



Workers Compensation Temporary Total Disability Indemnity Benefit Duration— 2012 Update

KEY FINDINGS

Our previous study¹ found that the average duration of Temporary Total Disability (TTD) indemnity benefits² began to increase at the onset of the recent recession, and that the rate of increase had moderated for injuries occurring during the first six months of 2010. Using an additional 12 months of reported data, we find that this more moderate rate of increase continues for injuries occurring through the first 6 months of 2011.

We estimate that the ultimate mean duration of TTD indemnity benefits rose from 130 days for Accident Year 2005 to 147 days for Accident Year 2009, and rose again to 149 days for claims in the first half of Accident Year 2011. The national unemployment rate deteriorated from 4.6% in December 2007 to 8.9% in December 2011.³

New analyses look at TTD indemnity benefit duration by nature of injury, by injured part of body, and whether or not the claimant is prescribed an opioid pain medication. Generally, durations for given natures of injury or parts of body follow the countrywide pattern, but there are some notable exceptions. Duration for claims with prescribed opioid pain medication is clearly higher than for claims without opioids prescribed.

STUDY DESIGN

Data for this study includes claims with injury dates from January 1, 1998 through June 30, 2011 for which TTD indemnity benefits have been paid.⁴ This adds 12 months of experience beyond that used in our prior TTD duration study.

Countrywide estimates in this study are based on data for 46 jurisdictions—all jurisdictions except ND, OH, WA, WV, and WY. Our previous studies were based on data for 37 jurisdictions. This study also includes large deductible and self-insured claims, which our previous studies did not. While the numbers of states and types of claim included have been expanded, overall patterns of duration increases and decreases in this study are similar to those found in previous studies.

The duration of TTD indemnity benefits is determined by adding the number of distinct compensated days reported on indemnity payment transactions. Lump-sum settlements have been included where the compensated days were listed as part of the payment. If a settlement transaction only included a single covered day, then only that one day was included as part of the claim duration.

¹ “Workers Compensation Temporary Total Disability Indemnity Benefit Duration 2011 Update,” NCCI Research on ncci.com, April 2012

² Temporary Total Disability indemnity benefits are paid to injured workers to replace wages—and other costs such as vocational rehabilitation—while the claimant is recovering from a work-related injury or illness and is not able to work. Duration is the number of compensated days of lost wages.

³ Bureau of Labor Statistics.

⁴ The data, licensed to NCCI, is a transactional level claims sample provided by carriers.

RECENT TRENDS IN COUNTRYWIDE TTD INDEMNITY BENEFIT DURATION

Estimates of ultimate TTD indemnity benefits by accident year are shown in Exhibit 1. Projected ultimate duration increased sharply between Accident Year 2005 and Accident Year 2009, and more moderately through the first half of Accident Year 2011.

Actuarial projections often use recent history as a starting point for forecasting the future. In this case, we need to forecast the number of days of temporary disability that claimants will have subsequent to our evaluation date (June 30, 2011). Common choices of a historical base would be a three-year average, two-year average, or the latest change in TTD indemnity benefit duration from one claim maturity to the next. We have selected the latest change as the best estimate because it is most responsive to the changing forces driving the development during and following the recent recession.

Exhibit 1

Ultimate Temporary Total Indemnity Benefit Duration

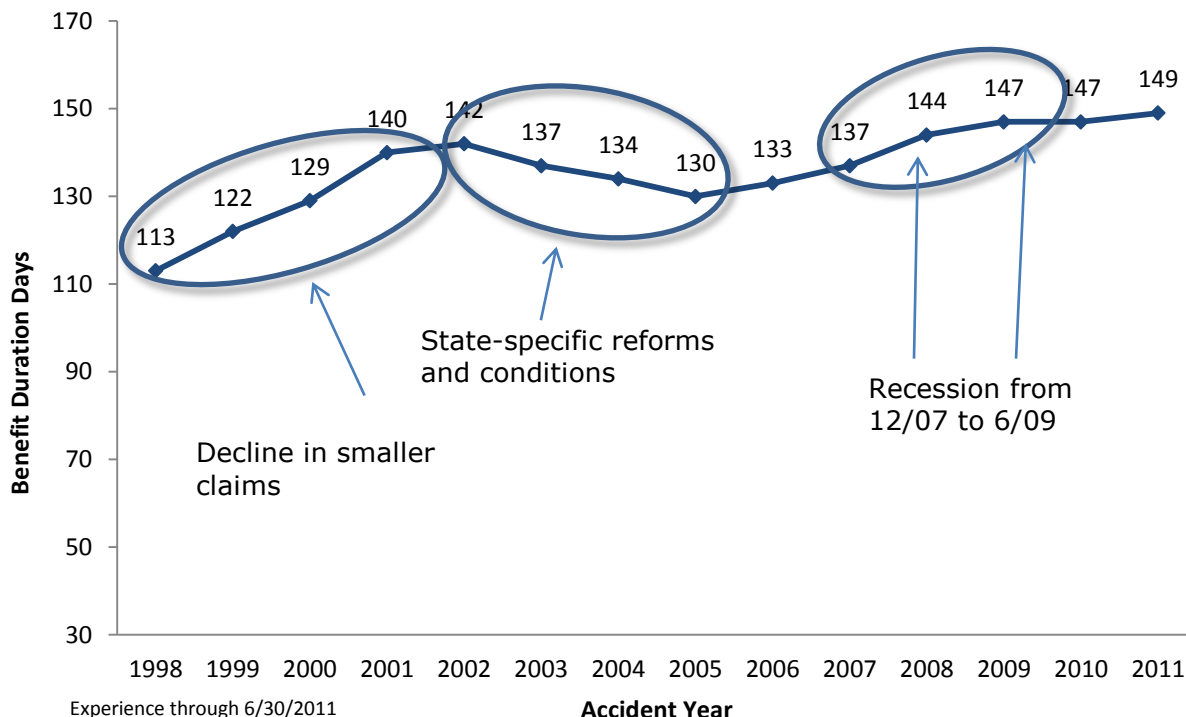


Exhibit 2 displays the reported data underlying the projected ultimates shown in Exhibit 1. Each line in Exhibit 2 compares claims at the given ages, or claims' maturities, at six-month age increments. For example, the line for age 36 months displays the average durations of TTD indemnity benefits by accident year through 36 months from the start of the accident year. So, for AY 2007, this is the average duration of payments through December 31, 2009, while for AY 2000, this is the average duration through December 31, 2002.

