claims to physician, at nine, while Harlingen and El Paso had the highest ratio of 27 claims per physician. A physician in Harlingen treated three times more workers' compensation claims than a physician in Bryan. Fort Worth and San Antonio had poorer access among the five largest metro areas. Overall, the number of claims per physician decreased since 2005 in all areas except Harlingen HRR. Bryan, San Angelo and Longview HRRs saw the most increases during the same period. Although access improved in most areas, the difference across regions persisted.

Table 6.2: Number of Claims per WC Participating Physician

HRR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change in 2005-2015
Harlingen	26.83	25.99	25.90	26.05	25.85	26.71	26.36	27.98	27.71	28.11	27.63	2.99%
El Paso	27.57	29.53	31.04	31.69	28.62	28.65	27.26	26.74	25.97	26.00	26.69	-3.21%
Fort Worth	24.32	25.83	26.06	22.69	21.33	20.93	20.87	20.84	20.60	20.82	20.52	-15.62%
San Antonio	20.99	21.92	21.58	20.37	19.46	20.34	19.49	20.44	19.96	20.11	19.79	-5.70%
McAllen	21.97	20.26	22.00	19.45	19.31	19.60	19.87	19.89	20.56	20.45	19.30	-12.15%
Odessa	25.55	25.90	25.49	23.53	20.18	21.08	22.36	22.35	21.07	20.65	18.00	-29.56%
Waco	22.80	24.06	22.45	22.24	19.70	17.17	20.36	18.29	16.56	17.57	17.21	-24.53%
Corpus Christi	20.58	19.71	18.82	17.83	17.18	17.83	19.32	17.83	17.75	17.04	16.40	-20.31%
Amarillo	16.47	16.72	18.72	16.37	15.79	16.10	16.99	16.17	15.92	15.60	15.51	-5.87%
Lubbock	17.29	16.44	17.32	17.23	16.26	16.67	16.71	17.27	16.85	16.96	15.40	-10.94%
Beaumont	17.89	17.94	17.08	16.86	15.50	16.52	17.00	15.78	13.95	13.80	14.79	-17.31%
Abilene	17.16	18.77	18.07	17.18	17.34	16.42	16.77	16.31	14.79	14.56	14.18	-17.35%
Wichita Falls	16.24	15.95	17.65	15.05	15.16	16.66	14.96	14.59	14.04	13.94	14.14	-12.97%
Houston	16.34	16.92	16.92	15.77	14.78	13.96	14.09	14.82	14.27	14.47	13.86	-15.20%
Victoria	16.72	16.94	15.82	14.09	13.29	15.48	14.64	14.71	13.29	13.76	13.47	-19.44%
Temple	18.56	19.07	19.12	18.30	16.35	13.97	14.24	13.98	13.70	12.97	13.33	-28.18%
Dallas	18.53	17.70	16.76	15.70	14.15	13.91	13.57	13.84	13.74	13.78	13.12	-29.17%
Longview	21.12	21.44	19.88	17.69	16.02	15.73	15.13	15.60	12.79	12.31	12.78	-39.47%
Austin	16.03	16.28	14.96	12.78	12.45	11.92	11.58	11.70	11.92	12.15	12.08	-24.60%
Tyler	15.31	15.23	15.32	13.52	12.88	11.80	11.16	10.69	9.72	10.20	9.92	-35.20%
San Angelo	16.83	15.43	14.75	14.18	12.36	13.04	11.84	11.85	10.35	10.21	9.86	-41.42%
Bryan	15.32	14.41	14.49	12.34	11.79	11.97	12.00	11.80	10.84	10.71	9.02	-41.09%

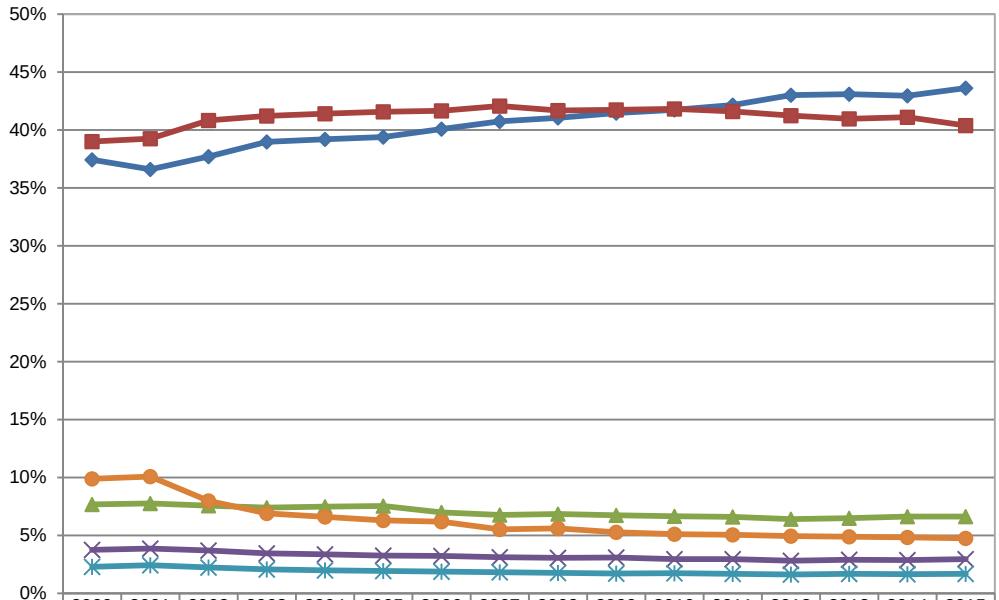
Note: Rows are in a descending order of 2015 numbers. Five largest metro areas are highlighted.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Timeliness of Care

Workers' compensation participation and retention rates of treating physicians show a general supply condition in the workers' compensation health care market, but other factors are involved in determining how promptly an injured employee receives medical treatment. Factors affecting timeliness of care include promptness in injured employees seeking treatment; procedures and barriers established by employers in reporting worksite injuries and referring to physicians; and appointment and scheduling conflicts with doctors. Timeliness of care is defined as the number of days between the reported injury date and the first non-emergency medical treatment, and approximates initial access-to-care conditions influenced by all these factors.

Claims are broken down into six groups by the number of days between injury and first treatment, and the shares of these groups are shown in Figure 6.15. About 84 percent of workers' compensation patients received initial care either on the same day of injury or within seven days in 2015, up from 76 percent in 2000. The percentage of "same day" treatment group increased steadily, reaching 44 percent in 2015. The largest decrease was seen in the share of extreme delays—29 days or more—decreasing from 10 percent to 5 percent. This delayed group consists largely of disputed and/or denied claims, which nevertheless showed a significant improvement in access to care. Disputed cases account for a fraction of all claims and thus have a minimal effect on the overall timeliness of care measures.

Figure 6.15: Percentage of Claims by Number of Days between Injury and First Non-Emergency Visit to Physician



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Same Day	37%	37%	38%	39%	39%	39%	40%	41%	41%	41%	42%	42%	43%	43%	43%	44%
1 - 7 Days	39%	39%	41%	41%	41%	42%	42%	42%	42%	42%	42%	42%	41%	41%	41%	40%
8 - 14 Days	8%	8%	8%	7%	7%	8%	7%	7%	7%	7%	7%	7%	6%	6%	7%	7%
15 - 21 Days	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
22 - 28 Days	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
29+ Days	10%	10%	8%	7%	7%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%

Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

7. Return-to-Work Outcomes in the Texas Workers' Compensation System

An important goal of the Texas workers' compensation system is to return injured employees to a safe and productive employment. Effective return-to-work (RTW) programs can help alleviate the economic and psychological impact of a work-related injury on an injured employee, reduce income benefit payments, and increase employee productivity for Texas employers.

Return-to-Work Rates Improved Since 2005; Higher for 2013 Injuries

When workers' compensation income benefit data are compared with employee wage information from the Texas Workforce Commission, the most recent results show improvements in the percentage of injured employees who returned to work within six months after their injuries. This analysis examined the return-to-work rates of injured employees who received income benefits for their lost time from work.

One of the key factors that contribute to improvements in these rates is the economic well-being of the job market. In economic downturns, injured employees who are fully recovered from their injuries and ready for reemployment, may return to an economy with high unemployment with their positions—or even companies—no longer in existence. During the years of the recession and slow recovery, when the unemployment rate in Texas rose as high as 8 percent[25], the percentage of Temporary Income Benefits (TIBs) recipients who returned to employment within six months post-injury decreased from 80 percent in 2008 to 76 percent in 2012 (see Table 7.1).

Conversely, robust economic growth (like Texas experienced during the post-recession recovery), can have a positive impact on return-to-work rates. When the Texas unemployment rate fell to 5.1 percent, the return-to-work rate for 2013 injuries rebounded to 83 percent. Three years after their injuries in 2008-2011, about 94 percent of those injured employees had returned to employment.

