Texas Department of Insurance

Return-to-Work in the Texas Workers' Compensation System, 2006-2010

Fiscal Year 2012 Results

Workers' Compensation Research and Evaluation Group
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Key Findings

Initial RTW

- Initial Return-to-Work (RTW) rates have risen steadily from 75 percent for injuries sustained in 2006 to 81 percent for those in 2009, but have declined to 78 percent for 2010 injuries.
- There also appears to be some slight deterioration in employment beyond six months after the injury. All other injury year 2010 milestones-one year, two years, and three years-are lower than those of injury year 2009. [1]
- Injured employees who do not find employment within six months of their injury earn significantly less than injured employees who did find employment within six months of their injury.
- Injured employees who return to work within six months of their injury earn approximately $2,300 more per quarter than injured employees who do not, and return to pre-injury wages within one year.
- Injured employees, who do not return to work within six months of their injury, take over two years to return to pre-injury wages.
- When RTW rates are examined by type of income benefit, approximately 87 percent of injured employees who received Temporary Income Benefits (TIBs) returned to work within six months of their injury.
- Injured employees who received Impairment Income Benefits (IIBs), and those who received TIBs, IIBs and Supplementary Income Benefits (SIBs) returned to work at substantially lower rates, but their RTW rates did improve for injury year 2010 to 75 percent and 53 percent respectively.

Sustained RTW

- Similar to initial RTW, sustained RTW rates decreased from 76 percent for 2009 injuries to 72 percent for 2010 injuries.
- The results at the other milestones follow the same general pattern. Sustained RTW results for injury year 2010 are lower than the previous year by two to four percentage points, with the exception of sustained RTW within one year, which remained unchanged at 78 percent.
- Quarterly wage outcomes by the sustained RTW rate within six months show significant differences. Those who remained employed for two consecutive quarters after the injury quarter earn substantially more, and return to their pre-injury wages much sooner. Injured employees who did not retain employment do not return to pre-injury wages until three years after the injury.

[1] There are five periods of time, or milestones, after the injury at which RTW is measured: six months, one year, one and a half years, two years, and three years.

- Sustained RTW rates by income benefit type are lower than the results for initial employment, especially for SIBs cases. Thirty-four percent of employees injured in 2006 were employed for three consequtive quarters after the injury quarter. The highest rate for SIBs was 43 percent for injuries occurring during 2008, which declined to 27 percent during injury year 2010.

Median Days Away From Work

The number of days away from work for all claims has remained stable since injury year 2008, with a median value of 21 days, or about three weeks away from work. The number of days away from work in 2007 was 22 days.

RTW and Opioid Prescriptions

The analysis found that several demographic characteristics, such as job experience, age, and industry, are related to receiving opioid prescriptions. Opioids are narcotics that can help alleviate severe pain when used properly. Even when used as directed, there is about a 5 percent chance that the injured employee will develop an addiction disorder if the opioid prescription is taken over a one year period.[2]

For the group of injured employees who did not receive opioids, the median numbers of prescribed anti-inflammatory or muscle relaxant analgesics is zero, which indicates that very few prescriptions are dispensed. That group of injured employees is away from work for a median of 28 days.

Injured employees who are prescribed opioids receive three prescriptions, in addition to two prescriptions of anti-inflammatory and muscle relaxant prescriptions each. That group loses 43 days of work, compared to 28 days for injured employees not prescribed opioids. Approximately 85 percent of injured employees without an opioid prescription return to work within six months, while only 76 percent of those with at least one opioid prescription return to work within the same time frame.

[2] Nation Institute of Health. Opioids and Chronic Pain. Accessed on 10/4/2012. http://www.nlm.nih.gov/medlineplus/magazine/issues/spring11/articles/spring11pg9.html.

1. Introduction

House Bill (HB) 28 (78th Legislature, Third called session, 2003) created a new workers' compensation research function at the Texas Department of Insurance (TDI) by transferring the research function of the former Research and Oversight Council on Workers' Compensation (ROC) to the agency.

Texas Labor Code in Chapter 405 specifies that the Workers' Compensation Research and Evaluation Group (REG) is responsible for conducting professional studies and research on various system issues, including the delivery of benefits, litigation and controversy, insurance rates and rate-making procedures, rehabilitation and reemployment of injured employees, workplace health and safety issues, the quality and cost of medical benefits, and other matters relevant to the cost, quality, and operational effectiveness of the workers' compensation system.

House Bill 7 enacted by the 79th Legislature, Regular session, 2005 (HB 7)) included new Texas Labor Code Section 405.0026, which requires the Commissioner of Insurance to adopt an annual research agenda for the Workers' Compensation Research and Evaluation Group at the Texas Department of Insurance (TDI). Section 405.0026, also requires TDI to post a proposed research agenda in the Texas Register for public review and comment and requires the Commissioner of Insurance to hold a public hearing on the research agenda if requested by a member of the public.

In accordance with the Fiscal Year 2011 research agenda, REG conducted a study of RTW outcomes of Texas employees injured at work, which included a study of RTW and pharmaceutical drug use in the Texas workers' compensation system. That study found that 66 percent of injured employees who returned to work within six months received their prescriptions within one month of the injury, compared to 55 percent of those who did not return to work within that length of time. A higher percentage of injured employees in the latter group received opioid prescriptions from two months to one year after the injury date.

This Fiscal Year 2012 report on RTW continues the examination of opioid use in the Texas workers' compensation system. Specifically, this study will focus on the relationship between RTW, opioid prescription dispensation, and several important demographic factors.

2. Data and Methods

Data sources

- Quarterly wage data for years 2005–2011 are provided by the Texas Workforce Commission (TWC) for injury years 2006-2010
- Medical billing data for injury years 2006-2010 collected by Texas Department of Insurance, Division of Workers' Compensation (TDI-DWC)
- Injured employees income benefit, claim, and impairment rating data for injury years 2006-2010 collected by the TDI-DWC
- Pharmacy data for injury years 2006 – 2010, collected by TDI-DWC

Study Population

- The study population consists of employees injured from 2006 through 2010 who received Temporary Income Benefits (TIBs) as a result of their work-related injury.

RTW Measurement

- If there are wages in the quarter that Temporary Total Disability (TTD) benefits end, then the actual date that income benefits ended is considered the RTW date.
- If there are no wages in the quarter that TTD benefits end, then the next quarter with wages is considered the RTW quarter. The midpoint of that quarter is used to estimate the RTW date.
- If an injured employee had wages, in the first and second quarters after the injury, then the first quarter with wages is considered the RTW quarter. The midpoint of that quarter is used to estimate RTW date.
- If an injured employee had wages in the quarter after injury, but did not have two consecutive quarters of wages, the next quarter with wages is considered the RTW quarter. The midpoint of that quarter is used to estimate the RTW date.
- The number of days off work is the number of days between the injury date and the RTW date.

Initial RTW

The initial RTW rate is the percent of injured employees who returned to work for the first time after the injury. This figure is computed at five milestones after the work-related injury: six months; one year; one and one-half years; two years; and three years.

Sustained RTW

The sustained RTW rate is the percent of injured employees who returned to work and stayed employed for two or more consecutive quarters (nine months) after the work-related injury. This figure is computed at five milestones after the work-related injury: six months; one year; one and one-half years; two years; and three years.