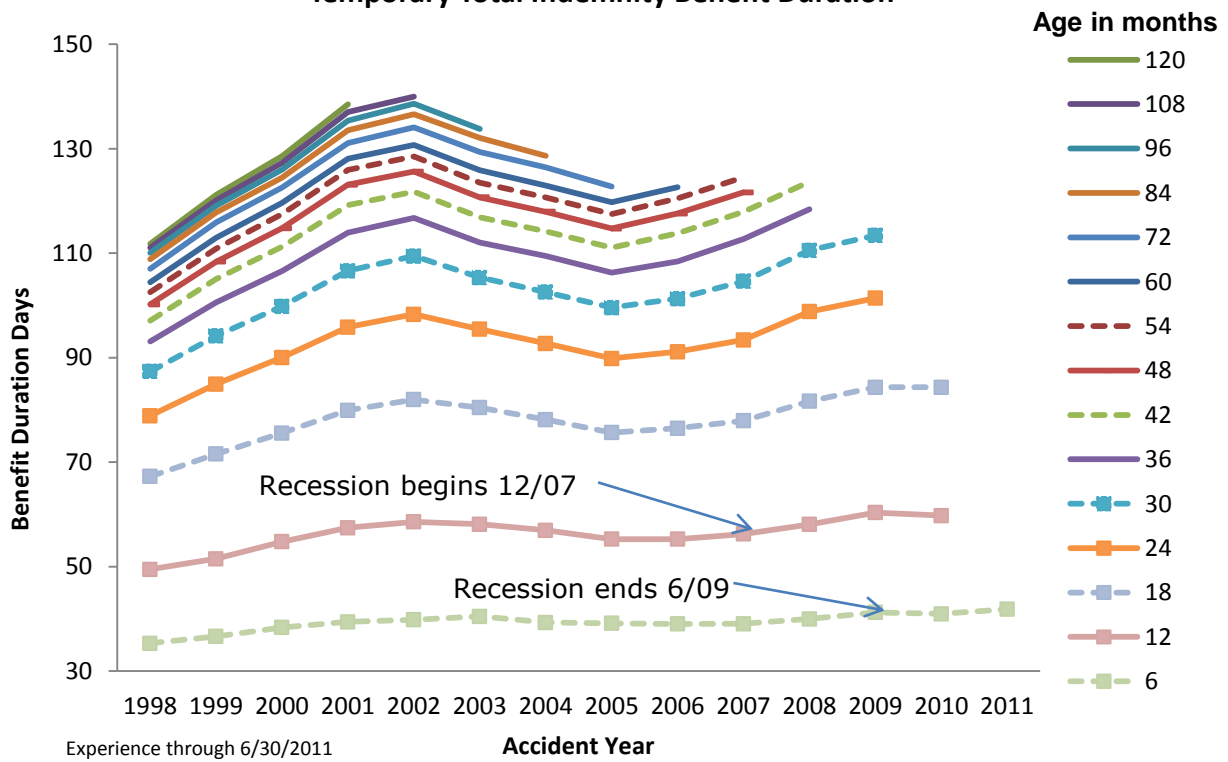
The right-hand point of each line represents the average duration evaluated as of December 31, 2010 for the evaluations that are multiples of 12 months (12, 24, 36, ... months) and evaluated as of June 30, 2011 for the other evaluations (6, 18, 30, ... months).

As accident years mature, the increase in average duration from one evaluation to the next declines because there are fewer and fewer claims that continue to have TTD indemnity benefits paid. Nevertheless, there is some small upward development in TTD indemnity benefit duration even after 72 months. In most cases, these are indemnity benefits for injured workers who continue to be on Temporary Total Disability for many years.

Accident Years 2008, 2009, and 2010 have greater increases in average duration from one evaluation to the next than do earlier accident years between comparable evaluations.

Exhibit 2

Upward Trend Moderating as of AY 2010 Temporary Total Indemnity Benefit Duration



HEALING PERIOD AND PURE TTD INDEMNITY BENEFIT DURATIONS

Temporary Total Disability indemnity benefits are paid on two distinct types of claim:

- **TTD claim or pure TTD claim**—TTD claims for which there has been no paid compensation for permanent impairment.
- **PPD claim or healing period of PPD claim**—TTD indemnity benefits paid on claims for which Permanent Partial Disability (PPD) benefits have also been paid. Most PPD claims include TTD indemnity benefits that are paid until the claimant reaches maximum medical improvement. The permanent benefits, when applicable, are paid subsequently and are not included in this study.

Exhibit 3 shows TTD indemnity benefit duration at 36 months for all TTD claims, for pure TTD claims, and for the healing period of PPD claims. At 36 months, slightly less than two-thirds of these claims are pure TTD; this distribution is consistent across the accident years studied.

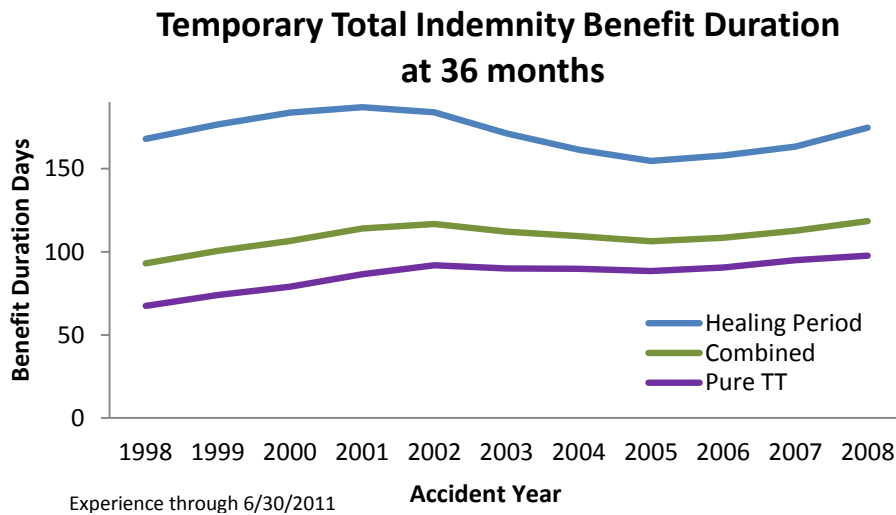
From AY 1998 to AY 2001, TTD indemnity benefit duration increased for each of the three claims categories (i.e., pure TT, healing period, and combined).

From AY 2001 to AY 2005, the leveling off and decline in the duration for all claims is attributable to a combination of:

- A fairly consistent duration of about 90 days for pure TTD claims through AY 2005
- A decline in duration of the healing period claims for several years from a high in AY 2001 to a low in AY 2005

Since AY 2005, both pure TTD claims and healing period TTD claims have contributed to the overall rise in TTD indemnity benefit duration. Pure TTD claim duration rose slightly in AY 2006, coinciding with the onset of the recession in late 2007. Pure TTD claim duration rose somewhat more in AY 2007 than in AY 2006, and slightly less in AY 2008 than in AY 2007. Healing period TTD claim duration rose in AY 2006 and AY 2007, and even more steeply in AY 2008.