Overall, the 2005 legislative reforms appeared to have helped alleviate the effects of the economic downturn in Texas. Despite the economic decline in 2008-2012, the initial return-to-work rate never dipped below 76 percent, compared to 74 percent in 2004. From 2004 to 2013 timeframe, return-to-work rates increased an average of one percentage point annually.

[25] U.S. Department of Labor, Bureau of Labor Statistics Economy at a Glance, 2016 http://www.bls.gov/eag/eag.tx.htm

Table 7.1: Initial Return-to-Work Rates – Percentage of Injured Employees Receiving TIBs Who Have Initially Returned to Work (six months to three years post-injury)

	6 Months Post Injury	1 Year Post Injury	1.5 Years Post Injury	2 Years Post Injury	3 Years Post Injury
2008	80%	85%	89%	91%	94%
2009	77%	84%	89%	91%	94%
2010	78%	85%	89%	92%	94%
2011	76%	85%	90%	92%	95%
2012	76%	89%	91%	93%	
2013	83%	91%			

Note 1: The study population consists of 277,246 employees injured in 2009-2013 who also received Temporary Income Benefits (TIBs).
Note 2: The third year of 2012, and the 1.5, second, and third years of 2013 are excluded due to insufficient data.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2015.

The initial return-to-work outcomes is an important indicator of a workers' compensation system's ability to return injured employees to work after a work-related injury. However, the ability of a state to promote sustained employment among injured employees provides a more complete measure of the system's ability to promote a safe and timely return to work. The sustained return-to-work rate is the percentage of injured employees receiving TIBs who have found initial employment within the post-injury timelines shown, and remained employed for at least three successive quarters (or nine months).

The 2005 legislative reforms appeared to have also contributed to keeping the sustained return-to-work rates above the pre-reform levels despite the economic downturn in Texas. In 2004, the sustained return-to-work rate at six-months post-injury was only 66 percent. By 2008, during the recession, the rate fell from 72 percent to 68 percent, but remained at that level until 2012. By 2013, the sustained return-to-work rate climbed to 75 percent (see Table 7.2). Three years after their injuries in 2008-2011, about 85 percent of injured employees had returned to sustained employment.

Table 7.2: Sustained Return-to-Work Rates – Percentage of Injured Employees Receiving TIBs Who Initially Returned to Work within the Post-Injury timelines and Remained Employed for Three Successive Quarters (six months to three years post-injury)

Injury Year	6 Months Post-Injury	1 Year Post-Injury	1.5 Years Post-Injury	2 Years Post-Injury	3 Years Post-Injury
2008	72%	75%	77%	80%	83%
2009	68%	75%	78%	81%	84%
2010	69%	76%	79%	82%	85%
2011	68%	76%	79%	81%	85%
2012	74%	81%	82%	82%	
2013	75%				

Note 1: The study population consists of 277,246 employees injured in 2009-2013 who also received TIBs.
Note 2: The third year of 2012, and the 1.5, second, and third years of 2013 are excluded due to insufficient data.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2015.

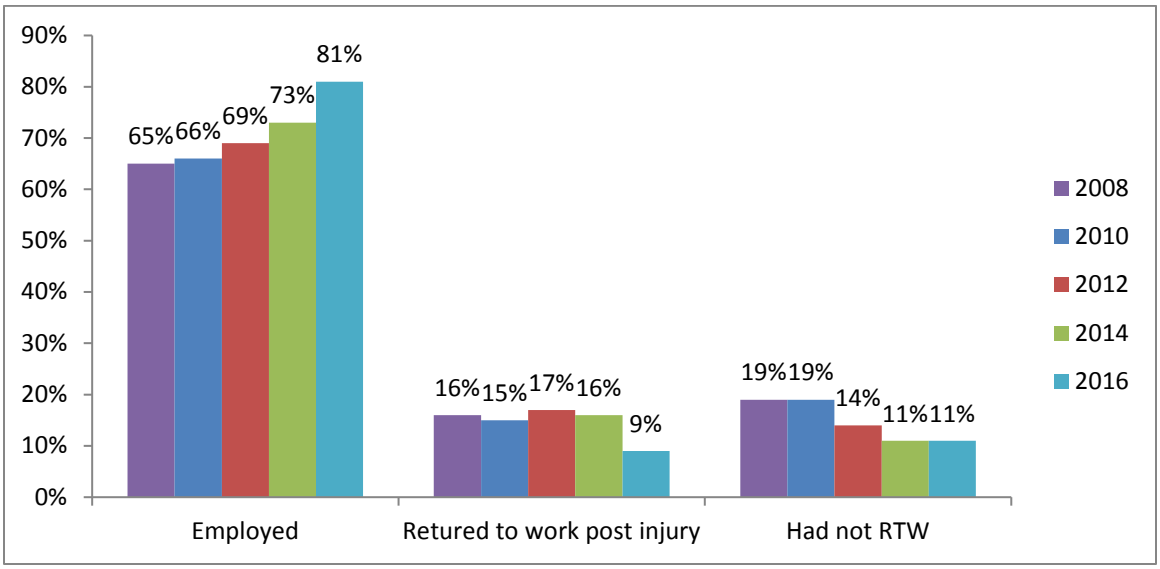
Comparison of Injured Employee Survey Results Pre- and Post-Implementation of 2005 Legislative Reforms

In 2016, REG surveyed 4,000 injured employees on their experience in the Texas workers' compensation system. It is clear from both the return-to-work rates shown in Tables 7.1 and 7.2 and the recent injured employee survey that, despite the slowdown during the recession, return-to-work rates have continued to improve since the passage of HB 7 in 2005.

As Figure 7.1 shows, a higher percentage (81%) of workers surveyed in 2016 reported that they were currently employed at the time of the survey (compared with 65 percent in 2008) and a significantly lower percentage of workers surveyed in 2016 (11 percent, compared with 19 percent in 2008) reported that they had not yet returned to work 12 to 24 months after their injuries.

In addition, the percentage of injured employees who had some initial employment after their injuries, but were not currently employed decreased dramatically (9 percent in 2016, compared to 17 percent in 2012).

Figure 7.1: Return-to-Work Experiences of Injured Employees



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, Survey of Injured Workers, 2008, 2010, 2012, 2014, 2016.

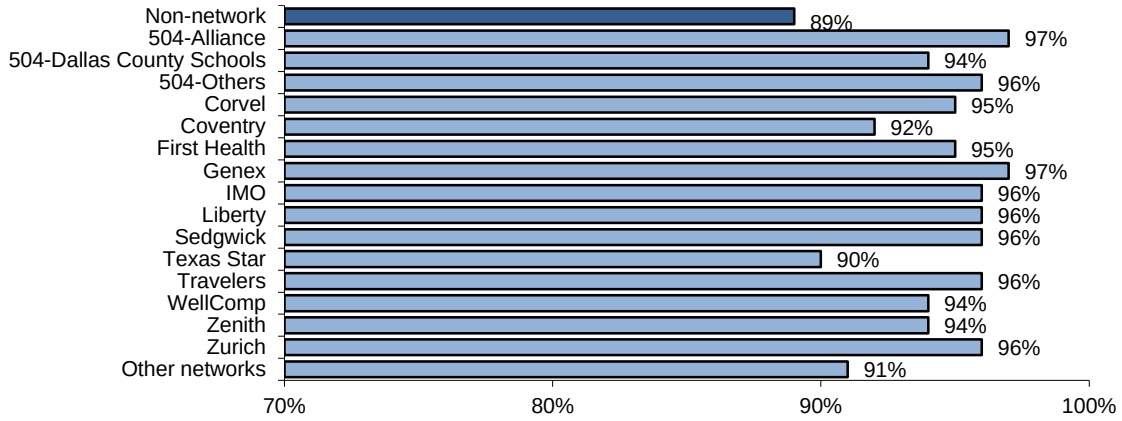
Comparisons Between Network and Non-Network Claims

Return-to-work rates have been improving in the Texas workers' compensation system since 2001, and this trend has continued since the passage of HB 7. One important aspect of HB 7 was the formation of networks, which has seen positive results in terms of improvements in return-to-work outcomes. Legislators increased the focus on disability management in the new health care delivery model by requiring networks to adopt return-to-work guidelines and increase the use of case management.

Additionally, legislators envisioned that networks would be better positioned to facilitate communication between treating doctors and employers about injured employees' physical abilities to return to work and employers' job requirements or the availability of alternative duty assignments.

Results from the 2016 Workers' Compensation Network Report Card produced by REG indicate that injured employees from all sixteen network entities (including the other networks group of 8 smaller networks) had higher initial return-to-work rates than non-network injured employees (see Figure 7.2).