Median Number of Days Away From Work

The median number of days away from work is calculated using the date of injury, the dates when income benefits begin and end, and quarterly wage data.

Data and Methods, Section 6

Study Population

The study population for this analysis is injured employees who received TIBS, but have not received any other income benefit payment, i.e., Impairment Income Benefits (IIBs), Supplemental Income Benefits (SIBs), Lifetime Income Benefits (LIBs), or Death Benefits (DBs). This population consists of injured employees whose experiences are less likely to be confounded by including injured employees with additional income benefit types. Confining the study population in this manner also provides an additional control for injury severity. In addition, only employees with back injuries are included, given that these are the most expensive claims in the system.

Injured employees must have more than seven days away from work (i.e., lost time), received no more than 104 weeks of TIBs, and have an impairment rating of "0" or no rating on record associated with the claim in the study. Only prescriptions within one year of the injury are used, since the vast majority of prescriptions are written within one year of injury.

Data Sources

- TDI-DWC pharmacy data, claims, benefits, and impairment rating databases
- TWC quarterly wage data.

Variables

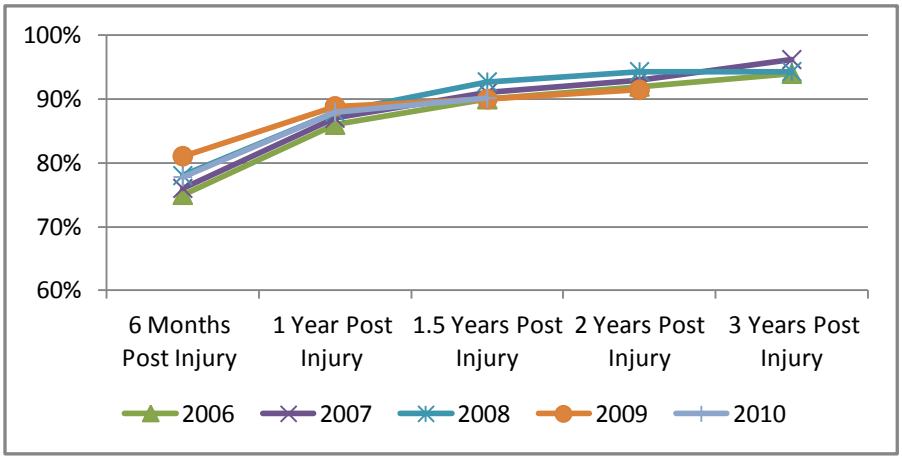
- Days to first prescription. The number of days from injury date to the earliest pharmacy prescription date.
- Number of lost work days. The number of days from the TIBs start date to the benefit end date.
- Gender: 1=female, 0=male.
- Age. Age at date of injury.
- Job experience. The number of years experience at the place of the injury.
- Industry. The two-digit North American Industrial Classification System (NAICS) code of the injured employee's employer at the date of the injury.
- Weekly wage. The average weekly wage of the injured employee.
- Weekly compensation rate. The weekly amount of TIBs benefits.
- Return-to-work within six months. The injured employee must have wages in at least one quarter of wages within the specified time frame.

3. Initial RTW Rates

Initial RTW Rate

Figure 3.1 presents initial RTW rates for injury years 2006 through 2010. Return to work within six months after injury rose steadily from 75 percent in 2006 to 81 percent in 2009, but declined to 87 percent in 2010. There also appears to be some slight deterioration in initial RTW beyond six months. All 2010 results, with the exception of 1.5 years after injury, are lower than those of 2009. Lower RTW rates values in more recent years could be influenced by the down turn in the U.S. economy, which began in late 2007 or early 2008.

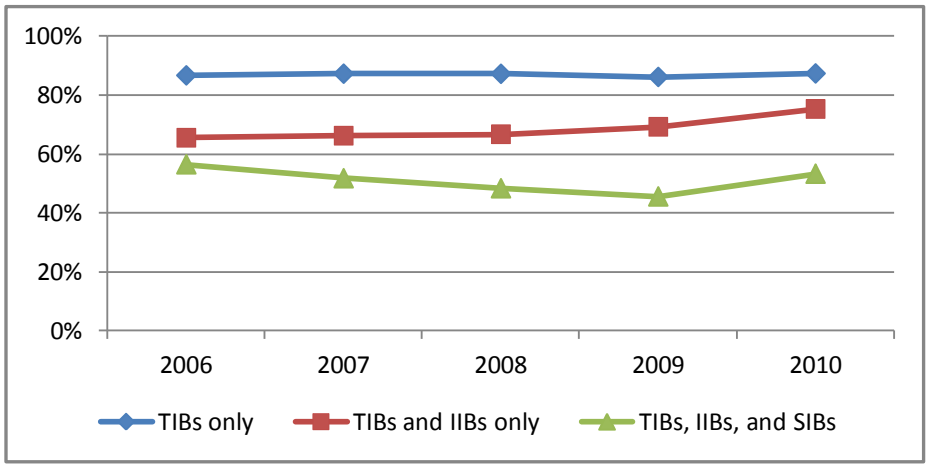
Figure 3.1. Initial RTW Rates, Injury Years 2006-2010



Initial RTW Rate Within Six Months by Injury Year and Benefit Type

The RTW rate within six months from injury date of TIBs only recipients remained relatively stable from injury year 2006 to 2010. Approximately 78 percent of employees injured during 2010 returned to work within six months. TIBs and IIBs only, and TIBs, IIBs, and SIBs recipients returned to work at lower rates, but their RTW rates did improve for injury year 2010 to 75 and 53 percent respectively (see Figure 3.2).

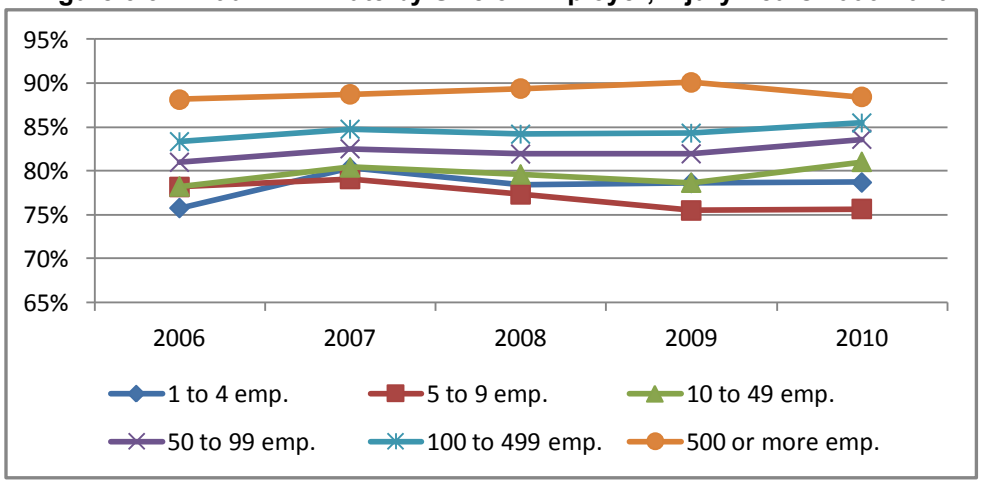
Figure 3.2. Initial RTW Rate Within Six Months by Benefit Type, Injury Years 2006-2010



Initial RTW Rate Within Six Months by Injury Year and Size of Employer

The largest employers (500 or more employees) have the highest RTW rates, followed by employers with 50 to 499 employees. RTW rates for the three largest employer groups range from 82 to 89 percent. Smaller employers have lower RTW rates, ranging from 79 to 81 percent. All but the largest employers of the group have increased RTW rates or remained stable since injury year 2009 (see Figure 3.3).

