

# **Work-Related Hospitalizations in Louisiana:**

## **A Review of Louisiana Hospital Inpatient Discharge Data for 10 Years (1998-2007)**

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## Executive Summary

This report presents the first analysis of work-related injuries and illnesses in Louisiana using hospital discharge data. The goal of this analysis is to provide information that might contribute to the development of targeted educational and preventive measures to reduce occupational injuries and illnesses for Louisiana workers. Data from the Louisiana Hospital Inpatient Discharge Database (LAHIDD) spanning the years 1998 through 2007 were analyzed. Expected payment by workers' compensation insurance (WC) was used as an indicator of a work-related hospitalization. Some important findings of this study include:

- There were a total of 23,668 work-related inpatient hospitalizations from 1998 to 2007, representing 0.46% of total inpatient hospitalizations of Louisiana residents.
- Workers 65 years or older make up less than 4.7% of the working population in Louisiana but have the highest rates of work-related hospitalizations of all age groups.
- Injuries accounted for 38% of hospitalizations, followed by disorders of the musculoskeletal system and connective tissues (34%).
- Conditions of the respiratory system led to the highest mean cost, and the second longest mean hospital stay.

This study demonstrates that LAHIDD data are useful for describing serious occupational health conditions among Louisiana workers. LAHIDD provides information that is significant to public health surveillance, including some information that is not recorded in other data sources. The data are routinely collected and include information on patient demographics, diagnoses and procedures, payment source, length of stay, and total cost. Data are also useful for comparing work-related conditions to conditions in the general population, as it includes records on all hospitalizations, regardless of payment source.

Some limitations need to be considered in the interpretation of the results of this study. Use of expected payment by workers' compensation as an indicator of work-relatedness presents problems due to under-reporting, misclassification, and changes in final payment source. Population-based rates may also be problematic, as some Louisiana residents seek treatment at facilities in other states.

The results of this analysis led to suggestions for improving LAHIDD data, and for future analyses that utilize this data source. Inclusion of occupational information in each record and more frequent reporting of external-cause-of-injury codes ("E-codes") would be valuable changes to the data set. It is also recommended that future investigations examine injury and musculoskeletal hospitalizations in greater detail, since they constitute the majority of work-related cases.

## Introduction

Throughout the United States, hospitalizations contribute to a large portion of the total cost of health care. In 2004, 40.0% of all health care expenditures in Louisiana were related to hospital care (including inpatient, outpatient, hospital-based hospice, hospital-based home health agencies, and hospital-based skilled nursing facilities). This was slightly higher than the national percentage of 37.7% spent on hospital care.<sup>1</sup> Data on hospital discharges, therefore, are useful for describing conditions that lead to major expenses in every state, as well as to physical, mental and economic effects on patients, their families, and their employers. Hospital discharge data provide better information on serious health conditions, as less severe conditions are generally treated on an outpatient basis. Prior studies have shown that the data are valuable for a wide variety of public health applications due to their availability and the level of detail.<sup>2</sup>

The Louisiana Hospital Inpatient Discharge Database (LAHIDD) is the only comprehensive collection of statewide hospital inpatient data for Louisiana. LAHIDD contains data related to hospital inpatient discharges from Louisiana's licensed hospitals. It is maintained by the Louisiana Department of Health and Hospitals, Office of Public Health (DHH/OPH). The number of hospitals reporting to LAHIDD varies by year, but on average, approximately 89% of acute care hospitals provide data. Long-term, psychiatric, rehabilitation, and specialty hospitals also submit data to LAHIDD, but the majority of hospitalizations are from acute care facilities.

To identify work-related hospitalizations, records listing workers' compensation as the primary payment for the hospitalization were selected. In Louisiana, all employers are required to carry workers' compensation insurance in order to cover the costs of employees' medical services for work-related illnesses or injuries. There are a few exemptions from this coverage, such as laborers in private households, some agricultural workers, and contractors.<sup>3</sup> In addition to these exemptions, selecting records based on payment source does not capture all work-related hospitalizations because some individuals who are covered may choose not to file for workers' compensation, or may fail to recognize work as the cause of their condition. Despite these limitations, studies have shown that the use of payment by workers' compensation does capture a large portion of cases, and incorrectly classifies very few cases as work-related.<sup>4</sup>

The purpose of this report is to provide an overview of work-related hospitalizations in Louisiana in order to identify health conditions commonly resulting in hospitalization, the economic burden of these hospitalizations, and to identify high risk sub-populations according to demographics and location of residence. Ultimately, results from this study will provide direction for educational and preventive activities aimed at reducing work-related health hazards.

## Methods

This report presents an analysis of LAHIDD data for the 10-year period from 1998 through 2007. Duplicate records (matched on birth date, admit date, discharge date, and medical record number) and records for non-Louisiana residents were removed. Residence was determined according to the patient's home parish (county) or zip code if parish was missing. Records for out-of-state residents injured in Louisiana may contain useful information on work-related hospitalizations in the state, but they were excluded in order to establish population-based rates and trends for Louisiana residents. Over

5,000,000 remaining records were included in this study, although the majority of the analyses focus on 23,668 records identified as work-related hospitalizations. Records were included in the work-related subset if the expected primary payer for the hospitalization was workers' compensation. Records were excluded from the work-related subset if the patient was less than 16 years old or the principal diagnostic code was pregnancy-related. Children less than 16 years of age and pregnancy-related hospitalizations made up less than 1 % of the work-related dataset.

Each record includes demographic information on the patient, admit and discharge date, patient's status at discharge (e.g., discharged to home or self care, discharged/transferred to skilled nursing facility, expired), principal diagnosis and at least eight secondary diagnoses (exact number varies by year), principal procedure and five secondary procedure codes, payment source, total costs, and length of stay. To simplify the use of diagnostic categories, the principal diagnosis for each record was converted into the Clinical Classifications Software (CCS) system, which uses a smaller number of meaningful diagnostic categories. CCS was developed by the U.S. Agency for Healthcare Research and Quality (AHRQ) as a part of the Healthcare Cost and Utilization Project (HCUP)<sup>5</sup>, and groups diagnoses into 18 body system categories, 16 of which were relevant to these analyses.