Figure 7.2: Percentage of Injured Employees Who Indicated That They Went Back to Work at Some Point after Their Injury

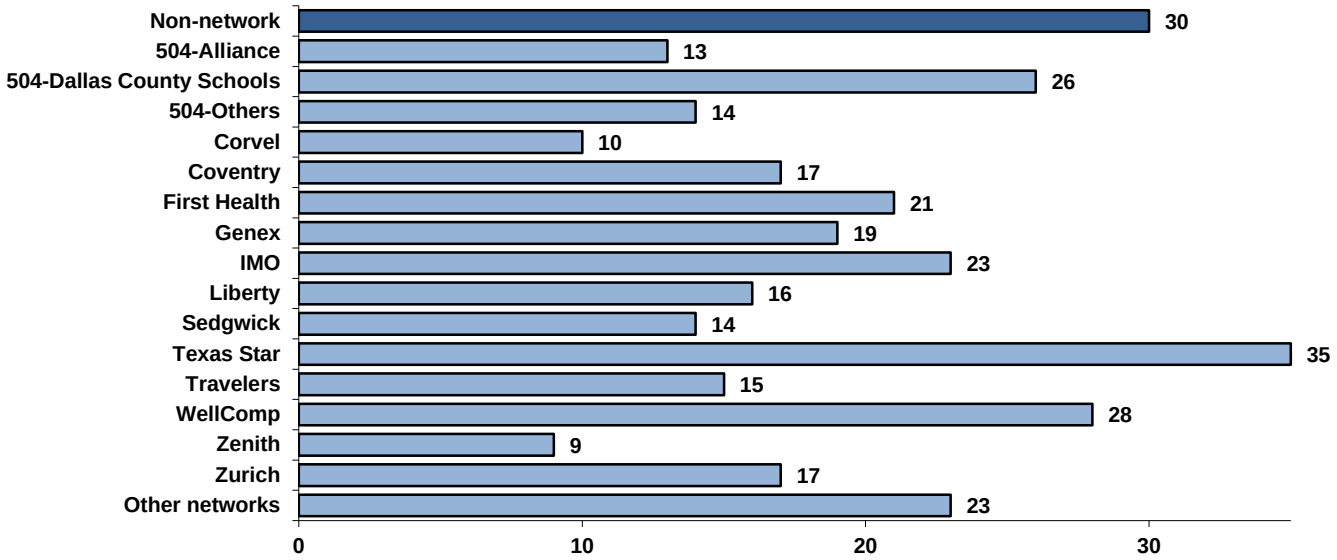


Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

It should be noted, however, that these return-to-work outcomes are heavily affected by whether the employers of these injured employees have effective return-to-work programs and are able to bring injured employees back to safe and appropriate employment. The improved performance of most networks over non-network providers may be the result of coordination between system participants, including employers helping return injured employees to work.

In addition to an increased percentage of injured workers who indicated that they went back to work at some point after their injury, report card results indicate that most networks were more effective at returning workers to work when compared to non-network providers (see Figure 7.3).

Figure 7.3: Average Number of Weeks Injured Employees Reported Being off of Work Because of Their Work-Related Injury



Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Continual monitoring of these return-to-work measures is necessary to track the effects of the implementation of treatment and return-to-work guidelines, as well as the impact of networks on return-to-work outcomes in Texas. Early return-to-work programs that account for the injured employee's abilities and safety can be conducive to physical recovery. Further, they reduce system costs. While system-wide return-to-work rates continue to improve, the increased focus on disability management under the HB 7 reforms seems to have resulted in modest return-to-work improvements in some networks, compared to non- network claims. The REG will continue to monitor and report on annual return-to-work trends.

8. Dispute Resolution and Complaint Trends

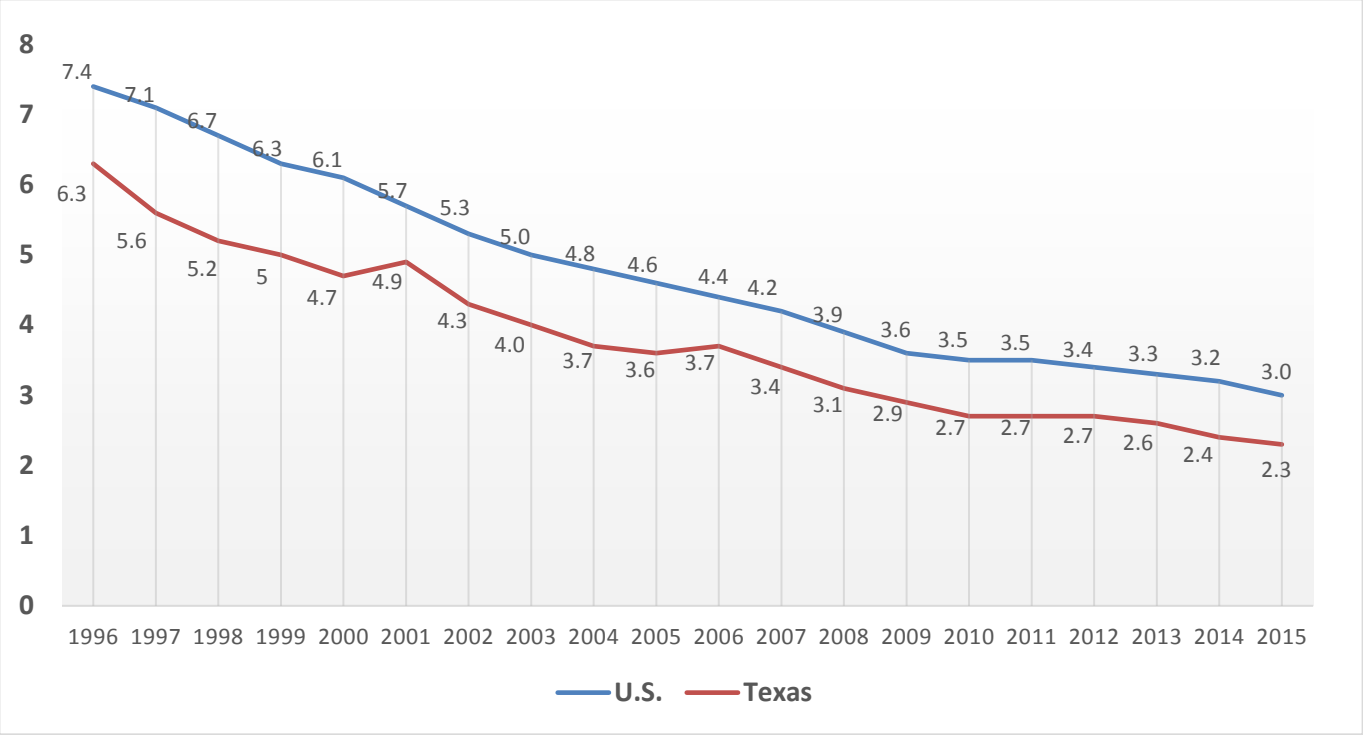
Background

One of the key goals of the 2005 legislative workers' compensation system reforms was providing each injured employee with access to a fair and accessible dispute resolution process.[26] This section examines medical dispute and complaint trends in the system after the 2005 reforms.

To develop a better perspective of the extent of disputes in the system, it helps to examine them within the context of the total number of injured employees in Texas. According to the latest statistics reported by the U.S. Department of Labor, Bureau of Labor Statistics, Texas had 2.3 injuries or illnesses per 100 full-time employees in 2015 (see Figure 8.1). This was a 63 percent decrease in the injury rate since 1996. Overall, the Texas non-fatal occupational injury and illness rate is statistically less than the national rate.

Figure 8.1: Texas and U.S. Nonfatal Occupational Injury and Illness

Rates per 100 Full-Time Employees



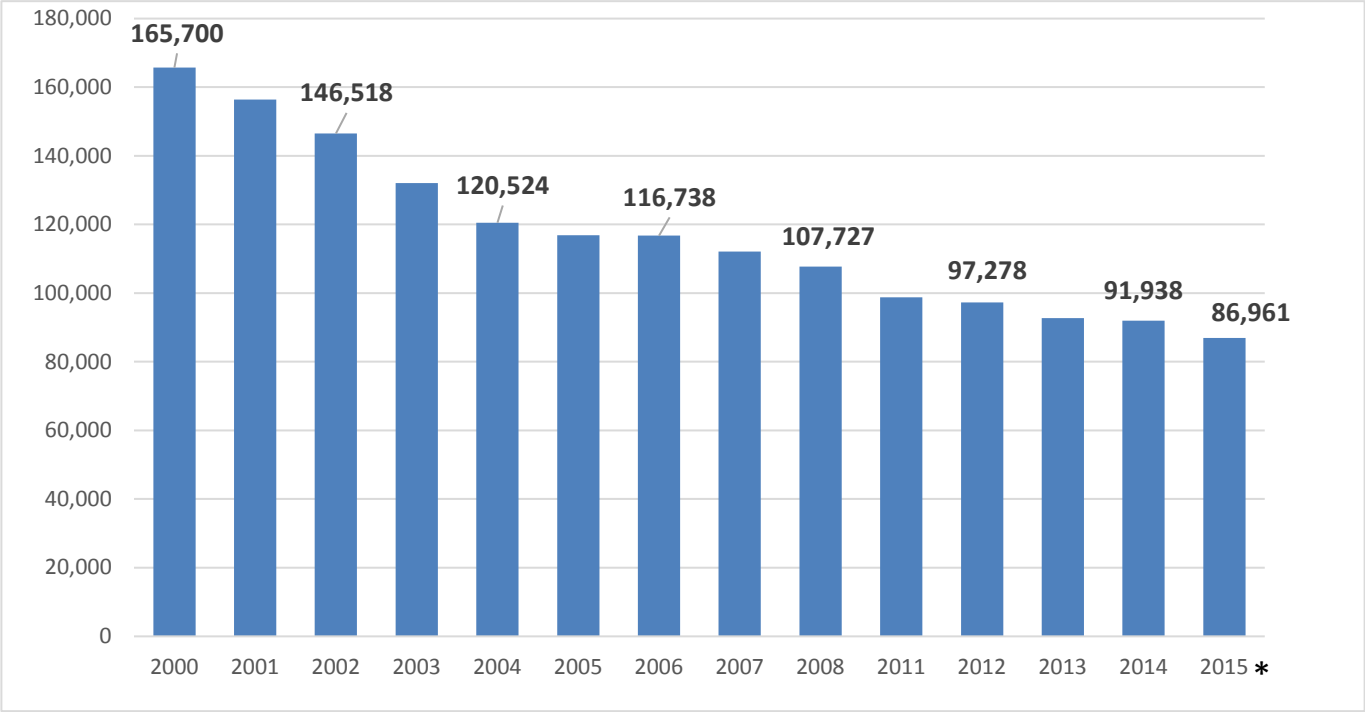
Source: Texas Department of Insurance, Division of Workers' Compensation and U.S. Department of Labor, Bureau of Labor Statistics, *Annual Survey of Occupational Injuries and Illnesses*, 2016