Exhibit 3



DURATION BY INDUSTRY GROUP

NCCI assigns occupational classifications to five industry groups:⁵

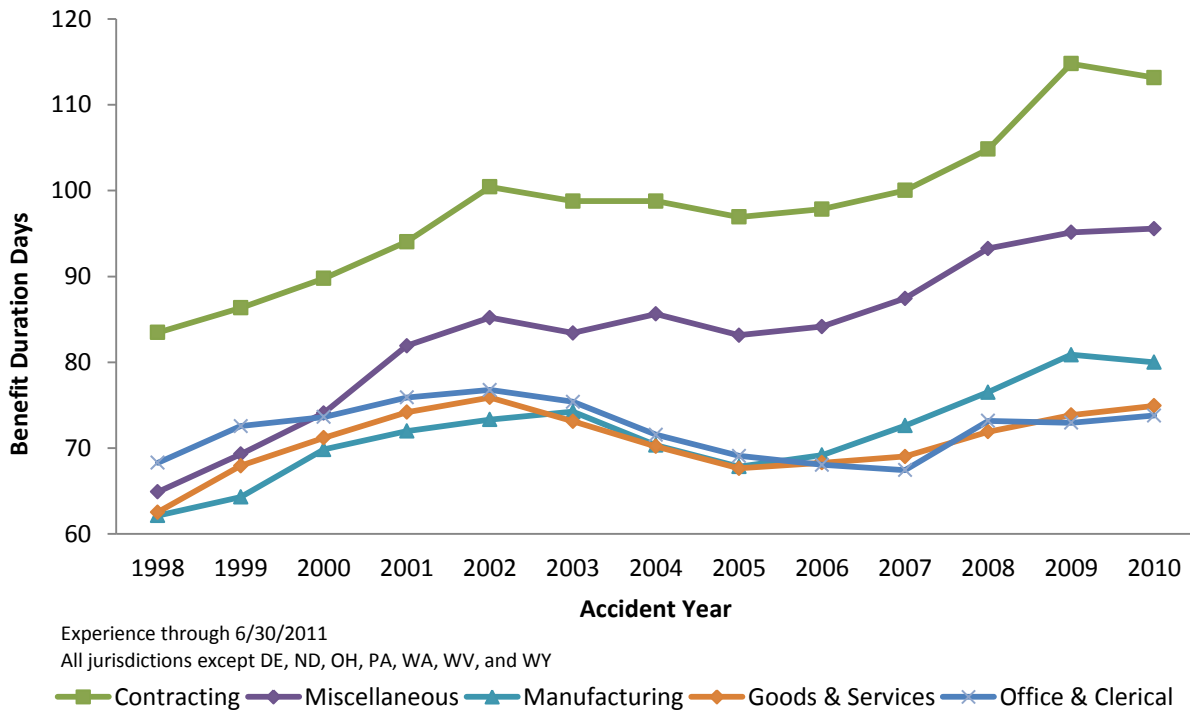
- Contracting (Plumbing, Construction, etc.)
- Miscellaneous (Trucking, Police Officers, etc.)
- Manufacturing (Furniture mfg., Jewelry mfg., etc.)
- Goods & Services (Restaurant, Stores, etc.)
- Office & Clerical (Clerical Office, Salespersons, etc.)

Exhibit 4 shows the average TTD duration at 18 months by industry group. Contracting consistently has the highest duration of all the industry groups. Contracting claims tend to be for more severe injuries than claims in other industries because of the relatively high exposure to hazardous work conditions (e.g., roofing).

Exhibit 4

Contracting Claims Have a Longer Duration Than Other Industry Groups

Temporary Total Indemnity Benefit Duration at 18 Months



⁵ In Alaska, NCCI uses a sixth industry group, Oil & Gas.

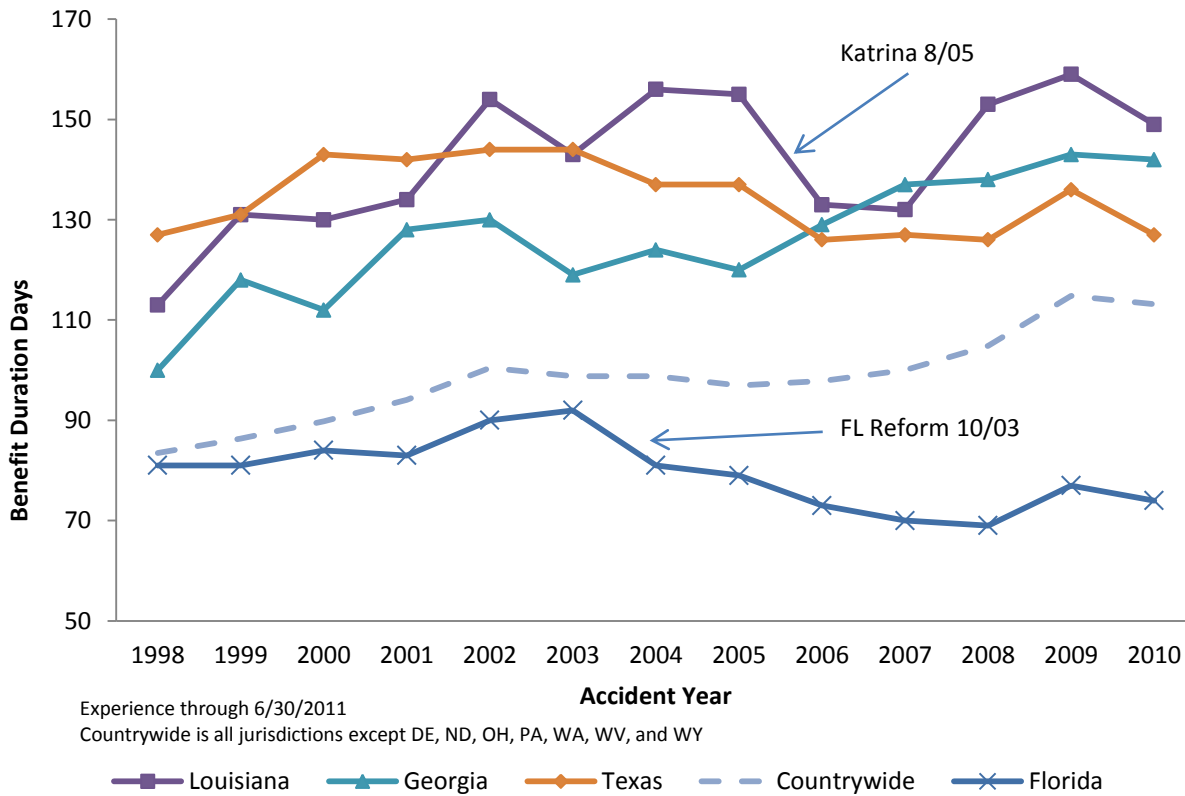
Contracting not only has the longest average durations of any industry group, but it also had the greatest percentage increase in duration length during the recession, at an average of 5.5% per year, compared to an average of 3.3% per year across all industry groups. Contracting employment was especially hard hit during the recession. A lack of return-to-work opportunities might be part of the reason for the larger than average increase in duration for contracting.

The impact of the recession on the duration of contracting claims varied greatly from state to state. Exhibit 5 shows the average TTD duration at 18 months for the contracting industry group for a few states with similar waiting and retroactive periods⁶ and for contracting countrywide. Louisiana's TTD indemnity benefit duration for the contracting industry is among the highest for the states shown, but its trend did not follow the countrywide trend during the recession. The unemployment rate in Louisiana rose the least during the recession, remaining in the single digits. Rebuilding after Hurricane Katrina struck in 2005 provided ongoing construction opportunities, moderating some aspects of the recession in Louisiana. Similarly, the unemployment rate in Texas remained lower than the countrywide average with moderate recession impact on TTD average duration.

In contrast, Florida employment was hit the hardest, with the unemployment rate increasing almost 6 points between 2007 and the first half of 2009. Georgia was close behind Florida, with double-digit unemployment rates. Both Florida's and Georgia's construction industries were highly impacted by the housing collapse during the recession. Note that Florida's TTD average duration for the contracting industry was slightly below the countrywide average from AY 1998 to AY 2003, but dropped from AY 2003 to AY 2008. Likely causes for this drop are the significant reforms of Senate Bill 50A⁷, which became effective on October 1, 2003, and the building boom from 2002 through 2005.