The 16 CCS categories used in this analysis are as follows:

- 1) Infectious and parasitic diseases
- 2) Neoplasms
- 3) Endocrine, nutritional and metabolic diseases, and immune disorders
- 4) Diseases of the blood and blood-forming organs
- 5) Mental disorders
- 6) Diseases of the nervous system and sense organs
- 7) Diseases of the circulatory system
- 8) Diseases of the respiratory system
- 9) Diseases of the digestive system
- 10) Diseases of the genitourinary system
- 11) Diseases of the skin and subcutaneous tissue
- 12) Diseases of the musculoskeletal system and connective tissue (MSDs)
- 13) Congenital anomalies
- 14) Injury and poisoning
- 15) Symptoms, signs, and ill-defined conditions and factors influencing health status (ill-defined)
- 16) Residual codes, unclassified, all E-codes (residual codes)

The number and rate of work-related hospitalizations per year were analyzed, as well as the distribution and rates of demographic characteristics of patients. Linear regression, ANOVA, and Kruskal-Wallis procedures were performed using SAS 9.1, and statistical significance was set at  $p \leq 0.05$ . Rates were measured per 100,000 employed persons in Louisiana. As availability of demographic variables differed by source, annual employment counts were based on two different population surveys from the U.S. Bureau of Labor Statistics: the Geographic Profile of Employment and Unemployment and the Current Population Survey. Distribution by CCS diagnostic groupings was determined, and categories were cross-tabulated with total costs and length of stay. Additional details were presented for the two categories

with the most hospitalizations: injuries and disorders of the musculoskeletal system and connective tissues.

## Limitations

There are several limitations that are important to understand when considering the results of this review. While the correlation between expected payment by workers' compensation and work-relatedness of a case is strong, it does not capture all work-related hospitalizations. It is unknown how much under-reporting of work-related health conditions occurs, but there is evidence that many occupational injuries and illnesses are never reported to workers' compensation insurers.<sup>6 7</sup> There are many reasons for incomplete reporting, including incentive programs to employees for decreasing injury rates, the belief that injury is a normal consequence of work, or fear of retaliation from employers.<sup>8</sup> For example, a 2006 study by the University of Illinois at Chicago showed that only 6% of day laborers who were injured on the job had their medical expenses covered by workers' compensation. Many reported that employers threatened reprisal such as withholding wages if incidents were reported due to the cost it would incur on the business.<sup>9</sup> Other workers are not covered because employers do not provide coverage, in spite of legal requirements. For example, Louisiana's Office of Workers' Compensation recently found that seven out of the ten companies included in a spot check due to auditor and hotline tips did not provide adequate coverage for employees.<sup>10</sup> Lastly, hospital staff may not have sufficient information to accurately determine if a hospitalization was work-related.

The analysis may also under-represent work-related conditions in Louisiana because some workers may seek medical care outside of the state, particularly in the neighboring states of Texas, Arkansas, and Mississippi. Patients may go to facilities outside of Louisiana in order to see providers who specialize in certain conditions, or due to the proximity of a hospital during an emergency situation. Also, 2,482 out-of-state workers who were treated at Louisiana hospitals were removed from the analysis since rates were calculated based on Louisiana's population.

In addition, this study does not control for the effect of repeat admissions and conditions that result in multiple visits may be over-represented. One work-related incident may have led to two or more hospital stays, such as in the case of an injury that results in surgery, followed by post-surgical care on a later date. Therefore, it is important to keep in mind that these results present hospitalizations, and not counts of unique occupational incidents.

The LAHIDD system itself lacks certain data that could have contributed important information to this analysis. The hospital records do not include fields indicating either occupation or industry in which the patient was employed. Were this information included, it would have been possible to draw more specific conclusions about occupational groups and industry sectors at highest risk for occupational health hazards. The data are also missing many external-cause-of-injury or E-codes, which serve as supplementary information to classify circumstances that led to an injury or other condition. In some states this information is available for most injury cases<sup>11</sup>, but in LAHIDD it was only available for about 76% of injury records.

## Results

### Total hospital admissions for work-related conditions

During the 10-year period (1998-2007), there were a total of 23,668 hospitalizations where workers' compensation was listed as expected payer. This represented about 0.46% of all hospitalizations of Louisiana residents. The average number of work-related hospitalizations per year was about 2,367, ranging from a high of 2,975 in 2001 to a low of 1,897 in 2006 (Table 1).

**Table 1. Workers' Comp hospitalizations as percent of total hospitalizations, LA, 1998-2007**

Year	Expected payer WC	Total hospitalizations	WC as % of total
1998	2216	449285	0.49
1999	2233	462875	0.48
2000	2382	481696	0.49
2001	2975	539027	0.55
2002	2941	558088	0.53
2003	2316	523326	0.44
2004	2742	608188	0.45
2005	2062	539719	0.38
2006	1897	515452	0.37
2007	1904	503103	0.38
<b>Total</b>	<b>23668</b>	<b>5180759</b>	<b>0.46</b>

**Figure 1. Annual number of hospital admissions covered by Workers' Comp, LA, 1998-2007**

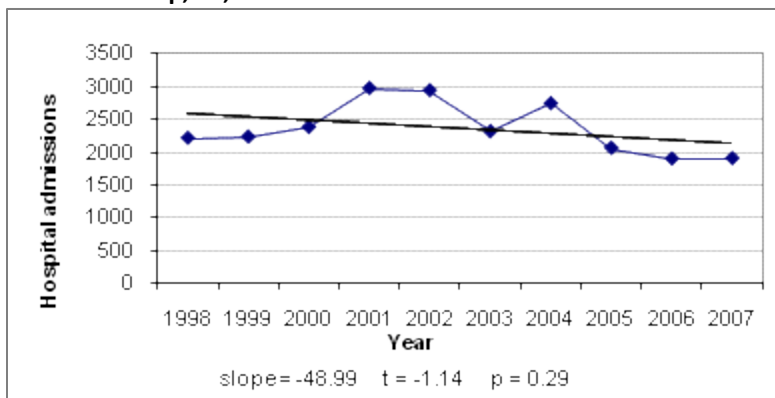
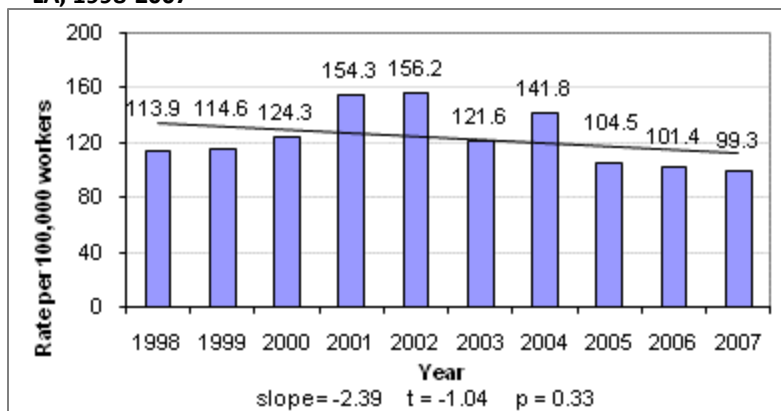


Figure 1 shows that there was a slight decreasing trend in the total number of hospitalizations covered by workers' compensation from 1998 to 2007. The decrease was not statistically significant.