[26] See Texas Labor Code, Section 402.021.

Decreasing injury rates have also affected the number of reportable claims (injuries with at least one day of lost time due to the work-related injury) in the Texas workers' compensation system. In addition to providing necessary and appropriate medical care at no cost to employees for their work- related injuries, the Texas workers' compensation system has a multi-tiered income benefit structure, which compensates injured employees when their injuries lead to permanent impairments and lost wages due to lost time from work. The number of these claims fell from 165,700 in 2000 to 86,961 in 2015, a decrease of 48 percent (see Figure 8.2).

Figure 8.2: Number of Workers' Compensation Claims

Reported by Calendar Year of Injury



Note: Data updated through August 2016. These numbers include the claims that are required to be reported to DWC, including fatalities, occupational diseases, and injuries with at least one day of lost time. Medical-only claims are not required to be reported to DWC.
*Data for 2015 should be viewed with caution since the number of claims per calendar year will continue to grow as injuries for that calendar year are reported or as "medical only" injuries begin to lose time away from work.

Source: Texas Department of Insurance, Division of Workers' Compensation, 2016.

Medical Denials and Disputes

This section examines how the frequency, duration, and outcomes of medical disputes have changed since the adoption of the 2005 legislative reforms. This section also examines the number of complaints received by TDI, including complaints regarding the focal point of the 2005 legislative reforms –workers' compensation health care networks.

Number and Time Frame to Resolve Medical Disputes

Generally, there are three types of medical disputes raised in the workers' compensation system:

- ★ fee disputes (which may include a dispute over the application of the TDI-DWC's fee guidelines or a dispute over the fee for a service that is not covered in TDI-DWC's fee guidelines),
- ★ preauthorization disputes[27] (that is, disputes regarding the medical necessity of certain medical treatments and services that were denied prospectively by the insurance carrier), and
- ★ retrospective medical necessity disputes (that is, disputes regarding the medical necessity of medical treatments and services that have already been rendered and billed by the health care provider).

As Table 8.1 indicates, there has been a significant reduction in the number of medical disputes filed with TDI or DWC as a result of the 2005 legislative reforms. In 2003, TDI received about 17,433 medical disputes, but by 2015, that number had fallen by about 70 percent to 5,283.[28] The decline in disputes was related to several factors, such as fewer claims filed, the creation of health care networks in 2006, the adoption of DWC's medical treatment guidelines in 2007, and DWC's adoption of new professional, inpatient and outpatient hospital, and ambulatory surgical center fee guidelines in 2008.

Table 8.1: Number and Distribution of Medical Disputes Submitted to DWC, by Type of Medical Dispute (as of April 2016)

Year Dispute Received	Pre-authorization	Fee Disputes	Retrospective Medical Necessity Disputes	Total
2003	11%	70%	19%	17,433
2004	13%	60%	27%	14,291
2005	13%	68%	19%	13,257
2006	16%	70%	14%	9,706
2007	27%	72%	1%	8,810
2008	22%	75%	3%	12,244
2009	24%	74%	2%	12,293
2010	41%	58%	1%	7,596
2011	35%	63%	2%	7,795
2012	37%	62%	1%	5,643
2013	26%	73%	1%	5,187
2014	26%	74%	Less than 1%	5,241
2015	23%	77%	Less than 1%	5,283

Source: Texas Department of Insurance: Division of Workers' Compensation and Workers' Compensation Research and Evaluation Group, 2016.

[27] Texas Labor Code, Section 413.014 and 28 Texas Administrative Code, Section 134.600 include a list of medical treatments and services that require preauthorization by the insurance carrier before they can be provided to an injured employee. Networks are not subject to these preauthorization requirements and may establish their own lists of medical treatments and services that require preauthorization. See Texas Insurance Code, Section 1305.351.

[28] From August 2008 to August 2009, one health care provider filed about 6,000 pharmacy fee disputes against one insurance carrier. DWC upheld a great majority of these disputes in favor of the insurance carrier (about 60 percent of all fee disputes decisions made during those years), and the requestor eventually withdrew all the disputes during the appeal process.

Additionally, the percentage of medical disputes associated with preauthorization denials increased from 11 percent of all medical disputes in 2003 to a high of 41 percent in 2010 (Table 8.1). By 2015, 23 percent of all medical disputes were associated with preauthorization denials. Over the same period, the percentage of retrospective medical necessity disputes declined steeply from 27 percent in 2004 to less than 1 percent in 2015, most likely the result of the adoption of DWC's medical treatment guideline rule in May 2007. This rule requires preauthorization for all medical services outside of the treatment guideline's recommendations, with the exception of pharmacy services, in addition to the existing preauthorization requirements laid out in DWC's preauthorization rule–28 Texas Administrative Code, Section 134.600.

In 2011, DWC also adopted one of the nation's first pharmacy closed formularies, which requires preauthorization by an insurance carrier for any prescription drug excluded from the closed formulary. The formulary took effect for new claims on September 1, 2011 and for older injuries on September 1, 2013. Although the number of prescription drugs that require preauthorization has increased as a result of the closed formulary, DWC's efforts to facilitate increased communication between insurance carriers and prescribing doctors has resulted in fewer medical necessity disputes since the formulary took effect.

In an effort to more closely align the process for resolving workers' compensation medical necessity disputes with the process for resolving these same types of disputes in the group health system, DWC adopted a rule in January 2007 to streamline the intake of medical disputes, including preauthorization and retrospective medical necessity disputes. Part of that process included requiring the insurance carrier's utilization review agent to send all of the medical evidence used to make the medical necessity decision directly to the Independent Review Organization (IRO) assigned by TDI instead of sending multiple copies to TDI to compile for the IRO's review.

Another part of this process was TDI assigning IROs to review disputes instead of DWC, and disputes are assigned within 24 hours of the receipt of an IRO request. Additionally, fewer incoming fee disputes, combined with DWC's efforts to improve the efficiency of fee dispute resolution, have resulted in more timely resolution of fee disputes.

As a result of TDI's process improvement efforts, the mean time frames to resolve medical disputes have declined significantly since 2005 for all dispute types (see Table 8.2). The average preauthorization dispute duration fell from 59 days in 2005 to 19 days in 2015 (a 68 percent decrease). The average fee dispute duration decreased from 335 days in 2005 to 70 days at the end of 2015 (a 79 percent decrease), and the average retrospective medical necessity dispute duration decreased from 123 days in 2005 to 24 days in 2013 (an 80 percent decrease).

The number of active fee disputes that needed to be resolved by DWC reached a peak of about 17,000 in August 2009. Issues involving previous inpatient hospital fee guidelines and previous pharmacy fee guidelines accounted for about 85 percent of those disputes. By the end of 2015, there were only 940 active medical fee disputes pending resolution.

Litigation between health care providers and individual insurance carriers over interpretations of the fee guideline rules prolonged the final resolution of many of these disputes. However, the combination of the aggressive adjudication of backlog disputes by DWC, the adoption of new professional and hospital fee guidelines effective March 2008, and the marked decrease in the volume of disputes has resulted in the resolution of more than 15,000 backlog fee disputes since 2009.

The number of new fee disputes received by DWC decreased as well, from about 9,183 new fee disputes in calendar year 2008 to about 4,074 new fee disputes for calendar year 2015. State and Federal litigation over air ambulance services may delay the processing of air ambulance fee disputes while DWC waits for the outcome of the litigation. Fee disputes over air ambulance service continue to be filed and represent about half the fee disputes that are currently pending.