Figure 3.3. Initial RTW Rate by Size of Employer, Injury Years 2006-2010



Initial RTW Rate Within Six Months by Injury Year and Body Group

There are slight improvements in RTW for several body groups during the period of the analysis. For example, the RTW rates of employees with back injuries or neck injuries rose from 79 percent to approximately 81 percent from injury year 2006 to 2010. Employees sustaining

injuries to the nervous system, with an initial RTW rate in injury year 2010 of 76 percent, have the lowest RTW rates for most of the period. The RTW rate is highest for upper extremity injuries, but only marginally so (see Table 3.1).

Table 3.1. Initial RTW Rate by Body Group, Injury Years 2006-2010

Body group	2006	2007	2008	2009	2010
Back	79%	79%	80%	80%	81%
Knee	83%	84%	83%	85%	85%
Lower extremity	83%	84%	84%	84%	83%
Neck	77%	78%	80%	79%	80%
Nervous system	78%	74%	77%	71%	76%
Shoulder	83%	83%	83%	83%	84%
Upper extremity	84%	85%	86%	85%	85%

Initial RTW Rate Within Six Months by Injury Year and Industry

Injured employees in the Construction industry, with median RTW rates of approximately 75 percent for the period, have the lowest RTW rates. Public Administration employees have the highest RTW rates of all industries. Results by industry can be found in Appendix A, Table A6.

Initial RTW Rate Within Six Months by Injury Year and Region

The Central region consistently has the highest initial RTW rates of all five regions. The North and South regions appear to be increasing their initial RTW rate, although the increases appear to be small. The lowest initial RTW rates are shared by the East and West regions over injury years 2006–2010. The initial RTW rate of the East region may be deteriorating, although the decline is relatively small (see Table 3.2).

Table 3.2. Initial RTW Rates by Region, Injury Years 2006-2010

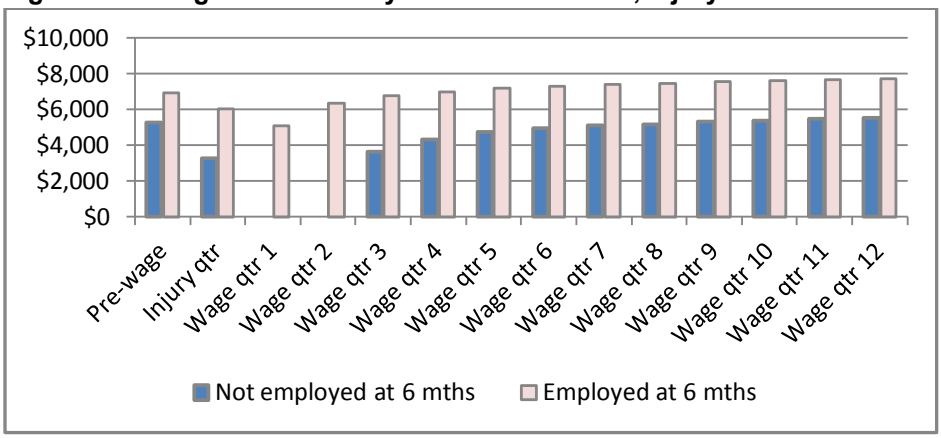
Region	2006	2007	2008	2009	2010
North	82%	83%	83%	83%	84%
Central	85%	86%	85%	86%	86%
East	81%	81%	80%	80%	80%
South	81%	82%	83%	83%	83%
West	80%	81%	80%	81%	80%

Wage Outcomes by Status of Initial RTW Rate Within Six Months

Figure 3.4 presents wage outcomes by employment within six months of the injury. Clearly, those who do not find employment within six months of the injury earn significantly less during

every quarter after the injury. Injured employees who return to work within six months of the injury earn approximately $2,300 more per quarter, and return to pre-injury wages within one year. Injured employees who do not meet the criteria for initial RTW take over two years to return to pre-injury wages and earn substantially less than those employed within one year.

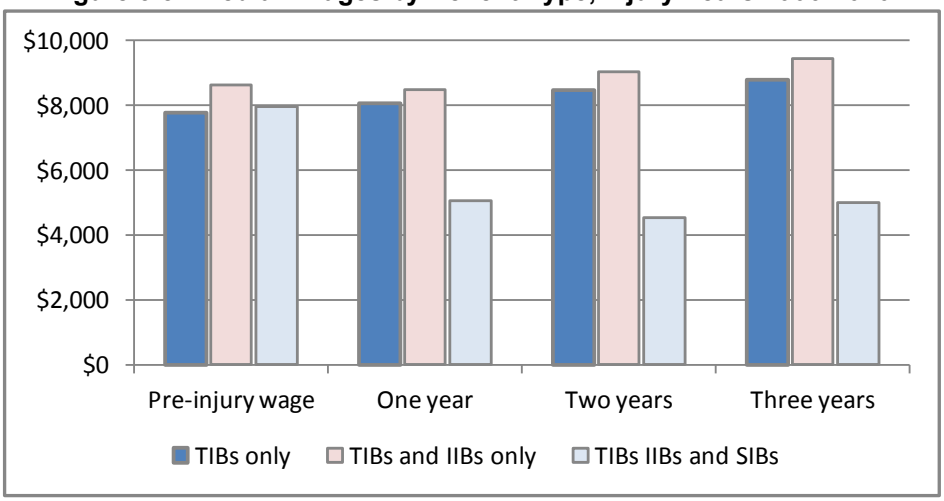
Figure 3.4. Wage Outcomes by Initial RTW Status, Injury Years 2006-2010



Median Quarterly Wages by Benefit Type

Injured employees who receive TIBs, as well as those who go on to receive IIBs because of permanent impairment, return to pre-injury wage levels earlier than injured employees who receive TIBs, IIBs, and SIBs.

Figure 3.5. Median Wages by Benefit Type, Injury Years 2006-2010



Injured employees receiving TIBs benefits only begin earning equal or higher wages per quarter than their pre-injury wages after only one year, and typically exceed those wage levels within

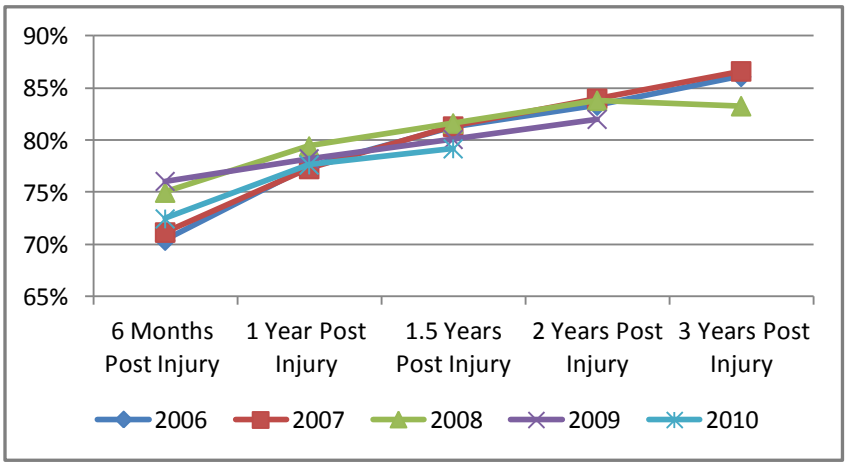
three years. Injured employees with permanent impairment return to pre-injury wages within two years. Prior to their injuries, injured employees receiving SIBs tend to earn roughly the same quarterly wages as TIBs-only cases, but generally fail to return to pre-injury wages within three years. This is not surprising, given that SIBs recipients are those with more severe injuries which result in impairment ratings of 15 percent or higher. At the three-year mark, the quarterly wages of SIBs cases drop from $7,978 to $4,999, a decrease of 37 percent (see Figure 3.5).