**Figure 2. Rate of hospital admissions covered by Workers' Comp, LA, 1998-2007**



Annual hospitalization rates were calculated by dividing the number of work-related hospitalizations by the employed population. The rate of hospitalizations per 100,000 workers age 16 or older in Louisiana varied from a high of 156.2 in 2002 to a low of 99.3 in 2007 (Figure 2). Rates also showed a decrease during this ten-year period, but it was not statistically significant.

### Characteristics of Patients Hospitalized for Work-Related Conditions

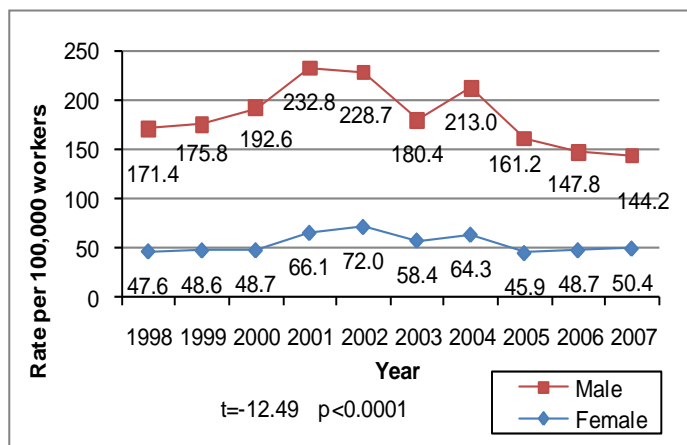
**Figure 3 - Gender distribution of hospitalizations covered by Workers' Comp and the total employed population, LA, 1998-2007**



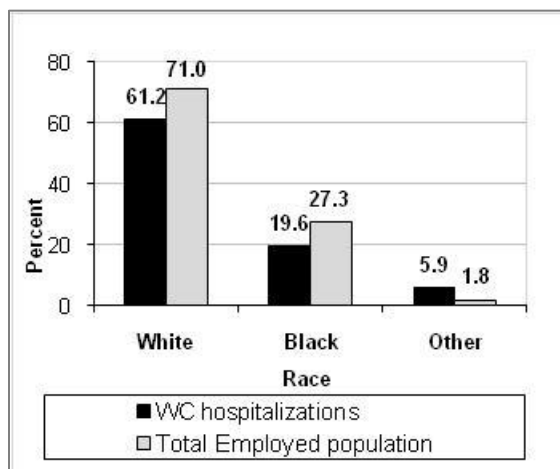
A disproportionate majority of work-related hospital admissions occurred among men. On average, males made up slightly more than half of Louisiana's working population that were at least 16 years of age (52.5%) from 1998 to 2007. They accounted, however, for 78.7% of work-related hospitalizations (Figure 3).

Rates per 100,000 workers were significantly higher for men than women, with an average of 184.0 for males and 54.8 for females for the 10-year period (Figure 4).

**Figure 4 – Gender distribution of hospitalizations covered by Workers' Comp, LA, 1998-2007**

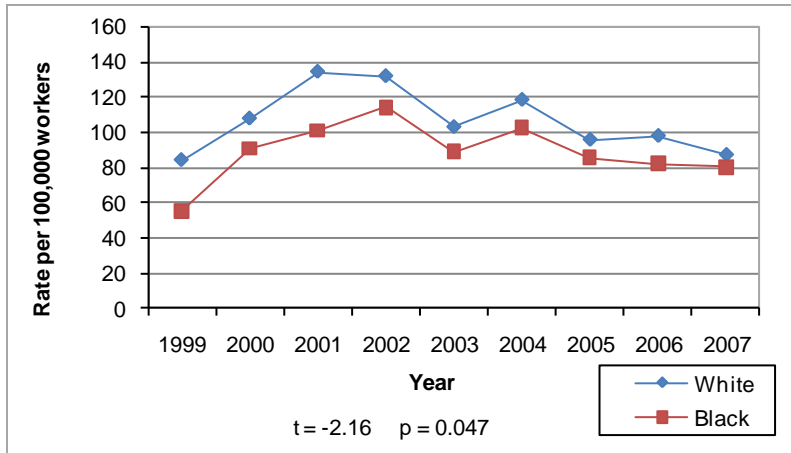


**Figure 5 - Average annual race distribution of hospitalizations covered by Workers' Comp and the total employed population, LA, 1999-2007**



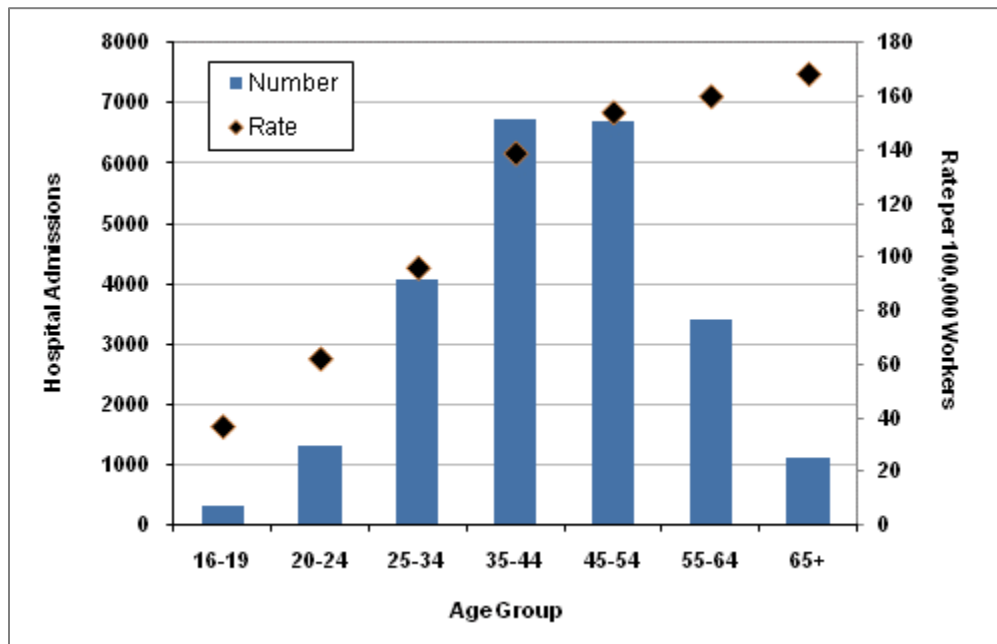
Race was not reported in LAHIDD for a large portion of work-related hospitalizations in the year 1998, so trends are shown beginning in 1999. Figure 5 shows that the majority of patients over the nine years were white (61.2%), followed by black (19.6%) and other races (5.9%).