Exhibit 5

Contracting Claims Duration by State
Temporary Total Indemnity Benefit Duration at 18 Months



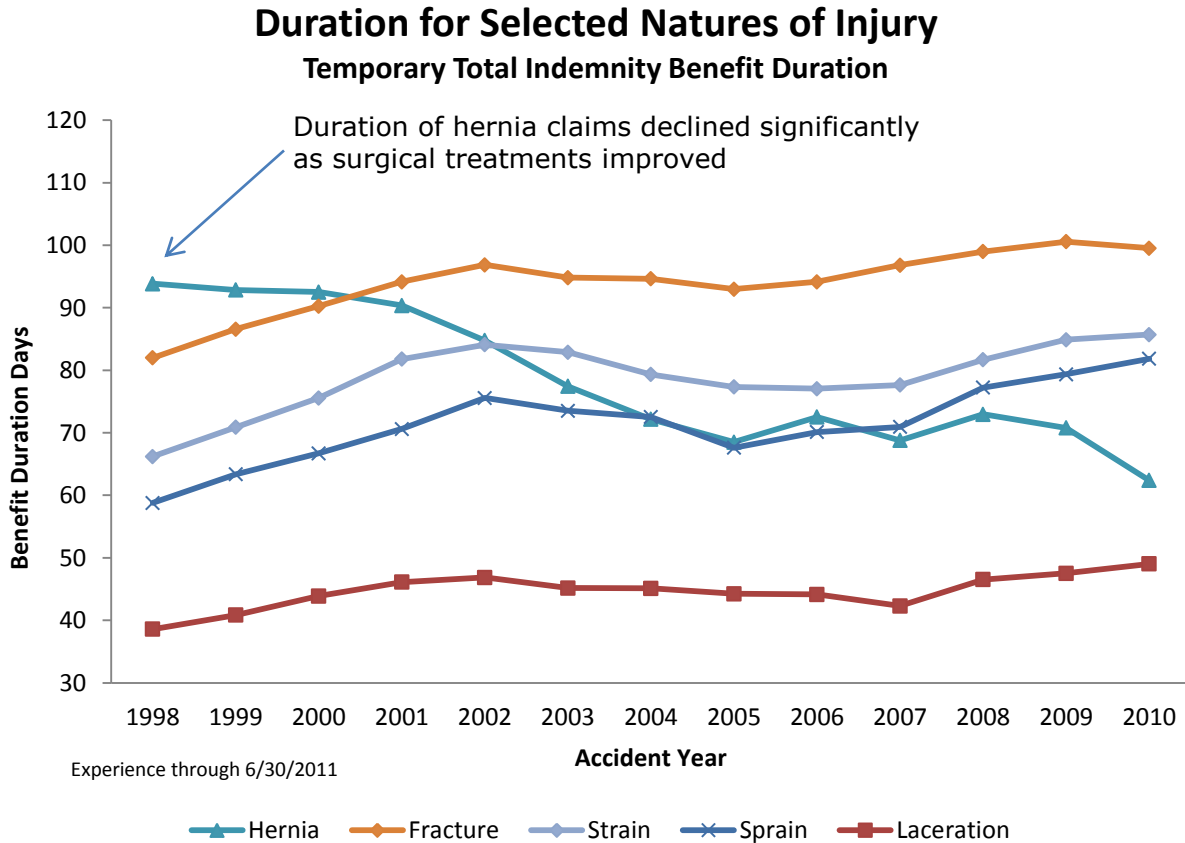
⁶ The waiting period is the same for each of the selected states at 3 days, and each has a 14-day retroactive period (which means that the injured worker receives indemnity benefits for the first 3 days following injury only if the worker is away from work for at least 14 days).

⁷ Florida Senate Bill 50A revised standards of compensability of claims, changed indemnity benefits, and changed the basis of claimant attorney fees, from hourly to "benefits secured above the offer."

DURATION BY NATURE OF INJURY

Under the NCCI unit statistical reporting plan, one of 54 specified natures of injury is reported for each claim. Exhibit 6 displays the average TTD duration at 18 months for five of the most common natures of injury. As might be expected, injured workers with lacerations (e.g., minor cuts) are out of work for shorter periods, on average, than workers who suffer sprains, strains, and fractures. For all natures of injury in Exhibit 6, except hernias, the TTD benefit duration increased steadily from 1998 to 2002, decreased slightly from 2003 to 2006, and then finally increased during the recession from 2007 to 2009. This pattern of increases and decreases is consistent with the 18-month countrywide durations shown in Exhibit 2.

Exhibit 6



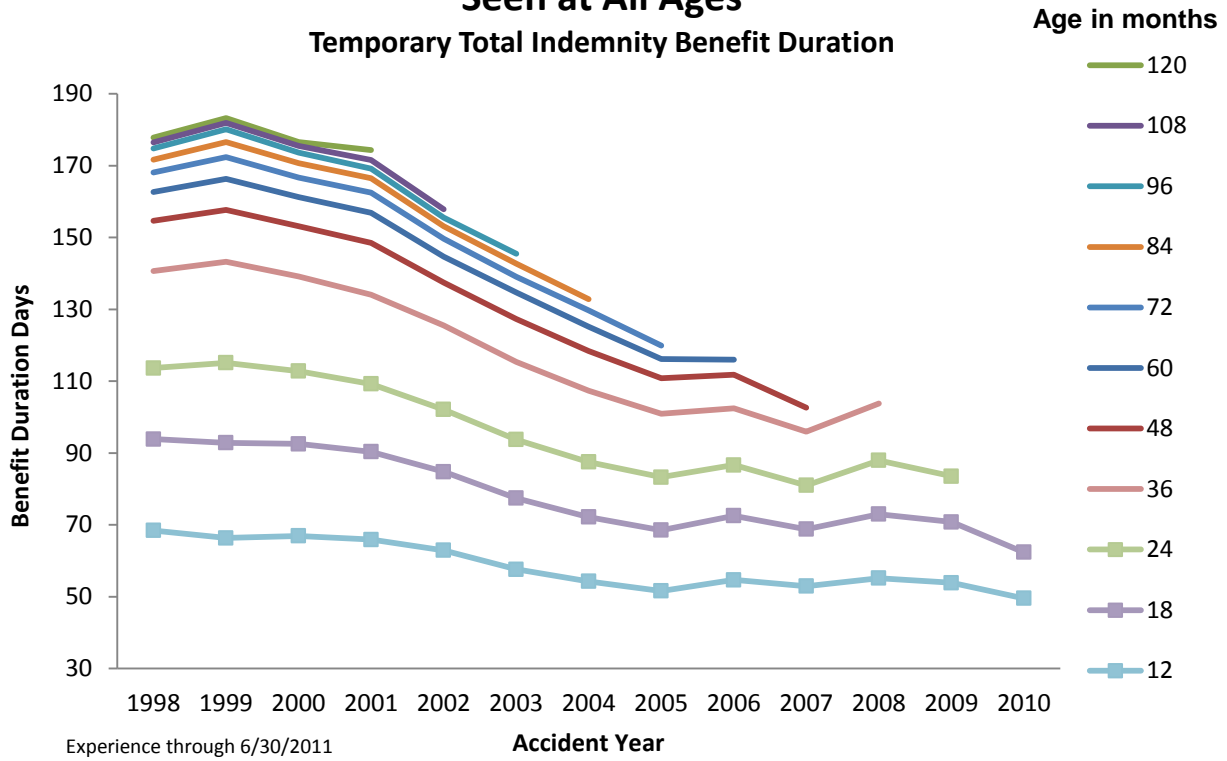
Conversely, the TTD duration of hernia claims decreased an astonishing 34% from 1998 to 2010. This is very likely due to improvements in surgical methods for the treatment of hernias, which include enhanced stitching techniques, improved prosthetic materials, and laparoscopic procedures. These improvements have resulted in a lower recurrence rate of hernias and fewer claimants with chronic pain post-surgery.⁸

⁸ Nathan J, Pappas T. Inguinal hernia: an old condition with new solutions. *Ann Surg.* 2003; 238 (supplement 6):148–157.