Injured employees who receive SIBs benefits have sustained serious injuries, which often limit access to higher-paying jobs after their workplace injury. SIBs recipients in many cases are unable to work 40 hours a week, relying instead on reduced hours, or modified duty, both of which lead to lower wages. Not surprisingly, as Figure 3.5 shows, returning to pre-injury wages for SIBs recipients is a difficult goal to attain.

4. Sustained RTW rates

As a reminder of the definition of sustained RTW, please note that sustained RTW means that the injured employee returned to work within two quarters of the injury quarter and remained at work for three consecutive quarters. Similar to initial RTW, sustained RTW rates within six months after the injury quarter declined from 76 percent for injury year 2009 to 72 percent for injury year 2010. The results at the other milestones follow the same general pattern. The sustained RTW rates for injury year 2010 are generally lower than the findings for injury year 2009 by between two to four percentage points. One exception to the rate changes is that the one-year sustained RTW rate remained flat at 78 percent (see Figure 4.1).

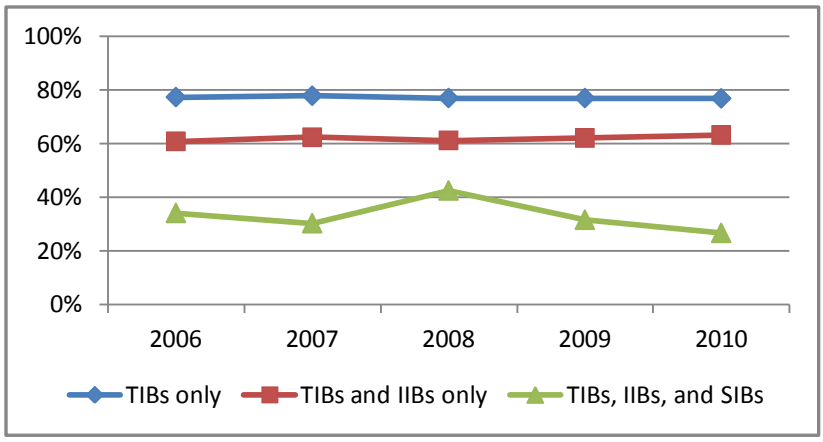
Figure 4.1. Sustained RTW Rates, Injury Years 2006-2010



Sustained RTW Rate Within Six Months by Injury Year and Benefit Type

While the patterns of sustained RTW rates by benefit type are similar to those for initial RTW rates, specific sustained RTW rates are lower, especially for SIBs cases. As seen in Figure 4.2, 34 percent of employees receiving SIBs, injured in 2006, had returned to work during the first two quarters after the injury quarter. The highest rate for SIBs was 43 percent for injury year 2008 but by injury year 2010 the rate declined to 27 percent.

Figure 4.2. Sustained RTW Rate by Benefit Type, Injury Years 2006-2010



Sustained RTW Rate Within Six Months by Injury Year and Body Group

Table 4.1 presents sustained RTW rates by injury year and body group. Employees with injuries to the nervous system have the lowest sustained RTW rates of all body groups. For injuries sustained in 2010, the sustained RTW rate for that body group was 68 percent. The sustained RTW rate for neck injuries is also relatively low, with percentages that range from 70 to 72 percent. Several groups have high RTW rates. Injuries to the knee and the upper and lower extremities, for example, have rates of over 80 percent.

Table 4.1. Sustained RTW Rate by Body Group, Injury Years 2006-2010

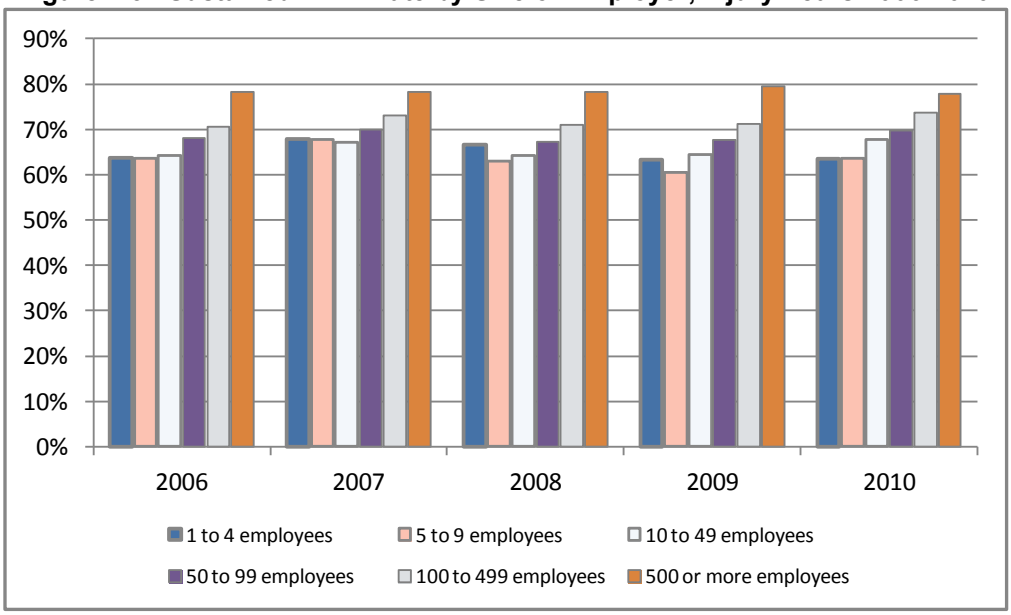
Body group	2006	2007	2008	2009	2010
Back	72%	72%	69%	71%	73%
Knee	82%	82%	80%	81%	81%
Lower extremities	81%	82%	79%	80%	80%
Neck	71%	72%	71%	70%	70%
Nervous system	64%	67%	65%	61%	68%
Not coded	74%	73%	71%	70%	71%
Other	81%	81%	78%	79%	79%
Shoulder	78%	79%	76%	77%	77%
Upper extremities	82%	82%	80%	80%	81%

Sustained RTW Rate Within Six Months by Injury Year and Size of Employer

Sustained RTW rates appear to be associated with employer size. Smaller employers have the lowest sustained RTW rates for the period. During injury year 2010, employers with less than 10 employees had sustained RTW rates of 64 percent. In comparison, employers with 500 or more employees had sustained RTW rates of 78 percent during injury year 2010 (see Figure 4.3). The

lower sustained RTW of smaller employers could be because smaller employers were affected more by economic conditions during the 2007–2008 recession, and may have been faced with larger employment cutbacks during those years.