**Figure 6 - Rate of hospitalizations covered by Workers' Comp, by race, LA, 1999-2007**



The rate per 100,000 workers was consistently lower for black workers than white workers. The difference was statistically significant (Figure 6).

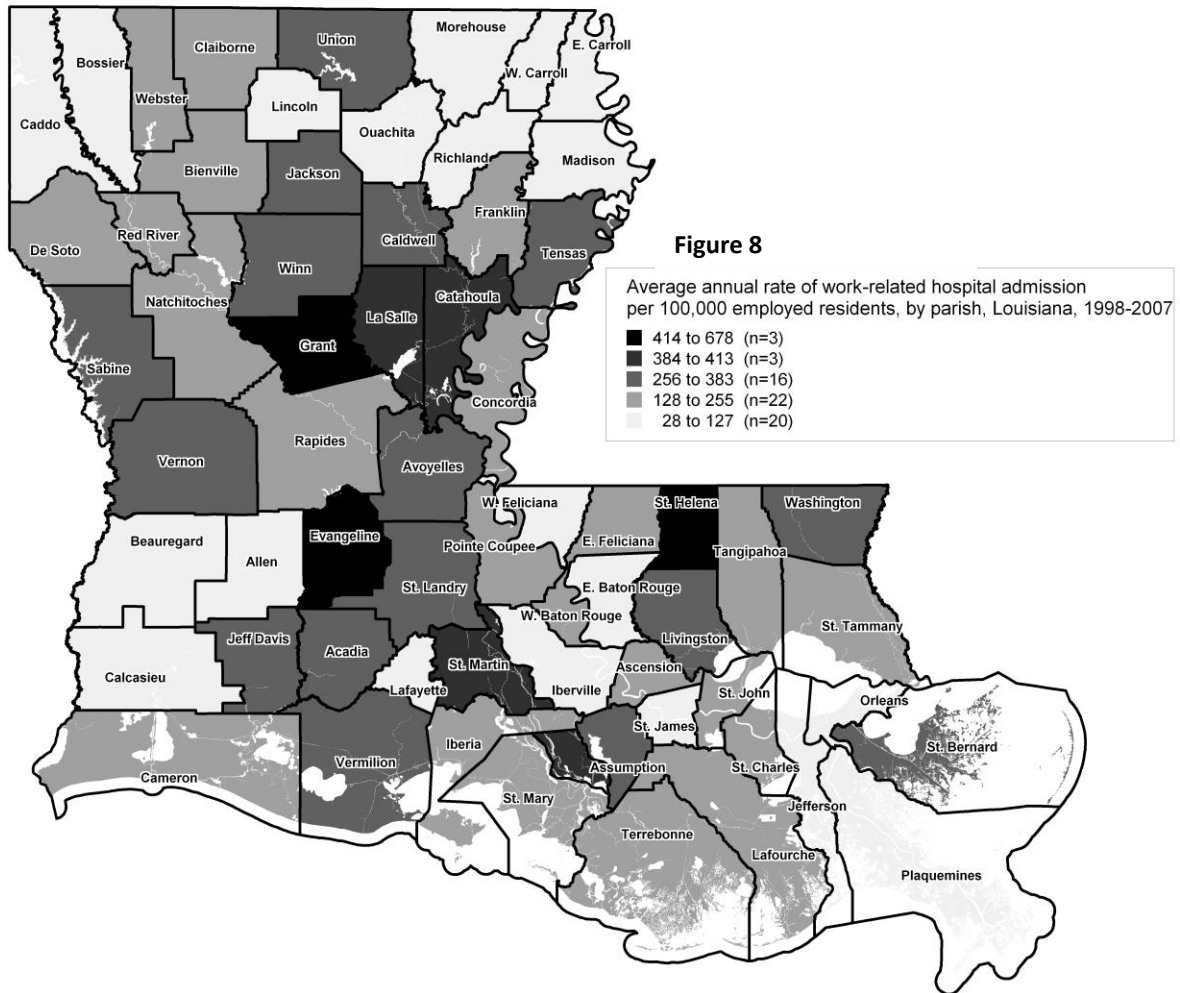
**Figure 7 - Number and rate of hospitalizations covered by Workers' Comp, by age group, LA, 1998-2007**



Approximately 57% of work-related injuries occurred among employed individuals between the ages of 35 and 54 years. The hospitalization rates per 100,000 workers increased for each age group, with those 65 years or older having the highest rate (Figure 7).



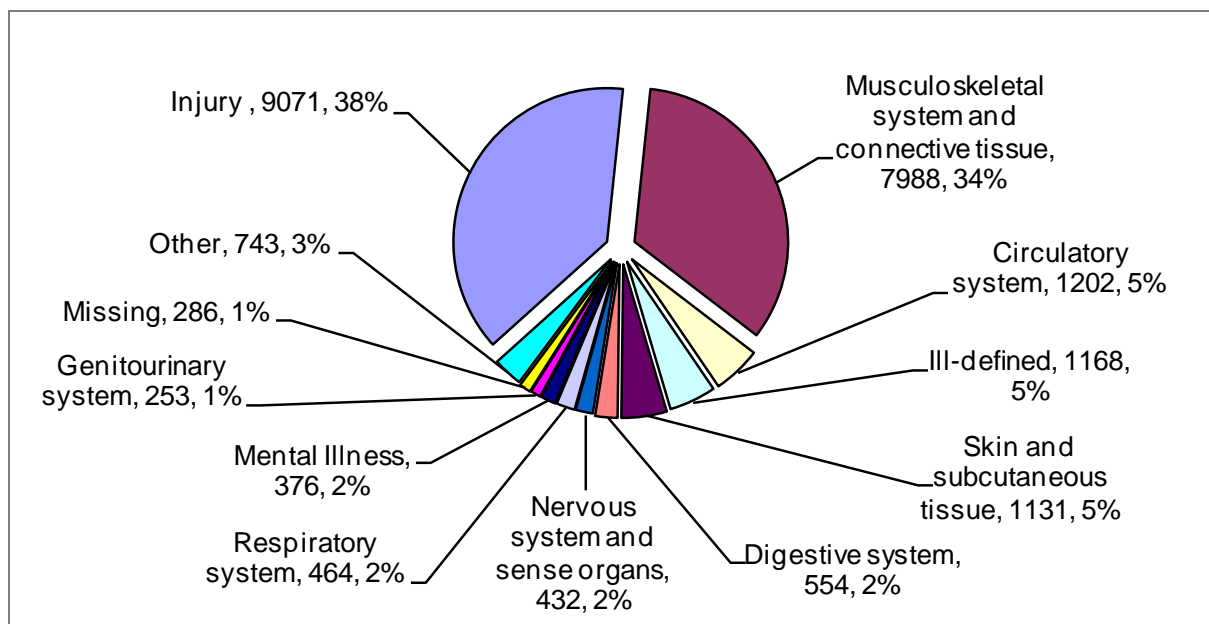
Parish (or county) of employment was not available in LAHIDD, so rates of work-related hospital admissions by parish of residence were reviewed instead. Since many individuals may live and work in different parishes, this does not provide exact information on where occupational health hazards occur, but it may give an idea of regions that are more heavily impacted. Rates varied widely across the state, from 28.5 per 100,000 employed residents in Madison parish to 675.5 in Grant parish. The ten-year average for the state was 127.9 hospitalizations per 100,000 workers. Among Louisiana's 64 parishes, six had rates more than three times greater than the state average: Grant, St. Helena, Evangeline, St. Martin, Catahoula, and La Salle. The seven parishes with the largest populations all had rates below the state average: East Baton Rouge, Orleans, Jefferson, Lafayette, Caddo, Calcasieu, and Ouachita.