Declining hernia TTD duration is occurring at all claim maturities, not just at 18 months, as shown in Exhibit 7.

Exhibit 7

Declining Duration for Hernia Claims Seen at All Ages



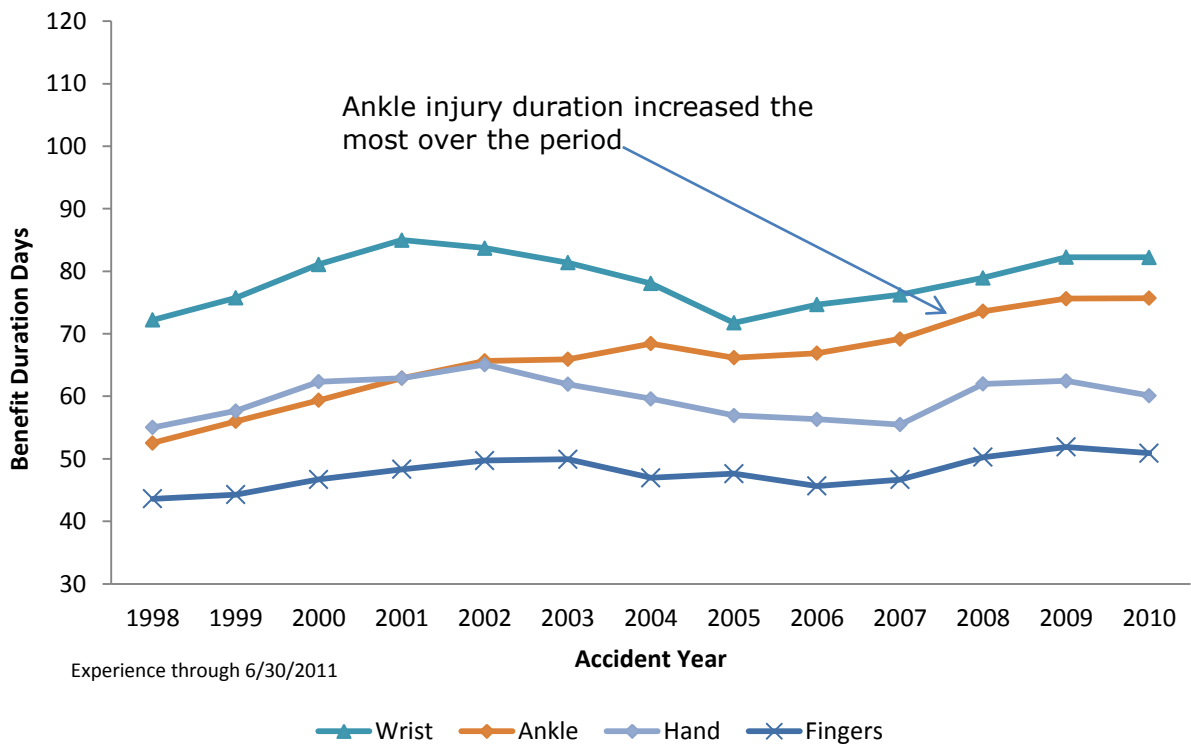
DURATION BY PART OF BODY

Under NCCI unit statistical reporting, one of 56 specific part of body codes is assigned to each claim. In this series of exhibits, we'll look at average durations for various parts of body.

Exhibit 8 shows the average TTD duration at 18 months for claims involving four parts of body with average to shorter-than-average durations relative to all claims. The selected parts of body each represent a frequency of about 5% of the claims in the study. From 1998 to 2010, the TTD durations of fingers, hand, and wrist injuries increased by approximately 13%. The TTD duration for ankle injuries increased significantly more, by about 44%.

Exhibit 8

Duration for Selected Parts of Body Temporary Total Indemnity Benefit Duration at 18 Months



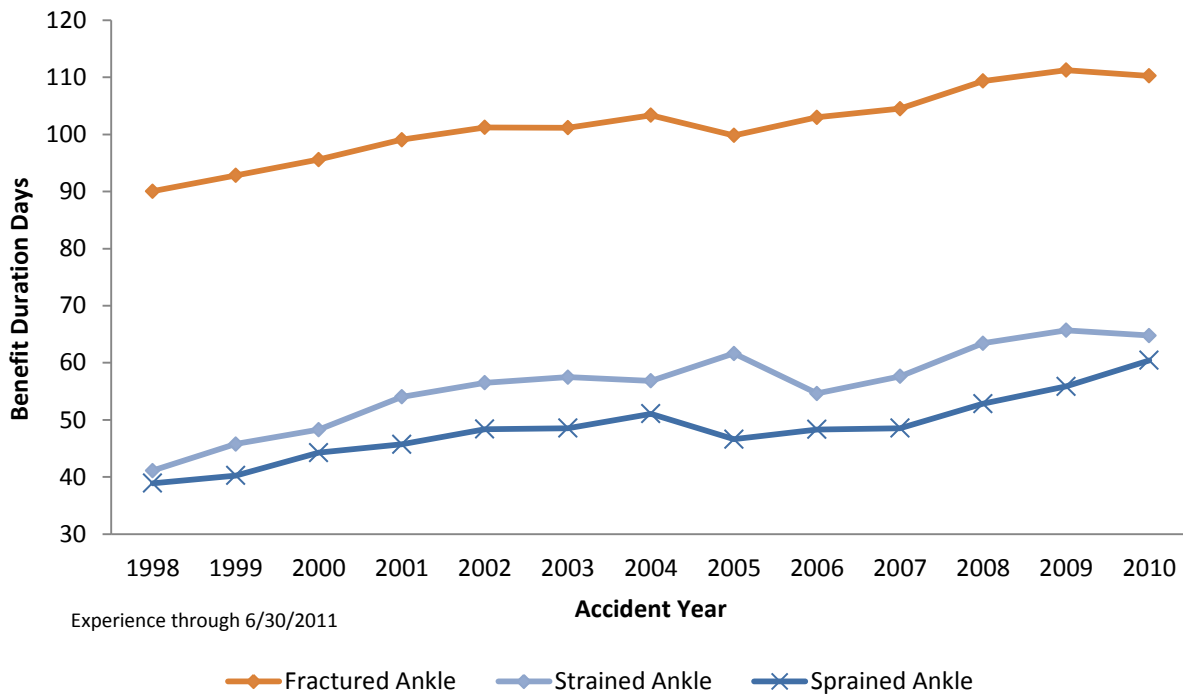
Because of the dramatic increase in the TTD duration of ankle injuries from 1998 to 2010, we took a closer look at the three most frequent types of ankle injuries. Exhibit 9 displays the average TTD duration at 18 months for each of these injury categories.

Employees with fractured ankles are out of work for approximately twice as long as employees with sprained and strained ankle injuries. Between AY 1998 and AY 2010, the TTD duration of fractured ankles at 18 months increased by about 22%. However, the TTD durations of sprained and strained ankles over the same time period increased by a substantially greater percentage, approximately 56%.