Table 8.2: Mean Number of Days to Resolve Medical Disputes, by Type of Medical Dispute, 2002-2015 (as of December 2015)

Year Dispute Received	Days to Resolve Pre-authorization Disputes	Days to Resolve Fee Disputes	Days to Resolve Retrospective Medical Necessity Disputes
2002	107	265	252
2003	58	582	205
2004	53	478	172
2005	59	335	123
2006	55	309	132
2007	22	205	32
2008	19	197	36
2009	20	120	36
2010	19	166	26
2011	20	197	31
2012	18	225	22
2013	18	159	19
2014	19	155	32
2015	19	69	24

Note: From August 2008 to August 2009, about 6,000 pharmacy fee disputes were received by DWC from one pharmacy processing agent against one insurance carrier. They were all subsequently upheld in favor of the insurance carrier.
Source: Texas Department of Insurance: Division of Workers' Compensation and Workers' Compensation Research and Evaluation Group, 2016.

Over the past few years, the proportion of medical disputes decided in favor of the insurance carrier or the health care provider has changed depending on the type of dispute (see Table 8.3). For fee disputes, decisions in favor of the health care provider decreased from 72 percent in 2005 to 39 percent in 2015. For retrospective medical necessity disputes, the percentage of decisions in favor of the insurance carrier increased sharply, from 17 percent in 2006 to 80 percent in 2015. In 2015, insurance carriers prevailed in 83 percent of the medical necessity decisions over preauthorization disputes.

These dispute outcomes, coupled with the decreasing number of new medical disputes filed, may suggest that more health care providers and insurance carriers are utilizing DWC's evidence-based treatment guidelines when making medical necessity decisions, and that IROs are also basing their medical necessity determinations on these treatment guidelines (as required by Texas Labor Code, Section 413.031(e-1)). This may mean that the few medical disputes that now exist, compared to previous years, are more complicated and involve situations where there is a lack of clear guidance regarding reimbursement or treatment recommendations. They may also indicate that TDI needs to examine whether IROs are receiving all of the medical documentation relevant to the dispute from the insurance carrier and whether

health care providers are providing all of the relevant medical documentation to justify deviating from the guideline recommendations to the insurance carrier.

Table 8.3: Percentage of Concluded Medical Disputes Decided in Favor of Insurance Carrier or Health Care Provider, by Type of Medical Dispute, 2002-2015 (as of December 2015)

Year Dispute Received	Preauthorization Disputes		Fee Disputes		Retrospective Medical Necessity Disputes	
	Carrier	Provider	Carrier	Provider	Carrier	Provider
2002	69%	31%	41%	59%	43%	57%
2003	77%	23%	32%	68%	33%	67%
2004	76%	24%	31%	69%	31%	69%
2005	71%	29%	28%	72%	17%	83%
2006	65%	35%	28%	72%	17%	83%
2007	77%	23%	19%	81%	72%	28%
2008	75%	25%	79%	21%	57%	43%
2009	78%	22%	92%	8%	65%	35%
2010	73%	27%	58%	42%	69%	31%
2011	77%	23%	63%	37%	76%	24%
2012	83%	17%	58%	42%	71%	29%
2013	83%	17%	63%	37%	87%	13%
2014	81%	19%	58%	42%	60%	40%
2015	83%	17%	61%	39%	80%	20%

Note 1: These dispute resolution outcomes were only calculated for disputes that had been concluded as of December 2015–disputes that were withdrawn or dismissed were excluded from the analysis. Disputes, disputes submitted without the DWC Form-060, and disputes with incorrect jurisdiction were also excluded.
Note 2: From August 2008 to August 2009, about 6,000 pharmacy fee disputes were received by DWC from one pharmacy processing agent against one insurance carrier. They were all subsequently upheld in favor of the insurance carrier.
Source: Texas Department of Insurance: Division of Workers' Compensation and Workers' Compensation Research and Evaluation Group, 2016.

Trends in Complaints Filed

While the number of workers' compensation claims decreased measurably since the passage of the 2005 legislative reforms, the number of complaints received by DWC is now following a similar trend. As Table 8.4 shows, the number of complaints fluctuated during the years following the passage of the 2005 legislative reforms. While DWC received 7,433 complaints in 2004, that number fell to 3,820 in 2006, but increased to 8,621 in 2008. Since 2010, the number of complaints has decreased.

DWC received 4,676 complaints in 2015. Of the complaints received and closed in 2015, 1,015 (21.7 percent) were "monitoring complaints," meaning that DWC did not investigate the complaint for a violation of the Texas Workers' Compensation Act or Rules. DWC did, however, send a letter to the subject of the complaint asking it to resolve the complaint and reminding it of its compliance duties. A total of 1,292 complaints (27.6 percent) were "not confirmed," meaning that there was not a violation of the Texas Workers' Compensation Act or Rules or a violation could not be substantiated. A total of 776 complaints

were "confirmed" complaints that were violations of the Texas Workers' Compensation Act or Rules and warranted further investigation. The remaining complaints were not closed in 2015 and not included in the overall closure numbers.[29]

The most frequent types of complaints received by DWC in 2015 include complaints about communication issues (for example., timely filing of required forms), complaints from health care providers about medical benefits (for example, prompt payment), and complaints regarding the failure of a system participant to attend a required exam or hearing.

Table 8.4: Total Number of Complaints Received by DWC

Complaint Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number of Complaints	7,433	5,883	3,820	6,715	8,621	6,516	6,808	6,267	5,792	5,402	5,399	4,676

Note: Complaint counts for 2005 and 2006 should be viewed with caution since these numbers are incomplete due to the transition of the functions of the former Texas Workers' Compensation Commission to the newly created Division of Workers' Compensation. During the transition, complaints were placed into TDI's existing complaint tracking system, which initially did not track complaints received through referrals from TDI-DWC field office staff. Complaints received through internal referrals are now tracked as part of TDI's complaint tracking system.
Source: Texas Department of Insurance, Division of Workers' Compensation, 2016.

Overall, TDI[30] has received relatively few complaints about networks since 2005 (818 total complaints–of which about 30 percent were deemed justified) given that more than 700,000 injured employees had been treated in networks as of June 1, 2015. The most frequent types of complaints raised by health care providers included payment disputes related to preauthorization, failure to pay based on contracted rates, and non-payment based on timely filing and complaints about delayed payment for services provided.

The most frequent types of complaints raised by injured employees included complaints about access to care and quality of care provided by network health care providers. Chapter 1305, Insurance Code, as well as the TDI's network rules (Chapter 10 of the Texas Administrative Code) require networks to resolve complaints, including disputes over network fees, internally and to maintain a detailed complaint log that is subject to TDI examination.

The administration of workers' compensation disputes and complaints is a critical component of TDI's and TDI-DWC's mission. Since the adoption of the 2005 legislative reforms, the number of complaints continues to fluctuate while the number of medical disputes decreased. Effective streamlining has led to steep reductions in the average durations to resolve medical disputes. TDI and TDI-DWC will continue to monitor disputes and complaints, and to improve processes where feasible.

[29] Complete results from DWC's System Monitoring and Oversight section are available at www.tdi.texas.gov/wc/pbo/index.html.
[30] TDI's Managed Care Quality Assurance Office certifies networks, and TDI's Consumer Protection Section resolves complaints filed about networks.

9. EMPLOYER PARTICIPATION IN THE TEXAS WORKERS' COMPENSATION SYSTEM

Introduction

Since the Texas workers' compensation law was first enacted in 1913, private sector employers have been allowed to either obtain workers' compensation coverage or opt out of the Texas workers' compensation system.[31]

Texas is the only state that permits private-sector employers (regardless of employer size or industry) the option of not obtaining workers' compensation coverage and thus, becoming "non-subscribers" to the workers' compensation system.[32] Employers who choose to not obtain workers' compensation coverage lose the protection of statutory limits on liability under the Labor Code and may be sued for negligence by injured employees.

Since 1993, the state has periodically monitored the percentage of employers that are non-subscribers and the percentage of employees employed by non-subscribers, as well as the types of alternative occupational benefit programs utilized by non-subscribers and the reasons employers choose or choose not to participate in the Texas workers' compensation system. Non-subscription rates remain an important indicator of the relative "health" of the workers' compensation system since these roughly measure employers' perspectives regarding whether the benefits of participating in the workers' compensation system are greater than the costs of obtaining coverage. For this reason, the 79th Texas Legislature required TDI to monitor and report the effect of the 2005 legislative reforms on employer participation in the Texas workers' compensation system as part of this biennial report.

The first study of employer participation in the Texas workers' compensation system was published in 1993 by Texas A&M University for the Texas Workers' Compensation Research Center. In 1996, the Research Center's successor agency, the Research and Oversight Council on Workers' Compensation (ROC) assumed the responsibility of calculating non-subscription rates using the same methods. In 2004, TDI acquired this responsibility and currently manages the survey through the REG.

Survey Design and Data Collection

A random probability sample, stratified by industry and employment size, was drawn from all year-round private-sector employers in the state using the Texas Workforce Commission's Unemployment Insurance

[31] Texas governmental entities, including the state and its political subdivisions are currently required to provide workers' compensation insurance coverage to their employees.