### **Diagnostic categories of work-related hospitalizations**

All hospitalizations were assigned a CCS (Clinical Classification Software) label based on principal diagnosis code. Sixteen distinct body system CCS categories were used for this analysis. The six CCS categories that contributed less than 1% of inpatient stays were grouped into a category labeled 'Other.' Poisonings were also separated from injuries and added to 'Other', as they comprised less than 2% of the original 'Injury and Poisoning' category. As a result, the final category 'Other' is composed of poisonings; diseases of the blood and blood-forming organs; congenital anomalies; infectious and parasitic diseases; neoplasms; endocrine, nutritional, and metabolic diseases and immunity disorders; and residual codes.

**Figure 9 - Percent of hospital admissions covered by Workers' Comp, by principal diagnosis, LA, 1998-2007**



The majority (72%) of hospitalizations for work-related conditions were caused by injuries (38%) or disorders of the musculoskeletal system and connective tissue (34%). No other diagnostic group contributed more than approximately 5% of hospitalizations. The next three categories contributing to the most hospital admissions were disorders of the circulatory system, ill-defined conditions, and disorders of the skin and subcutaneous tissue. They all contributed about 5% of hospitalizations (Figure 9).

### ***Hospitalizations for Injuries***

Of the 23,668 work-related hospitalizations in LAHIDD between 1998 and 2007, 9,071 (38.3%) resulted from injuries. Fractures were the most commonly reported injury (41.6%), followed by complications (15.5%) and open wounds (10.2%).

**Table 2 - Inpatient stays for injuries covered by Workers' Comp, by CCS diagnostic subclassification, LA, 1998-2007**

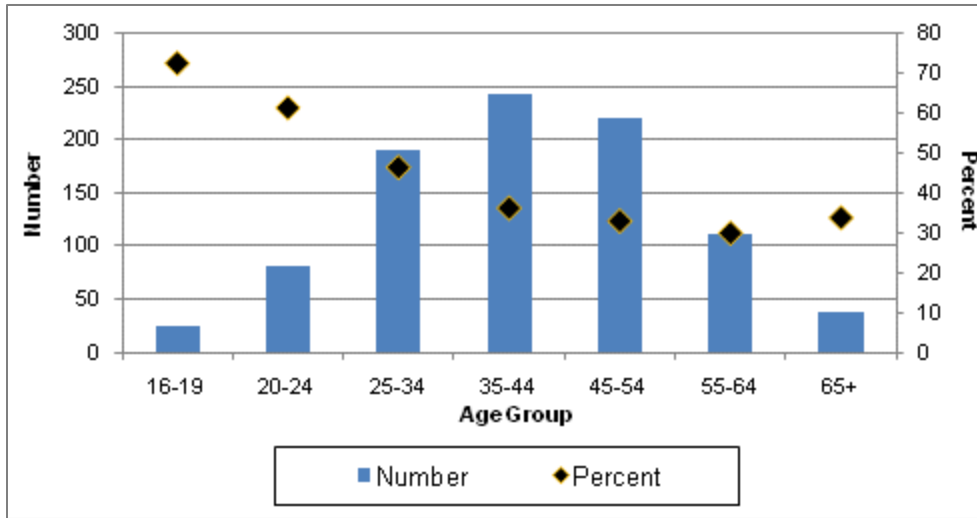
<b>Injury subcategory</b>	<b>N</b>	<b>%</b>
<b>Fractures</b>	<b>3776</b>	<b>41.6</b>
Fracture of lower limb	1690	18.6
Fracture of neck of femur	250	2.8
Fracture of upper limb	1011	11.1
Other fractures	610	6.7
Skull and face fractures (without intracranial injury)	215	2.4
<b>Complications</b>	<b>1410</b>	<b>15.5</b>
Complications of device, implant, or graft	719	7.9
Complications of procedure or medical care	691	7.6
<b>Open wounds</b>	<b>924</b>	<b>10.2</b>
Extremities	753	8.3
Head, neck, and trunk	171	1.9
<b>Sprains and strains</b>	<b>520</b>	<b>5.7</b>
<b>Crushing injury or internal injury</b>	<b>571</b>	<b>6.3</b>
<b>Burns</b>	<b>463</b>	<b>5.1</b>
<b>Joint disorders and dislocations; trauma-related</b>	<b>418</b>	<b>4.6</b>
<b>Intracranial injury</b>	<b>413</b>	<b>4.6</b>
<b>Other conditions due to external causes</b>	<b>365</b>	<b>4.0</b>
<b>Superficial injury; contusion</b>	<b>144</b>	<b>1.6</b>
<b>Spinal cord injury</b>	<b>67</b>	<b>0.7</b>
<b>Total</b>	<b>9071</b>	<b>100.0</b>

Amputations are classified as an open wound to an extremity. Due to the severity and effect on quality of life of this type of injury, counts of injuries resulting in amputation were noted separately. There were 237 amputations during this ten-year period, the majority involving upper extremities (Table 3).

