

Florida Department of Health

Florida Occupational Injury & Illness

Total Gross Charges From Hospital Inpatient Discharge and Emergency
Department Data, 2006–2010

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Florida Occupational Injury & Illness 2006–2010

Contents

Overview	3
Data	3
Case Definition.....	3
Variable Definitions	3
Cost Adjustment.....	4
Overall Cases	4
Overall Charges	4
Charges by Demographic Characteristics	5
Charges by ICD Code Categories	6
Charges by County	7
Charges by Quarter	7
APPENDIX I: ICD-9-CM E-codes indicating work-relatedness.....	8

Florida Occupational Injury & Illness 2006–2010

Overview

Occupational injuries and illnesses result in substantial medical costs each year. According to the Florida Department of Financial Services Worker's Compensation Claims Database (http://www.myfloridacfo.com/WCAPPS/Claims_Research/Stats_Search.asp), from 2006 to 2010 there were over 300,000 worker's compensation cases resulting in medical costs totaling over \$4.5 billion. This report provides a description of the total gross charges related to occupational injury and illness from Florida hospital inpatient discharge (HID) and emergency department (ED) data from January 1, 2006 through December 31, 2010.

Data

Florida HID data have been collected by the Agency for Health Care Administration (AHCA) since 1988 and ED data have been collected since 2005. The data include information reported by all facilities licensed under Chapter 395, Florida Statutes, as provided by Section 408.061, Florida Statutes, and according to the rules outlined by 59E-7 and 59B-9, Florida Administrative Code. Data from facilities that do not require licensure under Chapter 395, F.S., such as state-operated, federal, and Shriner's hospitals are excluded. AHCA collects HID data from 269 out of 294 acute care, short-term and long-term psychiatric, and comprehensive rehabilitation facilities. ED data are collected from 215 emergency departments. The current description of these data sources can be found at www.floridahealthfinder.gov/Researchers/OrderData/order-data.shtml under "data dictionary".

Throughout this report, each HID and ED record identified as "occupational injury/illness" will be referred to as a "case". Each case represents a HID/ED record and does not necessarily equate to an individual. The data used for this report are public-use and all identifying variables have been removed from the records. Therefore, individuals may have multiple HID or ED records. However, each event is represented in only one of the data sources, either the ED or HID, whichever facility type was the terminal site of care at discharge.

Case Definition

In both data sets, records related to occupational injury/illness were identified as those meeting the following criteria:

- Individuals residing in Florida aged 15–74 years and any of the following:
 - Payer listed as "workers' compensation," or
 - Principle diagnosis coded with any of the E-codes in Appendix I, or
 - Principle diagnosis coded with any V-code in Appendix I.

Variable Definitions

Several demographic variables were constructed for this descriptive report. Individuals were grouped into six, 10-year age groups: 15–24, 25–34, 35–44, 45–54, 55–64, and 65–74. Records with ages less than 15 years and more than 74 years were excluded from the analysis.

Individuals were also categorized into the following race/ethnic groups: non-Hispanic white, non-Hispanic black, Hispanic, and Other, which includes all other race/ethnic indicators. The principal diagnoses for each record were categorized into diagnostic groups as defined by the

Florida Occupational Injury & Illness 2006–2010

Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Clinical Classification Software system (<http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp>). The report quarter categories are: January 1–March 31, April 1–June 30, July 1–September 31, and October 1–December 31 of each year. The patient county of residence and gender were reported as they appeared in the data records.

Cost Adjustment

Total gross charges were used to calculate the cost statistics (sum, mean, and median). Total gross charges for 2006–2009 data were adjusted to 2010 prices using the U.S. Bureau of Labor Statistics, Consumer Price Index (CPI) for medical care (www.bls.gov/cpi). Using the CPI, medical costs increased 6.6% from 2006–2007, 7.0% from 2007–2008, 6.4% from 2008–2009, and 7.0% from 2009–2010. *All costs reported in this document are adjusted costs.*