[32] In New Jersey, all employers are required to have workers' compensation coverage or be self-insured. Non-compliant employers are fined, and their injured employees receive income and medical benefits through the Uninsured Employers' Fund. Recently, Oklahoma passed legislative reforms that allowed certain employers to opt-out of the workers' compensation system if they met certain financial requirements and offer benefits that are similar to those found in the workers' compensation system. However, the Oklahoma Supreme Court declared the statute authorizing employers to opt-out of the workers' compensation system unconstitutional in September 2016 because it was a special law that created unequal disparate treatment of injured employees.

database.[33] During the months of July to August 2016, the Public Policy Research Institute (PPRI) at Texas A&M University, on behalf of TDI, surveyed more than 1,900 Texas employers. The results of the survey serve as the basis for the estimates provided in this report.[34] This report presents highlights of the findings from this survey, including:

- ★ Overall employer non-subscription rates and the percentage of Texas employees employed by non-subscribers;
- ★ The reasons employers gave for purchasing workers' compensation coverage or becoming non-subscribers to the workers' compensation system;
- ★ Texas employers' recent experiences with workers' compensation premium costs;
- ★ Employer satisfaction levels for subscribers and non-subscribers; and

The survey respondents who provided the information for this report included company owners (44 percent), human resources administrators (14 percent), claim administrators (1 percent), risk managers (2 percent), and other company staff (39 percent). The subscription and non- subscription estimates have a 95 percent confidence interval.

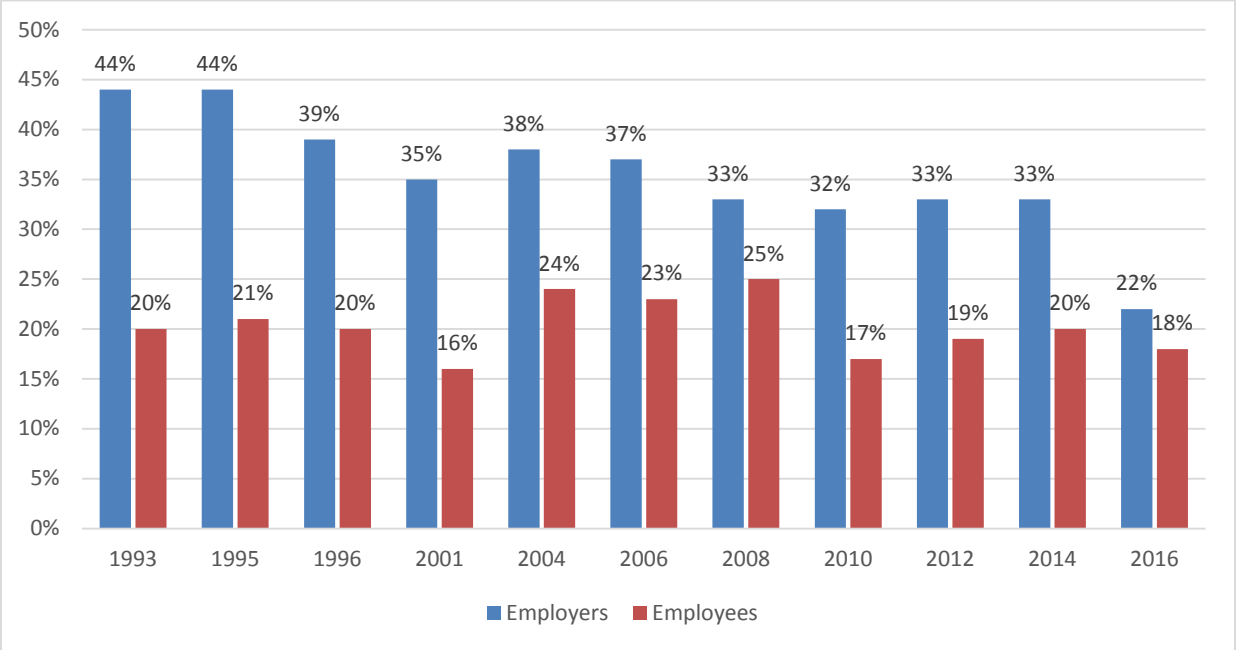
Employer Participation and Employee Coverage

The percentage of year-round non-subscribing private Texas employers remained essentially flat from 2008 to 2014, but experienced a sharp decrease in 2016. The non-subscription rate fell from 33 percent to 22 percent in 2016 (from about 119,000 employers in 2014 to 82,000 employers in 2016), the lowest percentage since 1993. An estimated 18 percent of Texas private-sector employees (representing about 1.8 million employees in 2016) worked for non-subscribing employers–the third lowest percentage since 2001 (see Figure 9.1). Conversely, 82 percent of Texas private-sector employees (an estimated 8.1 million employees) are employed by the 78 percent of employers (an estimated 285,000 employers) that are subscribers to the workers' compensation system.

Although non-subscribing employers have opted not to provide workers' compensation coverage to their employees, some of these employers (about 23 percent in 2016) provide an alternative occupational benefit plan. Because employers that provide an alternate occupational benefit plan tend to be larger employers, they employ about 72 percent of the non-subscriber employee population. As a result, an estimated 4 percent of private-sector employees (about 414,000) either do not have workers' compensation coverage or coverage through a non-subscriber occupational benefit plan in the case of a work-related injury in 2016.

[33] For the purposes of this study, "year-round" employers are employers with reported wages for four consecutive quarters. Employers with only seasonal employees were excluded from this analysis.
[34] The response rate for this survey was 37 percent.

Figure 9.1: Percentage of Texas Employers That Are Non-subscribers and the Percentage of Texas Employees Employed by Non-subscribers



Source: Survey of Employer Participation in the Texas Workers' Compensation System, 1993 and 1995stimates from the Texas Workers' Compensation Research Center and the Public Policy Research Institute (PPRI) at Texas A&M University; 1996 and 2001 estimates from the Research and Oversight Council on Workers' Compensation and PPRI; and 2004-2016 estimates from the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group and PPRI.

While large employers with 100 or more employees typically held the lowest non-subscription rates since 1995, the smaller employers with one to 49 employees experienced the steepest drop in their non-subscription rates in 2016 (see Table 9.1). The non-subscription rate for employers with one to four employees fell from 43 percent in 2014 to 31 percent in 2016, while the largest employers (with 500 or more employees) remained unchanged from 2014.

This decrease in the non-subscription rates of small employers explains the disproportional drop in the employer non-subscription rate (from 33 to 22 percent) compared to the non-subscriber employee rate (from 20 percent to 18 percent). Interestingly, the 2016 non-subscription rate for employers with five to nine employees was the same as the rate for large employers with 500 or more employees (19%).

Table 9.1: Percentage of Texas Employers that are Non-subscribers by Employment Size

Employment Size	1995	1996	2001	2004	2006	2008	2010	2012	2014	2016
1-4 Employees	55%	44%	47%	46%	43%	40%	41%	41%	43%	31%
5-9 Employees	37%	39%	29%	37%	36%	31%	30%	29%	27%	19%
10-49 Employees	28%	28%	19%	25%	26%	23%	20%	19%	21%	10%
50-99 Employees	24%	23%	16%	20%	19%	18%	16%	19%	18%	10%
100-499 Employees	20%	17%	13%	16%	17%	16%	13%	12%	14%	11%
500 + Employees	18%	14%	14%	20%	21%	26%	15%	17%	19%	19%

Source: Survey of Employer Participation in the Texas Workers' Compensation System, 1995 estimates from the Texas Workers' Compensation Research Center and the Public Policy Research Institute (PPRI) at Texas A&M University; 1996 and 2001 estimates from the Research and Oversight Council on Workers' Compensation and PPRI; and 2004-2016 estimates from the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group and PPRI.

Non-subscription Rates by Industry

The decrease in non-subscription rates among small employers occurred across all industry types, some more than others. Two of the eight industry sectors (Other Services Except Public Administration and Arts/Entertainment/Accommodation/Food Services) experienced decreases in their non-subscription rates by 15 or more percentage points in 2016 (see Table 9.2). The non-subscription rate for the Wholesale Trade/ Retail Trade/Transportation sector fell by 14 percentage points, while the rate for the Mining/Utilities/Construction sector fell by one percentage point.

This follows rate decreases in six of the industrial sectors in 2014, though not as pronounced. Employers in the Mining sector, which includes employers involved in oil and gas extraction industry sectors, as well as employers in the Agriculture/Forestry/Fishing/Hunting now have the lowest non-subscription rates (19 and 14 percent respectively).