**Table 3 - Hospitalizations for amputations covered by Workers' Comp, LA, 1998-2007**

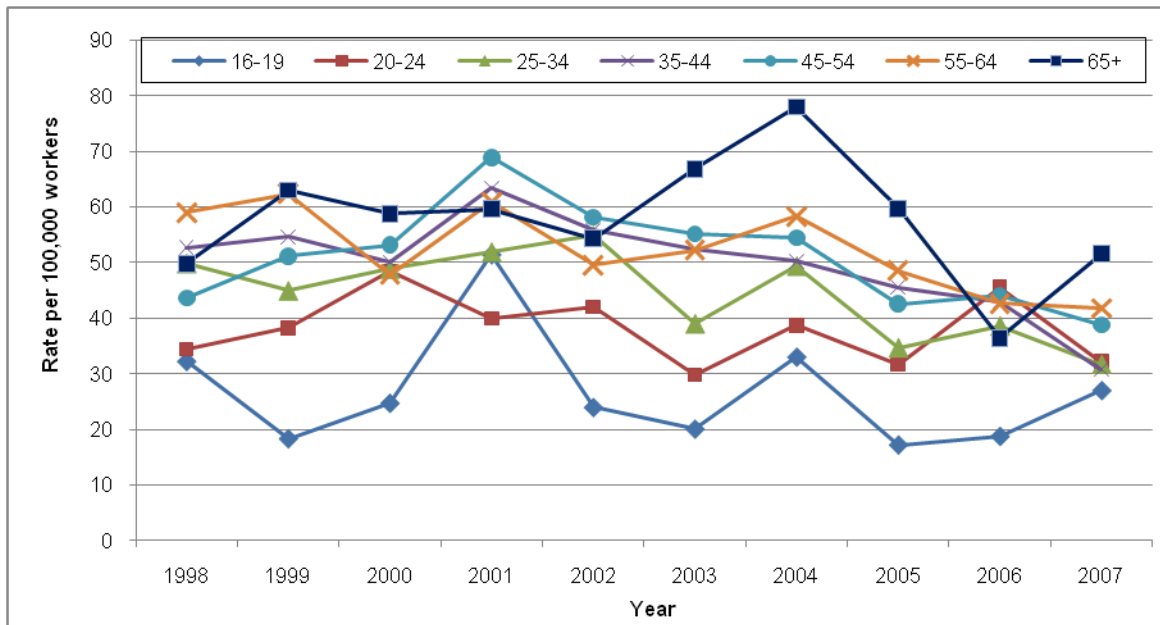
<b>Amputations</b>	<b>N</b>	<b>%</b>
Amputation of upper extremities	215	90.7
Amputation of lower extremities	22	9.3

**Figure 10 - Average annual number and percent of hospitalizations due to injury, by age group, LA, 1998-2007**



When divided into seven distinct age groups, the highest annual average number of injuries occurred among 35-44 year olds, and the lowest occurred among workers younger than 20. The percent of total hospitalizations caused by injury was highest for the youngest age groups, indicating that injury prevention is of particular importance for younger workers.

**Figure 11 - Rate of hospitalizations covered by Workers' Comp due to injury, by age group, LA, 1998-2007**

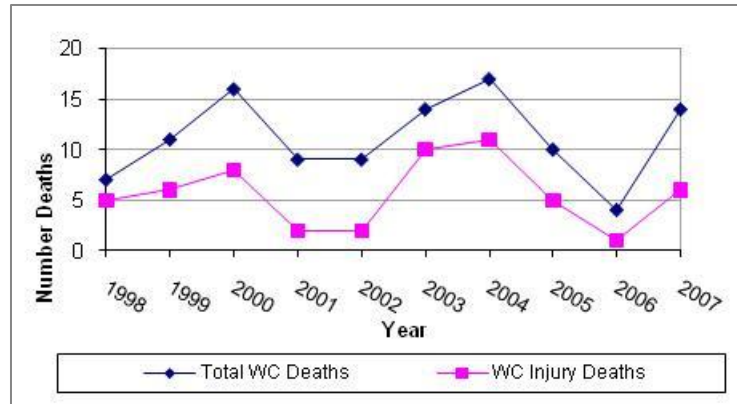


The average rate of injury hospitalizations per 100,000 workers increased with age. For workers age 65 and older the average rate of injury hospitalizations was 57.8, compared with 26.7 for workers 16 to 19 years old (Figure 11).

### Work-related hospitalizations resulting in death

Of all 23,668 work-related hospitalizations between 1998 and 2007, 114 listed the patient's discharge status as "expired" or "expired in a medical facility." The principal diagnosis for 56 (49%) of these patients was an injury. Figure 12 demonstrates the annual proportion of workers' comp hospital admissions resulting in death associated with injuries, as compared with total work-related inpatient deaths. No other diagnosis contributed to more than 15 deaths.

**Figure 12 - Annual number of deaths among hospitalizations covered by Workers' Comp, total and injury, LA, 1998-2007**



Intracranial injuries accounted for nearly half of the injury-related deaths, and had a death rate of 63.0 per 1,000 hospitalizations – much greater than any other diagnosis (Table 4).

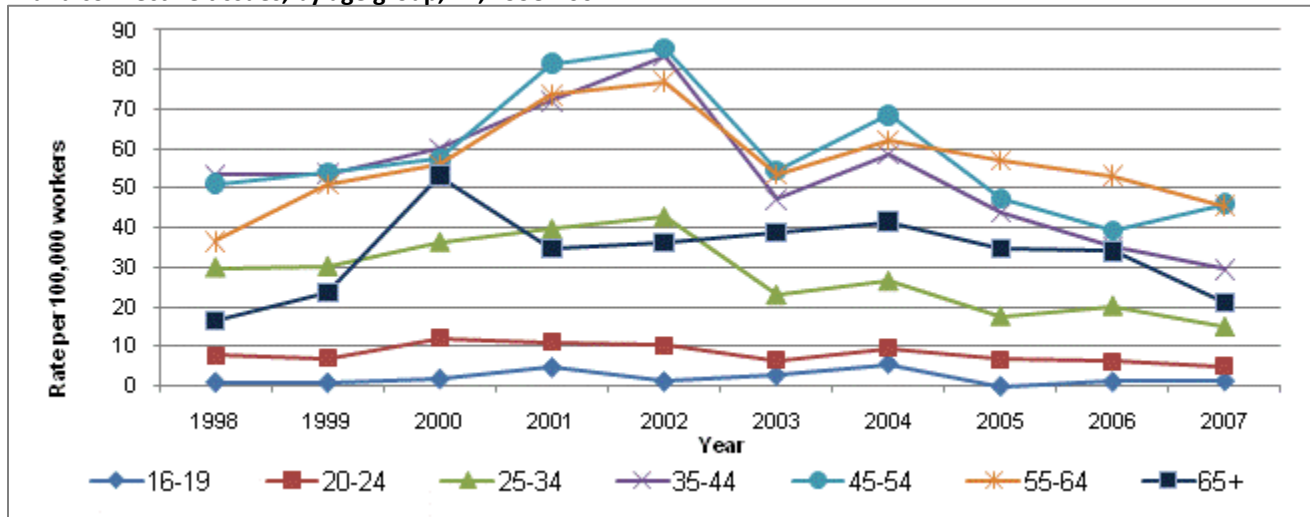
**Table 4 - Number, percent and rate of hospitalizations for injury resulting in death covered by Workers' Comp, LA, 1998-2007**