Figure 4.3. Sustained RTW Rate by Size of Employer, Injury Years 2006-2010



Sustained RTW Rate Within Six Months by Injury Year and Industry

The pattern of sustained RTW rates by industry is also similar to initial RTW rates by industry. Public administration, with typical results in the 90 percent range, have the highest RTW rates of all industries. The lowest rates are in the agriculture, forestry, and fishing; construction; and administrative support, waste management, and remediation services industries. Results by industry can be found in Appendix A, Table A13.

Sustained RTW Rate Within Six Months by Injury Year and Region

The patterns of sustained RTW rates by region generally follow those of initial RTW rates. The Central region has the highest rates, although the differences between that region and the others is not as stark as those for initial RTW rates. The East and West regions generally have the lowest rates, however, they are more in line with the higher sustained RTW rates for the time period (see table 4.2).

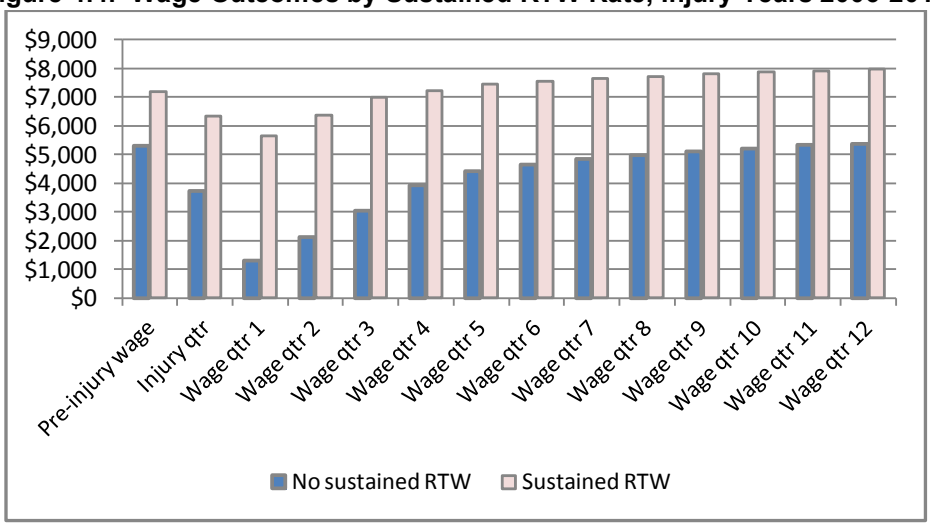
Table 4.2. Sustained RTW Rate by Region, Injury Years 2006 – 2010.

Region	2006	2007	2008	2009	2010
North	79%	80%	77%	78%	79%
Central	81%	80%	77%	79%	80%
East	76%	75%	74%	73%	73%
South	77%	78%	76%	77%	78%
West	78%	78%	73%	76%	74%

Wage Outcomes by Status of Sustained RTW Rate Within Six Months

Quarterly wage outcomes by sustained RTW show significant differences between injured employees. According to Figure 4.4, injured employees who remained employed for two consecutive quarters after the injury quarter earned substantially more, and returned to pre-injury wage levels earlier than those who did not. Returning to pre-injury wages for those who didn't retain employment occurred approximately three years after the injury.

Figure 4.4. Wage Outcomes by Sustained RTW Rate, Injury Years 2006-2010

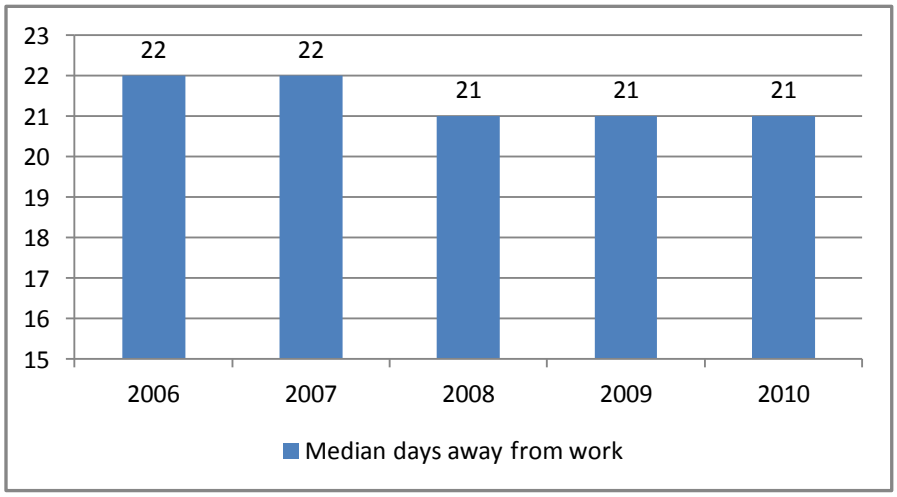


5. Days Away from Work

Median Days Away From Work by Injury Year

The median number of days away from work has stabilized for injury years 2008 through 2010. TIBs recipients injured in 2008 through 2010 lost a median value of 21 days of work, while employees injured in 2006 and 2007 lost 22 days of work (see Figure 5.1).

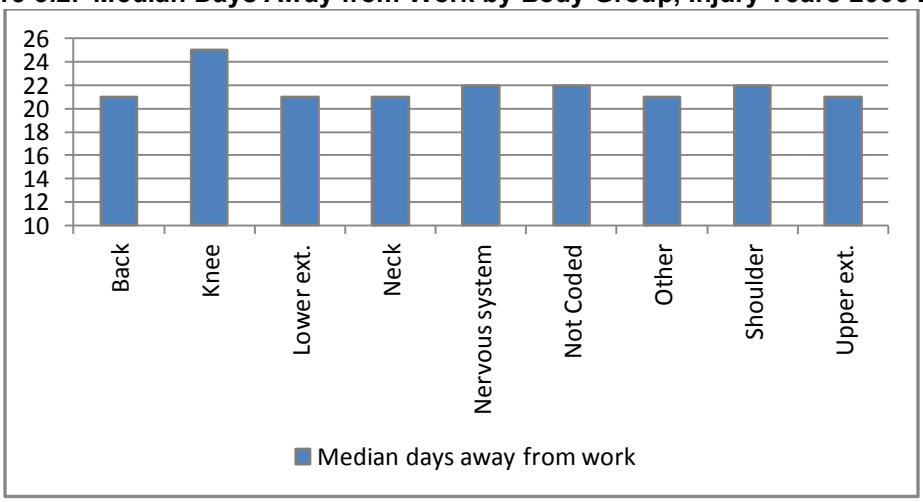
Figure 5.1. Median Days Away from Work, Injury Years 2006-2010



Median Days Away From Work by Body Group

The length of time away from work is similar for each body group. Most groups lose three weeks of work. The exception is the knee group, which has 25 days of lost work (see Figure 5.2).