Table 9.2: Percentage of Texas Employers that are Non-subscribers by Industry

Industry Type	Non-subscription Rate						
	2004	2006	2008	2010	2012	2014	2016
Agriculture/Forestry/Fishing/Hunting	39%	25%	27%	25%	29%	26%	14%
Mining/Utilities/Construction	32%	21%	28%	19%	22%	20%	19%
Manufacturing	42%	37%	31%	31%	29%	25%	21%
Wholesale Trade/ Retail Trade/Transportation	40%	37%	29%	32%	26%	34%	20%
Finance/Real Estate/Professional Services	32%	33%	33%	33%	32%	29%	24%
Health Care/Educational Services	41%	44%	39%	32%	35%	41%	28%
Arts/Entertainment/Accommodation/Food Services	54%	52%	46%	40%	40%	39%	24%
Other Services Except Public Administration	39%	42%	36%	42%	49%	47%	22%

Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.
Note: Industry classifications were based on the 2002 North American Industry Classification System (NAICS) developed by the governments of the U.S., Canada and Mexico, which replaced the Standard Industrial Classification (SIC) system previously used in the U.S. As a result of this change in industry classifications, industry non- subscription rates for 2004-2016 cannot be compared to previous years.

Reasons Employers Opt Out of the Workers' Compensation System

The two primary reasons employers choose not to purchase or obtain workers' compensation coverage were: the perception that they had too few employees (26 percent), and that they were not required to have workers' compensation insurance by law (24 percent). Employers' perception that workers' compensation insurance premiums were too high increased slightly to 18 percent in 2016, but that was almost half of the 35 percent who reported this reason in 2006 (See Table 9.3). Interestingly, this is consistent with Figure 2.3, which shows that the premium rate in 2014 was almost half the rate in 2006.

Table 9.3: Most Frequent Reasons Non-subscribing Employers Gave for Not Purchasing Workers' Compensation Coverage

Primary Reasons Given by Surveyed Employers	Percentage of Non-subscribing Employers					
	2006	2008	2010	2012	2014	2016
Workers' compensation insurance premiums were too high	35%	26%	32%	15%	17%	18%
Employer had too few employees	21%	26%	25%	17%	21%	26%
Employers not required to have workers' compensation insurance by law	9%	11%	13%	17%	19%	24%
Medical costs in the workers' compensation system were too high	4%	4%	5%	10%	16%	6%
Employer had few on-the-job injuries	9%	9%	12%	17%	20%	18%

Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

When these reasons were examined by employer size, the importance of individual reasons varied. For example, 61 percent of large employers with more than 500 employees in 2016 reported the primary reasons for opting out of the system was that they felt they could do better than the Texas workers' compensation system at managing costs or ensuring that employees injured on the job receive appropriate medical and income benefits.

About 14 percent of large employers reported that their reason for opting out of the workers' compensation system was that premiums were too high, but this was down significantly, from 50 percent in 2010.

Reasons Employers Gave for Purchasing Workers' Compensation Coverage

The most frequently cited reason used by Texas employers for participating in the Texas workers' compensation system in 2016 was that the employer was able to participate in a health care network (25 percent). Lower percentages (20 percent) thought having workers' compensation coverage was required by law or said that they purchased workers' compensation coverage because they were concerned about lawsuits (see Table 9.4).

Table 9.4: Most Frequent Reasons Subscribing Employers Gave for Purchasing Workers' Compensation Coverage

Primary Reasons Given by Surveyed Employers	Percentage of Subscribing Employers					
	2006	2008	2010	2012	2014	2016
Employer thought having workers' compensation was required by law	22%	25%	22%	19%	22%	20%
Employer was able to provide injured employees with medical care through a workers' compensation health care network	20%	24%	27%	20%	22%	25%
Employer was concerned about lawsuits	20%	14%	18%	21%	20%	20%
Employer needed workers' compensation coverage in order to obtain government contracts	6%	3%	6%	9%	10%	11%
Workers' compensation insurance rates were lower	NA	2%	2%	11%	10%	10%

Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

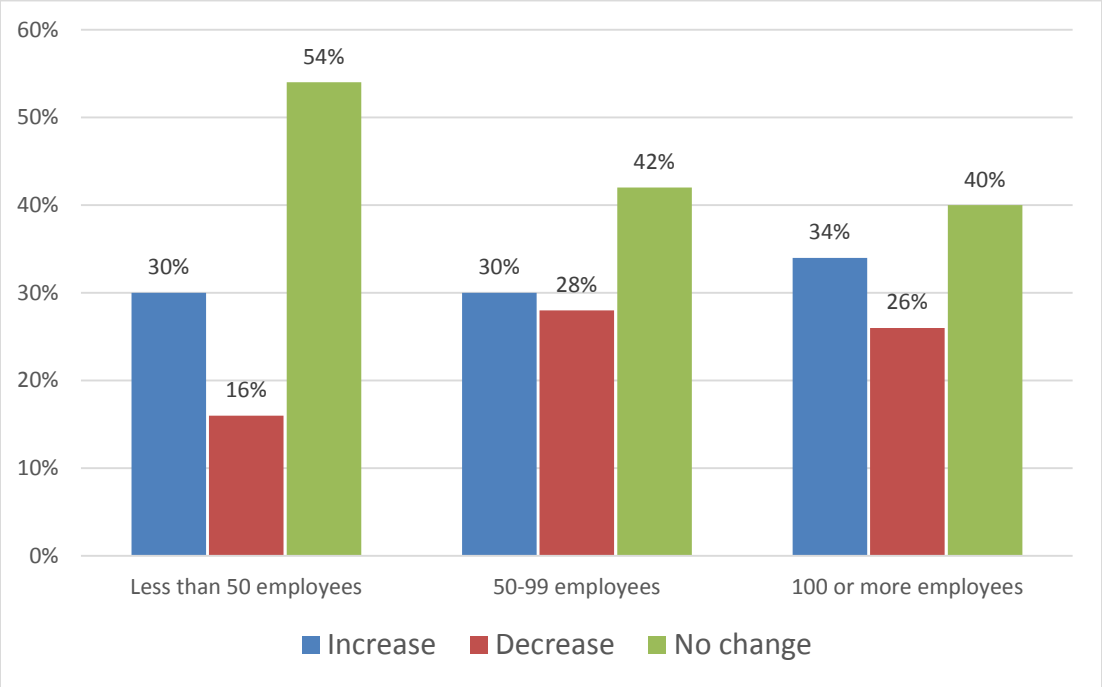
For employers with 500 or more employees, the ability to participate in a health care network (26 percent, a three-point increase over 2014) continues to be the primary reason given for participating in the Texas workers' compensation system. This finding indicates a slightly increased level of employer interest in health care networks since 2012, which may affect employers' decisions to remain subscribers, enter, or re-enter the Texas workers' compensation system.

Other key reasons large subscribers gave in 2016 for purchasing workers' compensation coverage included that they thought it was required by law (16 percent); the ability to reduce workers' compensation insurance costs through deductibles, certified self-insurance, group self-insurance or other premium discounts (13 percent); and concerns about lawsuits (13 percent).

Premium Pressures Decrease in 2016

There are indications that the modest premium pressures that began in 2010 decreased in 2016. This conforms with the declines Texas employers experienced between 2004 and 2008. While a great majority of subscribing employers of all sizes experienced decreases or no changes in their premiums in 2016 (see Figure 9.2), the percentage of those employers reporting increases in their workers' compensation premium has decreased for employers of all sizes, but especially for medium and large companies.

Figure 9.2: Percentage of Subscribers that Experienced an Increase, Decrease, or No Change in Their Premium, by Employer Size, 2016

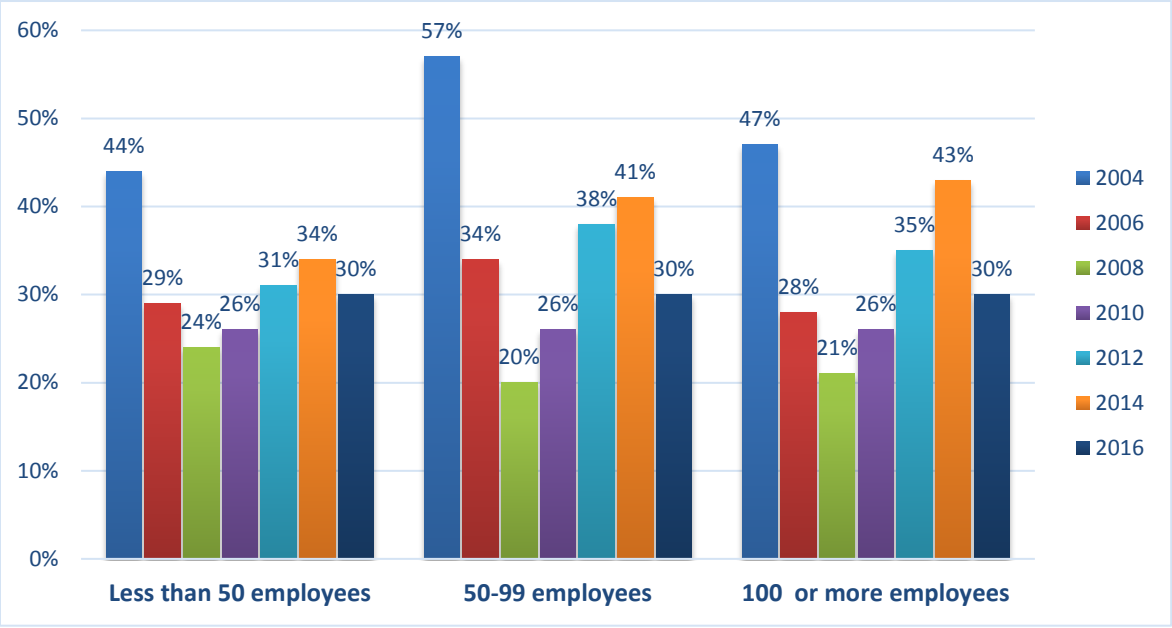


Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

As Figure 9.3 shows, while more than 40 percent of medium and large subscribing employers experienced premium increases in 2014, that percentage fell to 30 percent in 2016. Overall, about 70 percent of small and medium-sized subscribers experienced either decreases or no changes in their premium in 2016, compared to 65 percent in 2014. About 65 percent of large employers experienced no change or decreases in their 2016 premiums, compared to 57 percent in 2014.