Injury subcategory	Deaths	%	Hospital admits	Deaths per 1,000 admits
Intracranial injury	26	46.4	413	63.0
Burns	9	16.1	463	19.4
Spinal cord injury	1	1.8	67	14.9
Crushing injury or internal injury	6	10.7	571	10.5
Other injuries and conditions due to external causes	2	3.6	365	5.5
Open wounds	2	3.6	924	2.2
Fractures	8	14.3	3776	2.1
Complications	2	3.6	1410	1.4
<b>Total</b>	<b>56</b>	<b>100.0</b>	<b>7989</b>	<b>7.0</b>

### Hospitalizations for Musculoskeletal Disorders

Disorders of the musculoskeletal system and connective tissues accounted for 33.8% (7,988) of all work-related hospitalizations. Rates were highest for those between the ages of 35 and 64, with an average of 56.3 per 100,000 workers. The lowest rates were for 16-19 year olds, at 2.0 per 100,000 workers.

**Figure 13 - Rate of hospitalizations covered by Workers' Comp due to disorders of the musculoskeletal system and connective tissues, by age group, LA, 1998-2007**



**Table 5 - Hospitalizations for disorders of the musculoskeletal system and connective tissue paid by Workers' Comp, by diagnostic subclassification, LA, 1998-2007**

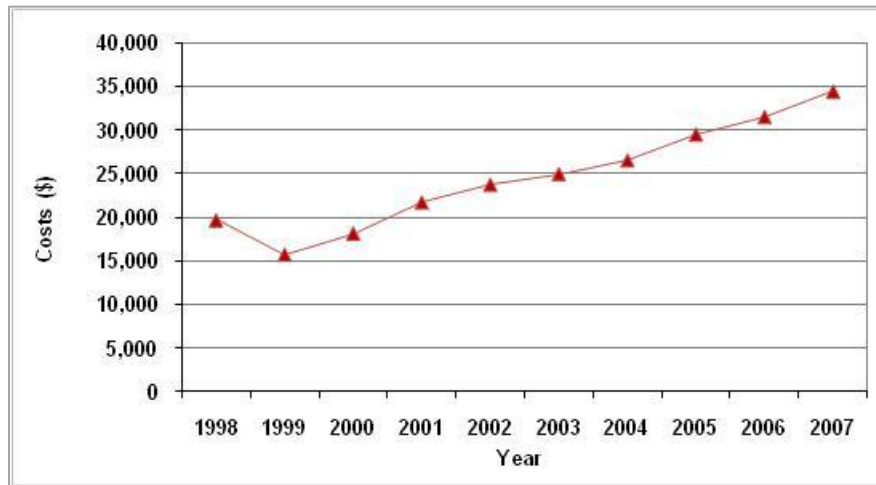
Type	N	%
<b>Dorsopathies</b>	<b>5870</b>	<b>73.5</b>
Intervertebral disc disorders	4609	78.5
Spondylosis and allied disorders	486	8.3
Other	775	13.2
<b>Arthropathies and related</b>	<b>963</b>	<b>12.1</b>
<b>Osteopathies, chondropathies, and acquired musculoskeletal deformities</b>	<b>669</b>	<b>8.4</b>
<b>Rheumatism</b>	<b>483</b>	<b>6.0</b>
<b>Other</b>	<b>3</b>	<b>&lt;0.1</b>
<b>Total</b>	<b>7988</b>	<b>100.0</b>

In order to further analyze musculoskeletal system and connective tissue disorders, hospitalizations were categorized into four subgroups: arthropathies (joint disorders) and related; dorsopathies (disorders of back and spine); rheumatism (painful conditions of muscles, tendons, joints, and bones) excluding the back; and osteopathies (disorders of bone), chondropathies (disorders of cartilage), and acquired musculoskeletal deformities. Three cases did not fit these categories and were placed in "Other." Nearly three-quarters of musculoskeletal system and connective tissue disorders were dorsopathies, and 78.5% of dorsopathies were related to intervertebral disc disorders. The most common type of intervertebral disc disorder was displacement of lumbar or cervical discs (Table 5).

## Costs

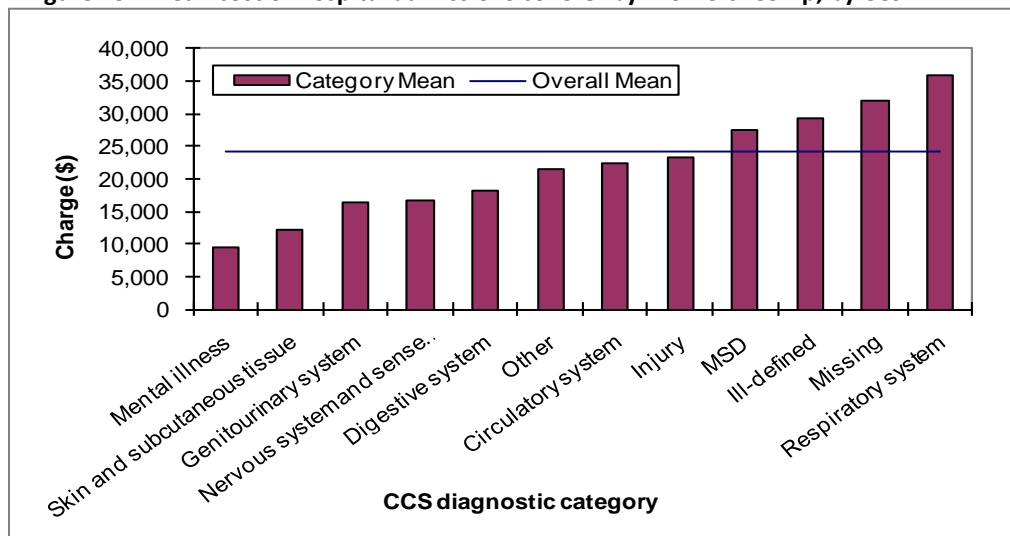
Figure 14 shows that the mean annual costs for work-related hospitalizations have continuously increased since 1999. The average cost of a work-related hospitalization between 1998 and 2007 was \$24,321.47.