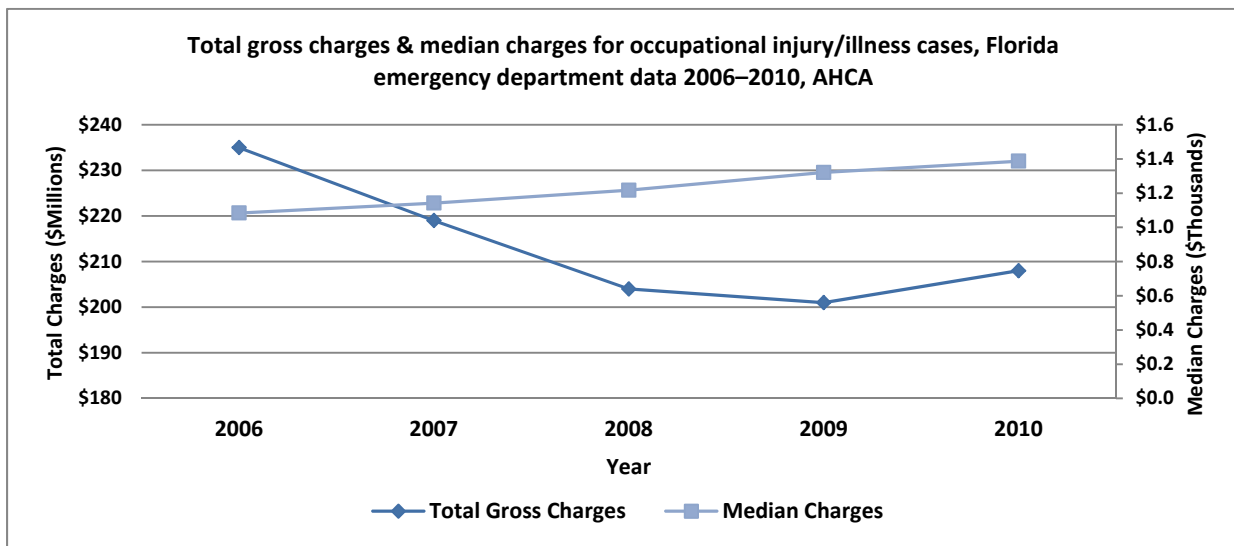
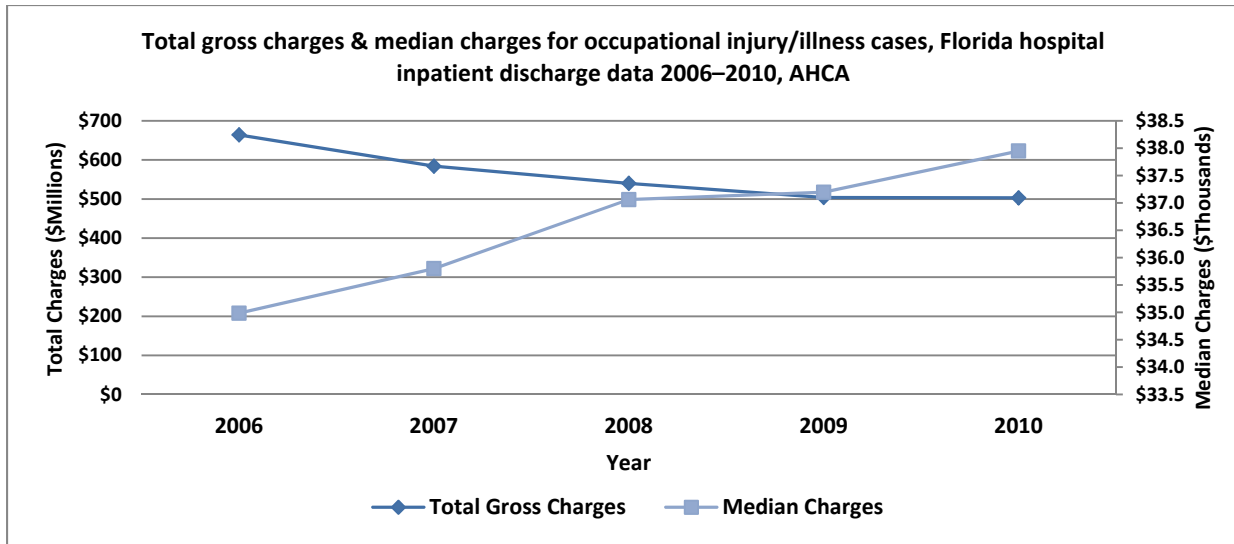
Overall Cases

Combining HID and ED data, there were 149,401 occupational injury/illness cases in 2006. In 2010, there were 97,951 cases, 34.4% fewer compared to 2006. Depending on the year, there were 10–11 times as many ED cases as there were HID cases.