Texas average premium rates continued to decrease (see Section 2) and may be the source of the latest trends. In addition, it should be noted that some insurance companies started offering premium credits for participating in their networks. An increased percentage of subscribers responded to the survey that the availability of networks was the deciding factor in becoming subscribers.

Figure 9.3: Percentage of Subscribing Employers that Experienced an Increase in Their Workers' Compensation Premiums Compared to Previous Policy Years, by Employer Size



Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Nonsubscribers' Knowledge about Reporting Requirements in Texas

The 2016 employer survey also asked questions regarding non-subscriber employers' knowledge about their workers' compensation reporting requirements (see Table 9.5). Only about 14 percent of the non-subscriber employers reported that they were extremely knowledgeable about two of the key reporting requirements: to notify DWC of their coverage status at least annually through the filing of the DWC Form-005, and to report all work-related deaths, occupational diseases and injuries resulting in at least one day of lost time to DWC through the filing of the DWC Form-007. A majority of 56 percent or more reported that they were not at all knowledgeable, while between 28 to 30 percent reported that they were somewhat knowledgeable about those requirements.

Non-subscribers' and Subscribers' Satisfaction with Their Programs

Non-subscribers generally reported higher levels of satisfaction with their programs. In 2016 they reported higher levels of satisfaction than subscribers across all four measures, though some of their results were lower than in previous surveys (see Table 9.6). While non-subscriber overall satisfaction increased by two percentage points, satisfaction with the adequacy of the occupational benefits paid to injured employees fell from 65 percent in 2014 to 57 percent in 2016. Despite the fall, it was still nine points higher for non-subscribers than for subscribers.

Subscriber satisfaction slipped in three of the four satisfaction measures, but remained unchanged for satisfaction with the workers' compensation system to ability to manage medical and wage replacement costs. Subscriber overall satisfaction fell from 61 percent in 2014 to 54 percent in 2016.

Table 9.5: Nonsubscribers' Knowledge of Reporting Requirements in Texas

Employers' Knowledge	Percent of all Employers Surveyed		
	Not at all knowledgeable	Somewhat knowledgeable	Extremely knowledgeable
All employers without workers' compensation insurance coverage are required to notify the Texas Department of Insurance, Division of Workers' Compensation of their coverage status at least annually through the filing of the DWC Form-005	56%	30%	14%
Employers without workers' compensation insurance coverage that have at least 5 employees are required to report all work-related deaths, occupational diseases and injuries resulting in at least one day of lost time to the Division of Workers' Compensation through the filing of the DWC Form-007 form	58%	28%	14%

Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Table 9.6: Percentage of Employers that Indicated They Were Extremely or Somewhat Satisfied with Their Programs

Areas of Satisfaction	2006		2008		2010		2012		2014		2016	
	Sub-scriber	Non-sub-scriber	Sub-scriber	Non-sub-scriber	Sub-scriber	Non-sub-scriber	Sub-scriber	Non-sub-scriber	Sub-scriber	Non-sub-scriber	Sub-scriber	Non-sub-scriber
Overall Satisfaction	56%	70%	61%	69%	59%	68%	72%	63%	61%	67%	54%	69%
Adequacy of occupational benefits paid to injured employees	53%	66%	53%	62%	54%	60%	61%	47%	54%	65%	48%	57%
Whether workers' compensation or occupational benefits plan is a good value for company	54%	73%	56%	69%	58%	68%	73%	58%	53%	71%	51%	69%
Ability to manage medical and wage replacement costs	50%	63%	50%	68%	48%	65%	62%	54%	50%	63%	50%	63%

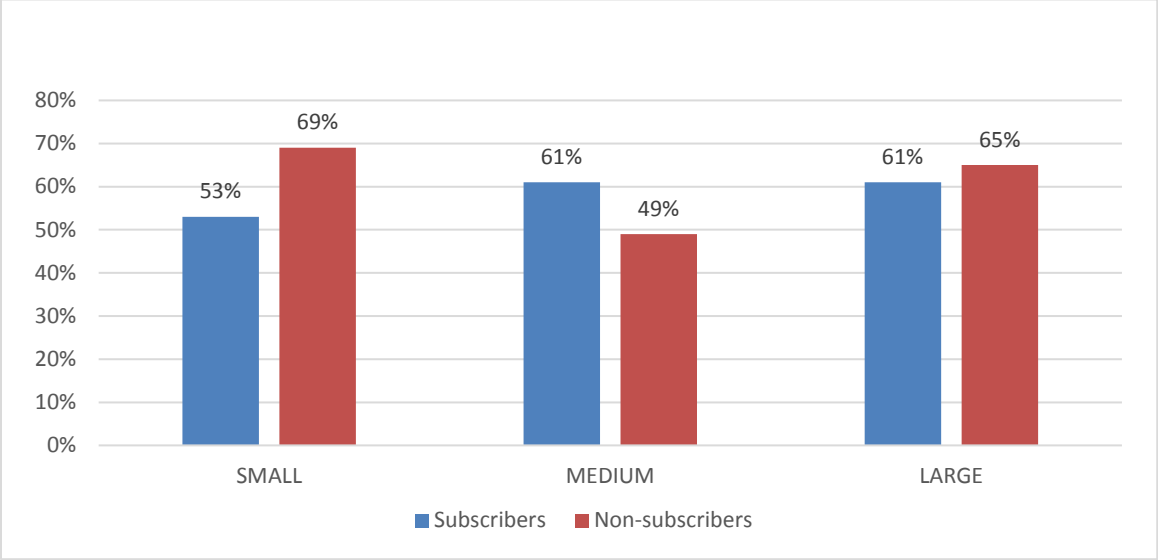
Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Overall, employer satisfaction levels vary by employer size. Gaps in satisfaction between non-subscribers and subscribers became more pronounced with the small employers (by 13 percentage points) than with large employers (by 4 percentage points). Sixty-five percent of large non-subscribers with 100 or more employees indicated that they were extremely or somewhat satisfied with their experience as non-subscribing employers, compared to 61 percent of large subscribers (see Figure 9.4).

While small and large non-subscribers experienced higher rates of satisfaction than subscribers of similar sizes, the results were reversed for medium-sized employers. About 61 percent of medium-sized subscribers reported that they were extremely or somewhat satisfied as compared to 49 percent of non-subscribers medium-sized employers.

Satisfaction alone, however, may not be the overriding factor in employers' decisions to be subscribers or non-subscribers in the workers' compensation system. Employers' access to certified networks and their premium experience appear to be a more decisive factors in determining subscription rates. Subscription rates appear to be more responsive to subscribers experience with premiums. The relatively high subscription rates in 2016 appear to coincide with the lowest premium rates.

Figure 9.4: Percentage of Employers that Indicated They Were Extremely or Somewhat Satisfied, by Employer Size



Source: Survey of Employer Participation in the Texas Workers' Compensation System, Public Policy Research Institute at Texas A&M University, and the Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Summary

Overall, the employer subscription rate remained essentially flat from 2012 to 2014, but experienced a steep increase (from 67 to 78 percent) in 2016, the highest subscription rate since this survey started in 1993. Meanwhile, the percentage of employees who work for subscribers increased slightly (from 80 to

82 percent). The disproportional increases between covered employers and employees are explained by the fact that subscription rate increases occurred more among smaller employers than large employers.

Although the subscription rate for employers increased, there is still a portion of the employee population (about 4 percent) that do not have any type of coverage, either through workers' compensation or through a non-subscriber occupational benefit plan, in the case of a work- related injury.

Subscribers cited the option to participate in health care networks and their concerns about lawsuits among their primary reasons for opting into the system. Premium experience, however, might also contribute to subscribing trends. While 35 percent of non-subscribers cited high premiums as their primary reason for opting out in 2006, that percentage fell to 18 in 2016, almost in line with the downward trend of premium rates. About 70 percent of subscribers continued to experience either premium decreases or no premium changes from previous years.

The 2016 employer survey also showed a low level of non-subscriber knowledge regarding their workers' compensation reporting requirements. Only about 14 percent of the non-subscriber employers reported that they were extremely knowledgeable about two of the key reporting requirements.