Figure 5.2. Median Days Away from Work by Body Group, Injury Years 2006-2010



6. Trends in Opioid Use in Workers' Compensation

Trends In Opioid Use In Texas

According to the Workers Compensation Research Institute (WCRI), Texas, along with several other states, has a higher than average proportion of nonsurgical cases with long-term narcotic use. WCRI's study is based on 2006 injuries and prescriptions filled through March 2008. [3]

Texas, however, has made progress in reducing the cost and prevalence of opioid use in the Texas workers' compensation system since that study. A preliminary study conducted by the REG shows that prescriptions dispensed to injured employees decreased by 10 percent and the cost associated with opioid prescriptions has decreased by 17 percent.[4] This study compares prescriptions dispensed between September and November 2011 with the same period in 2010.

Purpose of The Study

While Texas' experience with opioid use appears to be improving, injured employees using opioids are still at risk of delayed recovery. Longer recovery periods translate into more days away from work, which in turn means lower wages than those earned prior to the injury.

This study presents an exploratory examination of how opioid use is related to an array of injured employee characteristics. The primary purpose of this study, however, is to shed light on the extent to which opioid use (among TIBs recipients with back injuries) is associated with the number of days away from work, and return-to-work within six months following injury.

Analysis

Figure 6.1 shows the frequency at which injured employees are prescribed opioids. Frequencies of two additional analgesics, muscle relaxants and anti-inflammatory prescriptions are included as a frame of reference. Overall, 41 percent of injured employees in the study were prescribed at least one opioid drug. That result is lower than the findings of a national study, which found that 55 to 85 percent of injured employees received at least one prescription.[5] Approximately 50 percent of injured employees are prescribed muscle relaxants and anti-inflammatory drugs.

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[3] Workers' Compensation Research Institute. 2012. "2012 Annual Report and Research Review". Workers' Compensation Research Institute. http://www.wcrinet.org/studies/public/books/WCRI_2012_Annual_Report.pdf. accessed July 19, 2012.

[4] "Fewer Texas Workers' Compensation Claims Include Opioids and Not-Recommended Prescriptions". National Safety, Council, http://www.tdi.texas.gov/news/2012/news201225.html, accessed July 19, 2012.

[5] Workers' Compensation Research Institute. 2012. "2012 Annual Report and Research Review". Workers' Compensation Research Institute. http://www.wcrinet.org/studies/public/books/WCRI_2012_Annual_Report.pdf. accessed July 19, 2012.

Figure 6.1. Frequency of Prescriptions by Drug Type, Injury Years 2006-2010

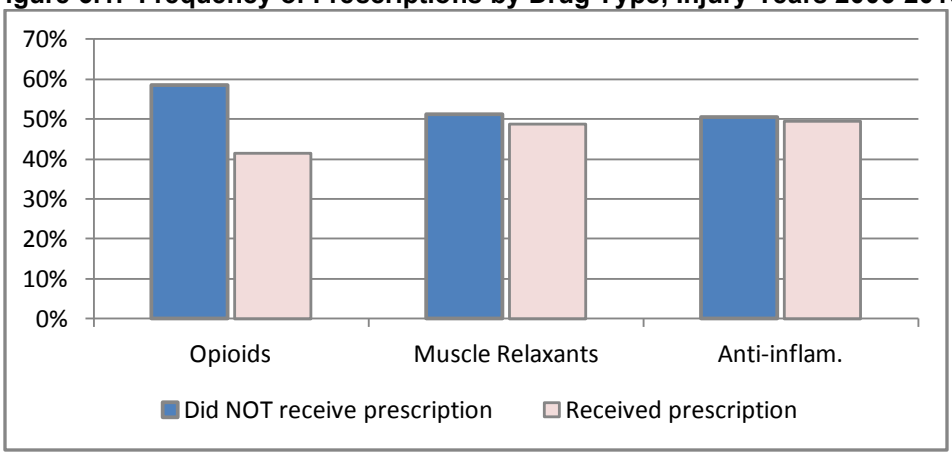


Table 6.1 presents information on the frequency of opioid use by injured employee characteristics.[6] The highest and lowest percentages of each characteristic are presented in bold, italicized font. Only those industries in which 50 percent or more injured employees received an opioid prescription are shown, as well as the industry with the lowest usage. All variables, with the exception of marital status, are statistically associated with opioid prescription use status. Approximately 43 percent of female injured employees, as opposed to 41 percent of male injured employees are prescribed at least one opioid.

In terms of tenure, injured employees with the least time on the job have the highest percentage of opioid prescriptions (see Table 6.1). Forty-six percent of injured employees with less than a year of experience receive at least one opioid prescription, while the remaining 54 percent of this group have no opioid prescriptions. Injured employees with 20 or more years of time on the job have the lowest percentage (34 percent) with opioid prescriptions and the highest percentage (66 percent) without opioid prescriptions. In terms of share among all tenure groups, the low-tenure injured employees (3,961 claims) represent the largest share (46 percent) of all injured employees with opioid prescriptions. The tenure group with 20 or more years on the job (288 claims) represent the smallest share (3 percent) of all injured employees with opioid prescriptions.

In terms of age, the percentage of injured employees with opioid prescriptions range from 38 percent for those 16 to 29 years of age, to apprioximately 45 percent for those 40 to 49 years old (see Table 6.1). Not surprisingly, younger injured employees compise the majority of claims with opioid prescriptions. The two youngest groups with ages ranging from 16 to 39 (4,676 claims) represent 53 percent of these injured employees. Injured employees 50 years and above represent 19 percent of injured employees with prescriptions.

[6] It is important to note that additional variables associated with increased recovery periods found in other studies are not available in the data used in this study.

Thirty-nine percent of injured employees in the information industry received opioid prescriptions, the lowest of all industries, while the highest percentage of injured employees (54 percent) were working in the arts, entertainment, and recreation industry. Fifty percent or more injured employees in seven industries received opioid prescriptions: agriculture, forestry, fishing and hunting; mining; construction; management of companies or enterprises; educational services; and arts, entertainment, and recreation. Injured employees who received at least one prescription earned slightly less money per week, and correspondingly lower TIBs compensation rate than those who have not.

Table 6.1. Frequency of Opioid Use by Selected Characteristics, Injury Years 2006-2010

Marital status[7]	**No opioids**		**Opioids**		**Total**
Single	4,880	56.8%	3,715	***43.2%***	8,595
Unknown	1,008	59.8%	679	40.2%	1,687
Married	5837	58.5%	4,134	41.5%	9,971
Total	11,725	57.9%	8,528	42.1%	20,253
Gender	**No opioids**		**Opioids**		**Total**
Female	3694	56.7%	2,823	***43.3%***	6,517
Male	8789	59.4%	6,007	40.6%	14,796
Total	12484	58.6%	8,830	41.4%	21,314
Job experience	**No opioids**		**Opioids**		**Total**
Less than 1 year	4,682	54.2%	3,961	***45.8%***	8,643
1 to 4 years	4,142	59.6%	2,803	40.4%	6,945
5 to 9 years	1,589	62.6%	948	37.4%	2,537
10 to 14 years	745	65.0%	402	35.0%	1,147
15 to 19 years	384	65.8%	200	34.2%	584
20 or more years	556	65.9%	288	***34.1%***	844
Total	12,098	58.4%	8,602	41.6%	20,700
Age	**No opioids**		**Opioids**		**Total**
16-29	3,499	62.0%	2,144	***38.0%***	5,643
30-39	3,560	58.4%	2,532	41.6%	6,092
40-49	3,087	55.5%	2,473	***44.5%***	5,560
50 and above	2,382	58.2%	1,708	41.8%	4,090
Total	12,528	58.6%	8,857	41.4%	21,385
Selected Industry Groups (Two-digit NAICS code)	**No opioids**		**Opioids**		**Total**
Agri., Forest., Fish., and Hunt.	90	49.2%	93	50.8%	183
Mining	253	48.8%	265	51.2%	518
Construction	1,013	48.7%	1,069	51.3%	2,082
Information	187	60.9%	120	***39.1%***	307
Mgmt of Co. and Enterprises	19	48.7%	20	51.3%	39
Educational Services	82	49.4%	84	50.6%	166
Arts, Enter., and Recreation	58	46.0%	68	***54.0%***	126
Unknown	308	48.9%	322	51.1%	630
Median weekly wage	—	$506	—	$499	—
Weekly benefit amount	—	$327	—	$316	—

[7] Missing data in each characteristic result in in different total numbers of workers for each characteristic in table 6.1.