Exhibit 9

**Fractured Ankle Claims Duration Is Double
the Duration of Other Ankle Claims**

Countrywide TT Indemnity Benefit Duration at 18 Months



Claims for the parts of body shown in Exhibit 10 have average to longer-than-average durations, relative to the average duration for all claims. The selected parts of body represent between 4% (shoulders) and 20% (lower back) of studied claims. From AY 1998 to AY 2010, average TTD duration for shoulder injuries increased by about 33%; this is a larger percentage increase than for the other parts of body in the exhibit. TTD duration for multiple parts of body remained relatively flat during the recession.

Exhibit 10

Duration for Selected Parts of Body
Temporary Total Indemnity Benefit Duration at 18 Months

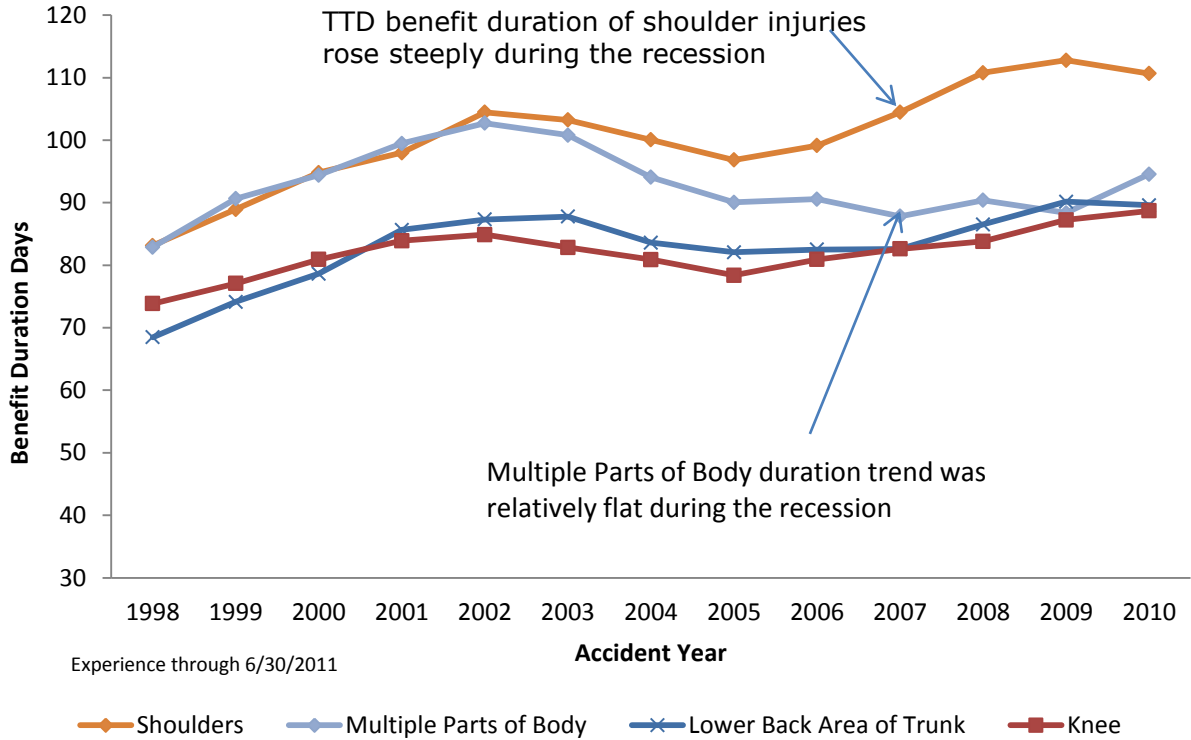


Exhibit 11 shows TTD durations of shoulder injuries for all accident years and claim ages. As highlighted by the arrow at 48 months, some shoulder injuries still have significant TTD indemnity payments after 36 months. Moreover, the TTD duration of shoulder injuries increased sharply across all accident years and claim ages from AY 2006 to AY 2009.

Exhibit 11

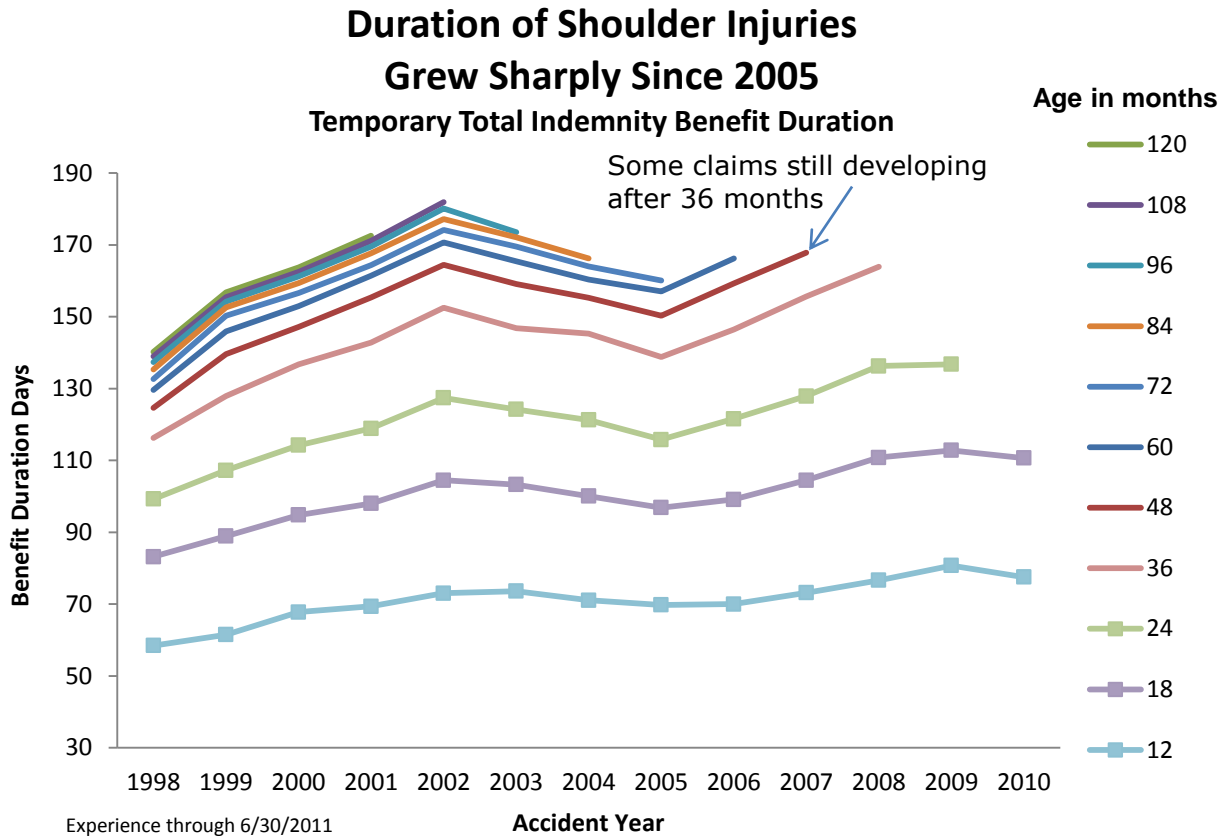
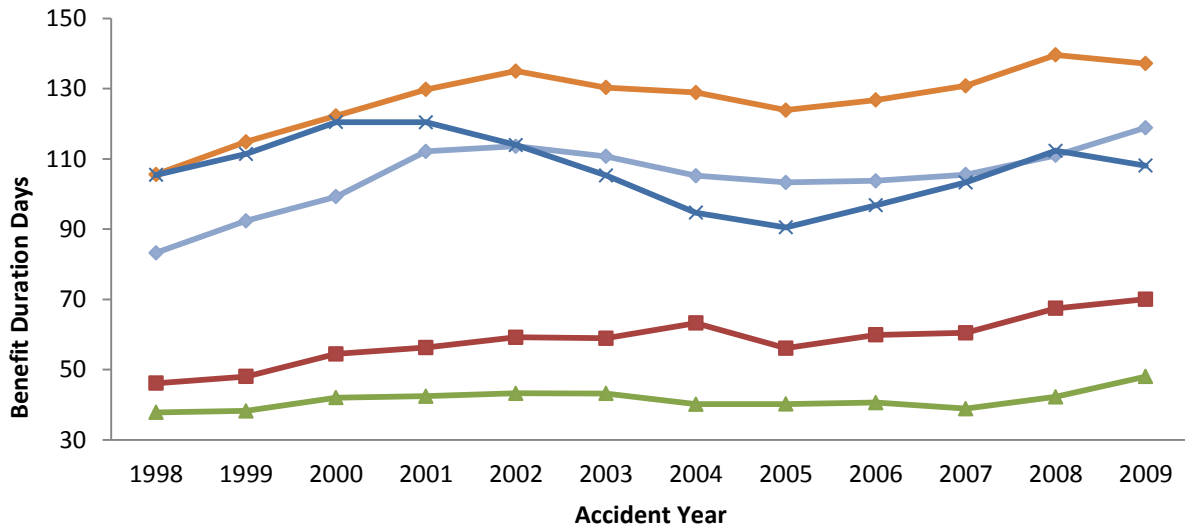