**Figure 14 - Annual mean cost of hospitalizations covered by Worker's Comp LA, 1998-2007**



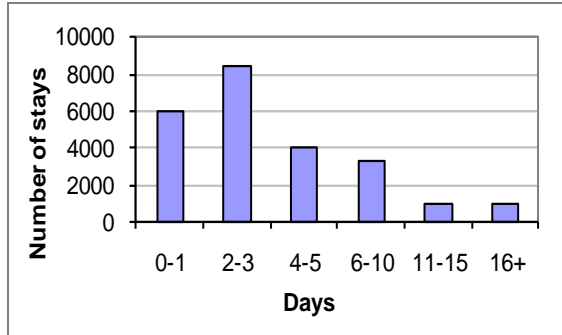
The total costs varied widely by CCS diagnostic category. The average annual stay for mental illnesses was least expensive, costing \$9,468.25, while the most expensive average annual stay was for conditions associated with the respiratory system, at \$28,957.35. The differences between the mean cost for respiratory system admissions and the mean cost for all other groups, except for ill-defined conditions and those missing a principal diagnosis, were statistically significant (Figure 15). Some of the specific diagnoses that contributed the highest costs for respiratory conditions included respiratory failure, pneumonia, and obstructive chronic bronchitis. The vast majority of cases in the ill-defined category were hospitalized for rehabilitation, fitting of prostheses, and/or adjustment of devices (79.9%).

**Figure 15 - Mean cost of hospital admissions coverer by Workers' Comp, by CCS**



## Length of stay

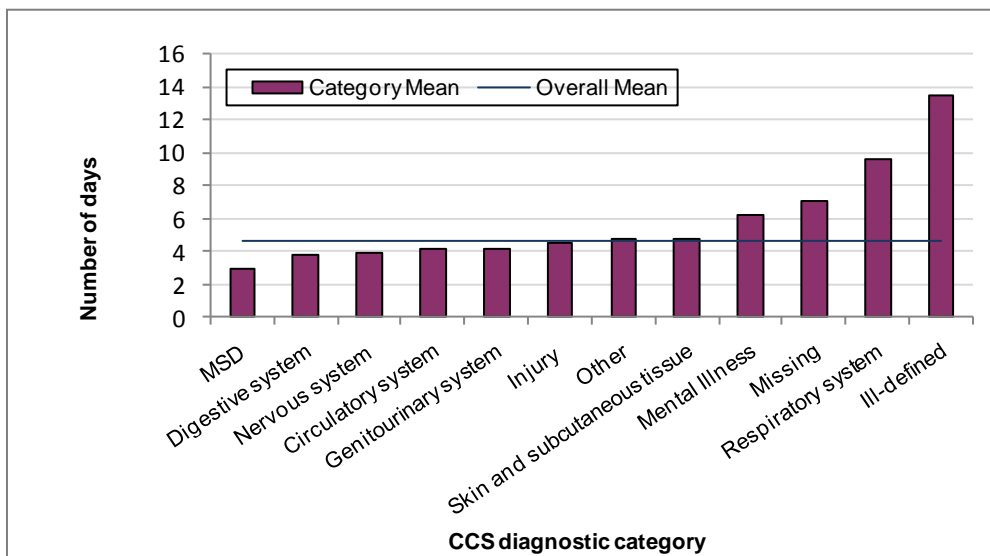
**Figure 16 - Distribution of length of stay for hospitalizations covered by Workers' Comp, LA, 1998-2007**



The length of stay for approximately 60% of work-related hospitalizations was three days or fewer, and nearly 4% were hospitalized for 16 days or more (Figure 16). The average stay during this ten-year period was 4.7 days.

Figure 17 shows that among the CCS diagnostic categories, the longest average inpatient stay was for ill-defined diagnoses, at 13.5 days. This was primarily due to rehabilitation care. The difference between the length of stay for ill-defined diagnoses and the average length of stay for every other category was statistically significant. The shortest average stay (2.9 days) was for conditions related to the musculoskeletal system and connective tissue, more than half of which had a principal diagnosis of intervertebral disc disorder.

**Figure 17 - Mean length of hospital admissions covered by Workers' Comp, by CCS diagnostic category, LA, 1998-2007**





## Conclusion

This study analyzed work-related hospitalizations in the Louisiana Hospital Inpatient Discharge Database (LAHIDD) for the 10-year period from 1998 through 2007. There were 23,688 hospitalizations determined to be work-related, which made up approximately 0.46% of all hospitalizations of Louisiana residents during the ten-year period. Neither numbers nor rates of work-related hospitalizations changed significantly over time. Males, older workers, and White workers had the highest rates of hospitalization for work-related conditions. Hospitalization rates varied widely based on parish of residence. Injuries were the most common work-related hospitalization followed by disorders of the musculoskeletal system and connective tissues. Rates of hospitalization for injuries increased with age, but rates for the musculoskeletal system and connective tissue hospitalizations peaked in the group aged 45-54. The two most costly diagnoses, as well as those that resulted in the longest hospital stays, were disorders of the respiratory system and ill-defined diagnoses, primarily rehabilitation care. Of work-related hospitalizations resulting in death, intracranial injuries had the highest rate per 1,000 hospital admissions.

This analysis demonstrates the usefulness of hospital discharge data for describing the impact of serious work-related injuries and illnesses on total hospitalizations, as well as for providing information on the demographics of workers affected by these conditions. A wide array of information is available in LAHIDD, including payment, diagnosis and procedure codes, and patient characteristics. These data offer details that are not always available from other sources, such as workers' compensation records, OSHA workplace injury and illness logs, and population-based studies. LAHIDD data are routinely collected by the Louisiana Department of Health and Hospitals/Office of Public Health and can be used in occupational health surveillance to identify and target work-related conditions. Since records are included for all hospitalizations, regardless of pay, it also provides the opportunity to make comparisons between work-related hospitalizations and total hospitalizations.

Although a useful tool, several limitations of utilizing LAHIDD data were also presented. Payment by workers' compensation is not a perfect indicator of all work-related injuries and illnesses, but rather serves to provide estimates of work-related conditions serious enough to require hospitalization. Despite limitations, this analysis highlights the profound impact that injuries and musculoskeletal and connective tissue disorders have on Louisiana's employed population. Work-related injuries are generally defined as those that result from single events such as falls or being struck or crushed by objects. Although these events can occur in any setting, certain industries are at greater risk, including construction, manufacturing, oil/gas activities, farming, and transportation. Among musculoskeletal disorders, dorsopathies were particularly prevalent in this data set, which is consistent with nationwide data. Back pain affects approximately 15% of working Americans<sup>12</sup>, results in over 100 million lost workdays nationwide,<sup>13</sup> and is the cause of about a quarter of all workers' compensation claims.<sup>14</sup> The occupations that put workers at highest risk for musculoskeletal disorders are construction workers among males, and nursing aides among females.<sup>14</sup> As a next step, a more detailed analysis of injuries and dorsopathies is warranted. Such studies will provide information necessary to help target and implement prevention efforts for high risk occupations and industries, ultimately reducing the burden of work-related injuries and back disorders.

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