Table 6.2 presents results regarding days away from work, the number of prescriptions, and the number of days to first prescription date for opioid and non-opioid medication. All findings are based on prescriptions dispensed within one year of date of injury. Median values are reported because of the presence of outliers. Extremely high or low values exert a stronger than warranted influence on the mean, which can result in misleading findings.

Table 6.2. Opioid, Anti-Inflammatory, and Muscle Relaxant Use, Injury Years 2006-2010

Variable	No opioids	At least one opioid
Number of days away from work	28	43
Number of opioid prescriptions	0	3
Number of days to first opioid prescription	--	32
Number of muscle relaxant prescriptions	0	2
Number of days to first muscle relaxant prescription	11	27
Number of anti-inflammatory prescriptions	0	2
Number of days to first anti-inflammatory prescription	13	32

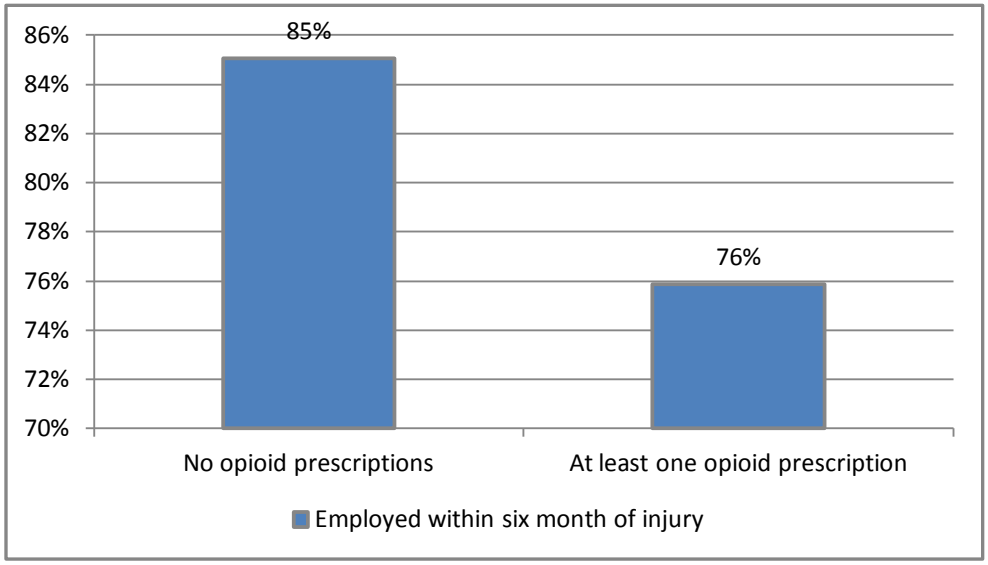
Note: The zero result for muscle relaxants and anti-inflammatory prescriptions in the No Opioid column is the median. Injured employees above the median had prescriptions that result in the positive numbers of days to first prescriscription.

Patterns of prescription drug use differ markedly between groups. Injured employees who were not dispensed opioids also receive fewer muscle relaxant or anti-inflammatory prescriptions, and are dispensed those medications much earlier, typically within 11 and 13 days after injury, respectively. The median numbers of prescribed anti-inflammatory or muscle relaxant analgesics is zero, indicating that most injured employees who are not prescribed opioids are not prescribed additional analgesics as well. That group of injured employees loses approximately 28 days, or four weeks, of work during the recovery period.

Those findings stand in contrast to injured employees who are prescribed opioids. That group of injured employees is on average prescribed opioids three times during the first year, and two prescriptions each of the other analgesics. Unlike the non-opioid group, injured employees in the opioid group are not prescribed all three analgesics until approximately one month following the injury.

Opioid medication appears to be associated with when injured employees return to work. Injured employees with opioid prescriptions tend to lose 54 percent more time from work (43 days) than those with no opioid prescriptions (28 days). Looking at return to work within one-half year complements that perspective. Figure 6.2 demonstrates that there are significant differences between the two injured employee categories. Approximately 85 percent of injured employees without an opioid prescription return to work within six months, while only 76 percent of those with at least one opoid prescription return to work within the same time frame.

Figure 6.2. Initial RTW Rate Within Six Months by Prescriptions Status, Injury Years 2006-2010



Appendix A. Data Used to Construct Charts

Table A1. Initial RTW Rate, Injury Years 2006-2010

Injury Year	6 Months Post Injury	1 Year Post Injury	1.5 Years Post Injury	2 Years Post Injury	3 Years Post Injury
2006	75%	86%	90%	92%	94%
2007	76%	87%	91%	93%	96%
2008	78%	88%	93%	94%	94%
2009	81%	89%	90%	91%	
2010	78%	88%	90%		

Table A2. Initial RTW Rate Within Six Months by Benefit Type, Injury Years 2006-2010

Benefit Type	2006	2007	2008	2009	2010
TIBs only	87%	87%	87%	86%	87%
TIBs and IIBs only	66%	66%	67%	69%	75%
TIBs, IIBs, and SIBs	57%	52%	48%	46%	53%

Table A3. Initial RTW Rate Within Six Months by Size of Employer, Injury Years 2006-2010

Employer Size	2006	2007	2008	2009	2010
1 to 4 emp.	76%	80%	78%	79%	79%
5 to 9 emp.	78%	79%	77%	75%	76%
10 to 49 emp.	78%	80%	80%	79%	81%
50 to 99 emp.	81%	83%	82%	82%	84%
100 to 499 emp.	83%	85%	84%	84%	85%
500 or more emp.	88%	89%	89%	90%	88%

Table A4. Initial RTW Rate Within Six Months and Wage Outcomes, Injury Years 2006-2010

Wage Quarter	Not employed at 6 mths	Employed at 6 mths
Pre-wage	$5,300	$6,936
Injury qtr	$3,302	$6,055
Wage qtr 1	$0	$5,109
Wage qtr 2	$0	$6,341
Wage qtr 3	$3,629	$6,805
Wage qtr 4	$4,322	$7,012
Wage qtr 5	$4,730	$7,230
Wage qtr 6	$4,957	$7,320
Wage qtr 7	$5,136	$7,410
Wage qtr 8	$5,201	$7,461
Wage qtr 9	$5,335	$7,561
Wage qtr 10	$5,411	$7,611
Wage qtr 11	$5,519	$7,673
Wage qtr 12	$5,557	$7,719