Exhibit 12 shows the average TTD duration at 30 months for selected nature of injury and part of body combinations. The durations and the changes over time vary widely:

- As would be expected, finger lacerations and sprained ankles have lower TTD durations than Carpal Tunnel Syndrome (wrist), strained lower back, and strained shoulders injuries
- Except for Carpal Tunnel Syndrome (wrist), the average TTD durations for all nature of injury and part of body combinations shown increased by at least 25% from 1998 to 2010
- The Carpal Tunnel Syndrome (wrist) average TTD duration increased by only 3% from 1998 to 2010; in contrast, the TTD durations for sprained ankles and strained lower backs increased substantially by 52% and 43%, respectively

Exhibit 12

Duration for Selected Combinations of Nature of Injury and Part of Body
Temporary Total Indemnity Benefit Duration at 30 Months



Experience through 6/30/2011

- ◆— Strained Shoulder
- ◆— Strained Lower Back
- ×— Carpal Tunnel Syndrome (Wrist)
- Sprained Ankle
- ▲— Laceration (Fingers)

OPIOIDS AND DURATION

As reported in NCCI’s continuing studies of prescription drugs in workers compensation,^{9,10} per-claim narcotics prescription costs have been increasing recently. In injury year 2008, the share of medical claims receiving at least one drug within one year following injury was 38%; the share receiving at least one narcotic drug was 13%.¹⁰ The majority of costs for narcotics in workers compensation are for opioids.¹¹

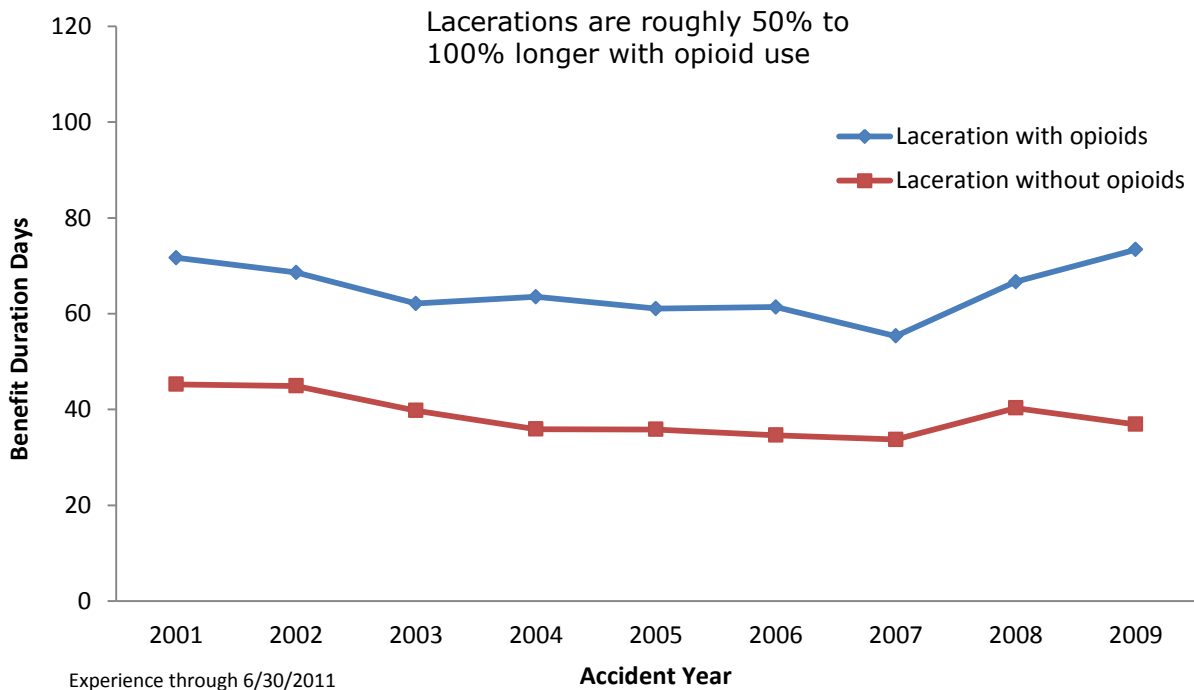
The following two graphs, Exhibits 13 and 14, compare durations for claims for which an opioid was prescribed within the first 12 months following injury to durations for claims that did not have such an opioid prescription.

Exhibit 13 looks at laceration claims, which are, on average, relatively short duration claims. Those with at least one prescription for opioids have 50% to 100% longer durations

Exhibit 13

Laceration Claims That Involve Opioid Use Have Longer Durations

Temporary Total Indemnity Benefit Duration at 18 Months



⁹ “2011 Workers Compensation Prescription Drug Study,” NCCI Research on ncci.com, September 2011.

¹⁰ “Narcotics in Workers Compensation,” NCCI Research on ncci.com, May, 2012.

¹¹ For this study, an *opioid* is a drug with one of the following active ingredients: Fentanyl, Fentanyl Citrate, Hydrocodone, Morphine, Oxycodone, Oxymorphone, Codeine, or Phosphate.

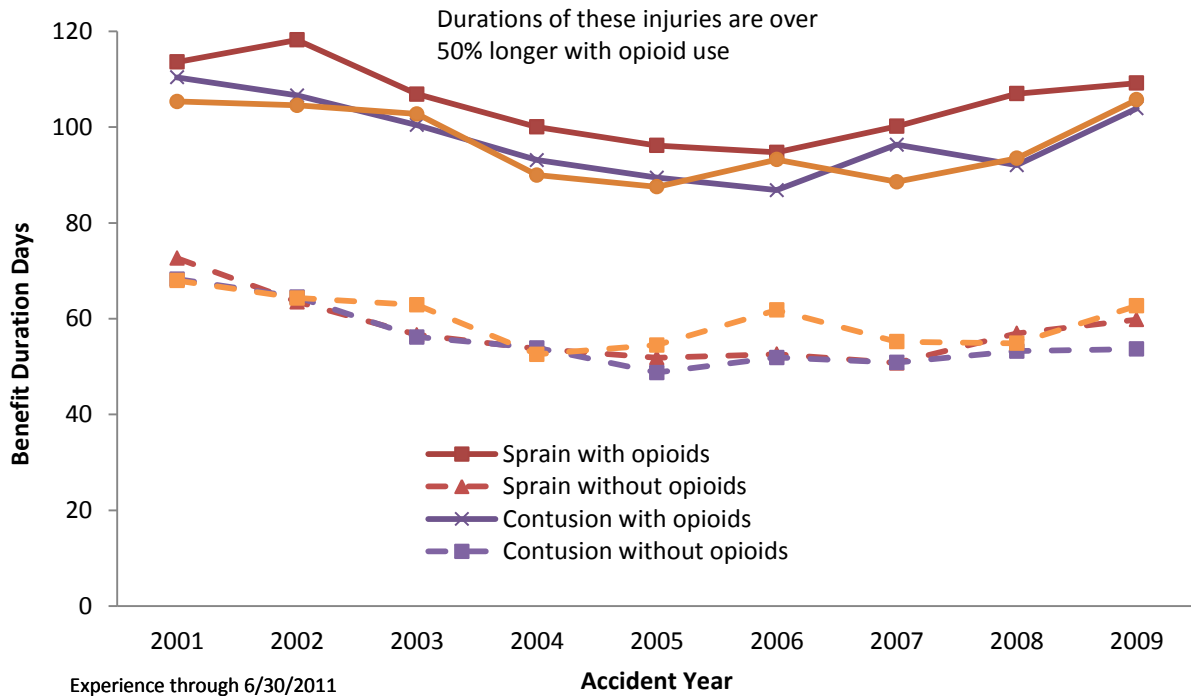
Exhibit 14 looks at three additional natures of injury that, on average, are of relatively longer duration than lacerations. Claims with at least one prescription for opioids also have over 50% longer duration. For these three natures of injury, the average percentage differences in duration between claims with and without opioid prescriptions are remarkably consistent.

While longer durations are correlated with opioid use, this does not prove that the longer durations are caused by opioid use. There could be additional factors, such as the medical severity of the injury, that drive both duration and opioid use. NCCI is considering refinement of this analysis as an area of possible future research.

Exhibit 14

Inflammation, Sprain, and Contusion Claims Involving Opioid Use Have Longer Durations

Temporary Total Indemnity Benefit Duration at 18 Months



CONCLUSION

TTD duration, like the unemployment rate in many states, did not drop right after the recession, but remains at a higher level than it was prior to the recession.

The contracting industry group had both longer durations and greater growth in durations during the recession than other industry groups. In Florida, contracting's average TTD duration was close to countrywide in 1998, then fell after the reform Senate Bill 50A was enacted in 2003, and currently is well below the countrywide average.

The changes over time in TTD duration by selected natures of injury were fairly consistent, reflecting increasing duration in the late 1990s as small claim frequency was declining rapidly countrywide, and minor annual changes mirroring countrywide trends thereafter. One exception was that hernia claim TTD duration shortened throughout the review period, reflecting improved surgical results, and more rapid return to work.

Our review of TTD duration trends for selected parts of body resulted in similar results—the shape of the national curve is echoed by individual part of body results. One exception was the trend for ankle injuries; whether fractured, strained, or sprained, TTD duration for ankle injuries lengthened throughout the study period.

Within selected natures of injury, claims with at least one prescription for opioids have over 50% longer TTD duration than claims without opioids prescribed.

We wish to acknowledge the contributions of Yair Bar-Chaim, David Colon, Ampegama Perera, Chris Laws, and Linda Li.

APPENDIX I—METHODOLOGY

NCCI reviewed 2.6 million TTD and PPD claims for this study. Accident Years 1998 through 2011 were reviewed as of the end of each six months through June 30, 2011. Viewing duration at six-month intervals for the first several years after injury provides an opportunity to see the valuation ages at which duration stretches out or shortens among accident years. The addition of valuations at six months provided an opportunity to review duration on claims with payouts during the recession that began in December 2007.

NCCI expanded the list of states included, compared to previous studies, to all except ND, OH, WA, WV, and WY. Large deductible policy experience and self-insured policy experience were also included in the duration study for the first time. Together, these changes increased the database by approximately 25%. The overall shape of the countrywide duration curve is quite similar to the prior study, even with the additional data.

TTD indemnity benefit duration is measured by counting the dates of covered loss on payment records.

- A small portion of claims included transactions with overlapping dates. Each date was only counted once.
- In cases where the dates associated with a large payment covered numerous days, those days were included as part of duration. This could be a disputed claim settlement, for example, where the claimant is compensated after the dispute is settled.
- When a large payment had only a single covered day, it appeared that the claim included a negotiated lump-sum settlement. We did not expand the single day to cover any imputed lost time, because there are numerous circumstances for these settlements, which might have or have not covered lost work time. To the extent that some of these settlements covered time away from the job not covered by other transactions, the durations we calculated could be understated.

Each claim meets a reasonableness criterion that the sum of the payments at a transactional level are close to the payments posted at the overall claim level. In addition, each claim's dates were validated to pick up inaccuracies and typos that could distort results, such as a closure year of 2099 rather than 1999.

Examples of validation logic are that claims included in the study:

- Have injury dates on or before the report date
- Do not have a claim closed date before injury or report date
- Do not have a claim closed date after June 30, 2011, the final evaluation date in the database

Claims with total payments of less than \$50 were excluded on the basis that such a small payment accounted for less than one day's wages.

APPENDIX II—DATA

Table 1 contains the data graphed as Exhibits 1 and 2. As you move across the table, note the increase in Temporary Total Indemnity benefits duration between the late 1990s and AY 2001 and 2002, then the shortening of duration through AY 2006. Duration increases again as the Great Recession begins in 2007. The subsequent upward trend in benefits moderates in 2009. Unemployment remained at high levels beyond the end of the recession. This might put upward pressure on duration, which in 2011 is projected to be at the highest level in the period studied.

Table 1

Temporary Total Indemnity Benefit Duration Days by Accident Year and Months of Development

<u>Months</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
6	35	37	38	39	40	40	39	39	39	39	40	41	41	42
12	49	51	55	57	59	58	57	55	55	56	58	60	60	
18	67	72	76	80	82	80	78	76	77	78	82	84	84	
24	79	85	90	96	98	95	93	90	91	93	99	101		
30	87	94	100	107	109	105	103	100	101	105	111	113		
36	93	101	107	114	117	112	109	106	108	113	118			
42	97	105	111	119	122	117	114	111	114	118	124			
48	100	108	115	123	126	121	118	115	118	122				
54	103	111	118	126	129	123	121	118	121	125				
60	104	113	120	128	131	126	123	120	123					
72	107	116	123	131	134	129	126	123						
84	109	118	124	134	137	132	129							
96	110	119	126	135	139	134								
108	111	120	127	137	140									
120	112	121	129	139										
Estimated														
Ultimate	113	122	129	140	142	137	134	130	133	137	144	147	147	149

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