Table A5. Initial RTW Within Six Months by Region, Injury Years 2006-2010

Region	2006	2007	2008	2009	2010
North	82%	83%	83%	83%	84%
Central	85%	86%	85%	86%	86%
East	81%	81%	80%	80%	80%
South	81%	82%	83%	83%	83%
West	80%	81%	80%	81%	80%

Table A6. Initial RTW Rate Within Six Months by Industry, Injury Years 2006-2010

Two-digit NAICS industry code	2006	2007	2008	2009	2010
Agr. Forestry Fishing Hunting	76.2%	76.1%	75.4%	74.8%	79.5%
Mining	76.9%	78.0%	77.1%	73.1%	76.9%
Utilities	92.9%	93.6%	93.0%	94.9%	93.7%
Construction	74.4%	75.0%	75.8%	73.7%	75.5%
Manufacturing	87.1%	88.1%	87.6%	87.3%	87.9%
Wholesale Trade	83.5%	87.3%	88.4%	86.6%	88.6%
Retail Trade	85.7%	87.7%	88.0%	87.7%	87.9%
Transportation and Warehousing	89.5%	89.3%	86.7%	86.6%	88.4%
Information	93.0%	95.0%	94.0%	93.1%	93.1%
Finance and Insurance	93.0%	95.0%	93.7%	91.5%	92.9%
Real Estate and Rental and Leasing	80.3%	81.2%	83.6%	82.1%	84.8%
Professional Sci. Tech. Services	81.4%	85.4%	82.3%	82.9%	84.3%
Management of Companies and Enterprises	80.6%	86.1%	83.5%	91.2%	94.6%
Adm., Support, Waste Mgmt, Rem. Services	74.2%	75.1%	75.6%	77.7%	77.2%
Educational Services	93.2%	92.7%	94.3%	93.9%	93.4%
Health Care and Social Assistance	89.8%	90.8%	90.4%	91.8%	89.7%
Arts, Entertainment, and Recreation	85.0%	84.8%	84.0%	86.6%	86.5%
Accommodation and Food Services	85.0%	85.8%	85.0%	86.9%	86.9%
Other Services (except Public Administration)	81.9%	86.6%	84.5%	82.4%	81.8%
Public Administration	94.9%	95.8%	95.6%	95.4%	95.7%

Table A7. Median Quarterly Wages by Benefit Type, Injury Years 2006-2010

Benefit type	Pre-injury wage	One year	Two years	Three years
TIBs only	$7,785	$8,054	$8,461	$8,786
TIBs and IIBs only	$8,636	$8,486	$9,028	$9,446
TIBs IIBs and SIBs	$7,978	$5,050	$4,548	$4,999

Table A8. Sustained RTW Rate Within Six Months, Injury Years 2006-2010

Injury Year	6 Months Post Injury	1 Year Post Injury	1.5 Years Post Injury	2 Years Post Injury	3 Years Post Injury
2006	70%	77%	81%	83%	86%
2007	71%	77%	81%	84%	87%
2008	75%	79%	82%	84%	83%
2009	76%	78%	80%	82%	
2010	72%	78%	79%		

Table A9. Sustained RTW Rate Within Six Months by Benefit Type, Injury Years 2006-2010

Benefit Type	2006	2007	2008	2009	2010
TIBs only	77%	78%	77%	77%	77%
TIBs and IIBs only	61%	62%	61%	62%	63%
TIBs, IIBs, and SIBs	34%	30%	43%	32%	27%

Table A10. Sustained RTW Rate Within Six Months by Size of Employer, Injury Years 2006-2010

Employer Size	2006	2007	2008	2009	2010
1 to 4 employees	64%	68%	67%	63%	64%
5 to 9 employees	64%	68%	63%	60%	64%
10 to 49 employees	64%	67%	64%	64%	68%
50 to 99 employees	68%	70%	67%	68%	70%
100 to 499 employees	71%	73%	71%	71%	74%
500 or more employees	78%	78%	78%	79%	78%

Table A11. Sustained RTW Rate Within Six Months and Wage Outcomes, Injury Years 2006-2010

Wage quarter	No sustained RTW within 6 mths	Sustained RTW within 6 mths
Pre-wage	$5,303	$7,203
Injury qtr	$3,738	$6,327
Wage qtr 1	$1,285	$5,637
Wage qtr 2	$2,122	$6,375
Wage qtr 3	$3,048	$7,001
Wage qtr 4	$3,930	$7,232
Wage qtr 5	$4,408	$7,458
Wage qtr 6	$4,648	$7,554
Wage qtr 7	$4,861	$7,653
Wage qtr 8	$4,976	$7,705
Wage qtr 9	$5,102	$7,818
Wage qtr 10	$5,202	$7,868
Wage qtr 11	$5,327	$7,929
Wage qtr 12	$5,382	$7,984

Table A12. Sustained RTW Rate Within Six Months by Region, Injury Years 2006-2010

Region	2006	2007	2008	2009	2010
North	79%	80%	77%	78%	79%
Central	81%	80%	77%	79%	80%
East	76%	75%	74%	73%	73%
South	77%	78%	76%	77%	78%
West	78%	78%	73%	76%	74%

Table A13. Sustained RTW Rate Within Six Months by Industry, Injury Years 2006-2010

Two-digit NAICS code	2006	2007	2008	2009	2010
Agr., Forestry, Fishing, and Hunting	61%	63%	57%	60%	66%
Mining	66%	65%	59%	57%	64%
Utilities	85%	86%	89%	89%	90%
Construction	60%	61%	59%	56%	60%
Manufacturing	77%	78%	74%	75%	77%
Wholesale Trade	71%	77%	76%	76%	79%
Retail Trade	73%	76%	75%	74%	75%
Transportation and Warehousing	81%	81%	77%	77%	79%
Information	85%	88%	84%	84%	83%
Finance and Insurance	85%	86%	85%	84%	85%
Real Estate and Rental and Leasing	67%	70%	69%	66%	69%
Professional Sci. Tech. Services	70%	73%	68%	70%	72%
Management of Companies and Enterprises	71%	78%	70%	75%	82%
Admin., Support, Waste Mgmt, Rem. Svces	59%	59%	58%	59%	60%
Educational Services	85%	83%	87%	86%	86%
Health Care and Social Assistance	79%	80%	78%	81%	78%
Arts, Entertainment, and Recreation	68%	72%	63%	68%	71%
Accommodation and Food Services	70%	72%	70%	73%	73%
Other Services (except Public Administration)	67%	73%	71%	70%	68%
Public Administration	88%	89%	89%	89%	90%

Texas Department of Insurance
Workers' Compensation
Research and Evaluation Group

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Texas Department of Insurance Website:
http://www.tdi.texas.gov/wc/regulation/roc/

Per Chapter 405 of the *Texas Labor Code*, the Workers' Compensation Research and Evaluation Group (REG) at the Texas Department of Insurance is responsible for conducting professional studies and research on various system issues, including:

- the delivery of benefits
- litigation and controversy related to workers' compensation
- insurance rates and rate-making procedures
- rehabilitation and reemployment of injured employees
- the quality and cost of medical benefits
- employer participation in the workers' compensation system
- employment health and safety issues, and
- other matters relevant to the cost, quality, and operational effectiveness of the workers' compensation system.