Overall Charges

The total charges in both datasets are not normally distributed; therefore, although means are reported in the detailed tables, median costs will be discussed in this summary in conjunction with total charges. The total charges for occupational injury/illness HID and ED cases in 2006 were nearly \$900 million. Occupational injury/illness charges decreased 20.9% during the study period to over \$711 million in 2010. Median HID charges were about 30 times higher than median ED charges. Total charges from HID cases were 2.5 to nearly 3 times higher than ED charges. HID total charges declined 24.3% from \$664 million in 2006 to nearly \$503 million in 2010, whereas ED total charges declined 11.3% from over \$235 million in 2006 to over \$208 million in 2010. At the same time, HID median charges increased 8.5% from \$34,985 in 2006 to \$37,948 in 2010. Likewise, ED median charges increased 27.9% from \$1,084 in 2006 to \$1,387 in 2010.

Florida Occupational Injury & Illness 2006–2010



Charges by Demographic Characteristics

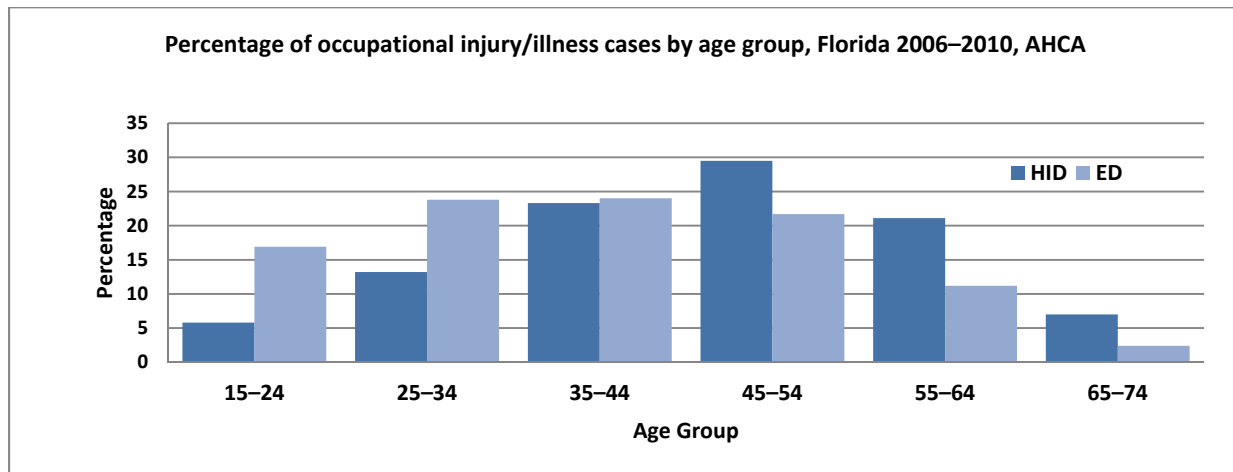
In every year examined, the number of occupational injury/illness HID cases was highest among males. The percentage of total HID cases attributed to males was over 70% each year; however, the gap between male and female cases narrowed each year. In 2006, males accounted for 76.8% of all HID cases. In 2010, males accounted for 72.8% of all HID cases. A similar pattern was observed for ED data. In 2006, males accounted for 65.6% of all ED cases. By 2010, the percentage attributed to males was 60%. In total, male HID and ED total gross charges were over \$2.8 billion for the five years examined, whereas female HID and ED total gross charges were over \$1 billion for the same period. Among males, 75.4% of these charges were from HID cases, whereas, among females, 63.7% of these charges were HID cases.

In each year, about two-thirds of all HID cases were among non-Hispanic whites. About 17% were among Hispanics and about 12% were among non-Hispanic blacks. In all years, about

Florida Occupational Injury & Illness 2006–2010

61% of all ED cases were among non-Hispanic whites. In 2006, about 18% of ED cases were attributed to Hispanics, about 16% to non-Hispanic blacks, and about 2.5% to other race/ethnic individuals. In 2010, about 61% of ED cases were among non-Hispanic whites, about 16% were among non-Hispanic blacks, about 13% were among Hispanics, and about 9% were among those from other race/ethnic categories. Overall, the total gross charges during the study period were \$2.5 billion for non-Hispanic whites, \$488 million for non-Hispanic blacks, \$606 million for Hispanics, and \$200 million for other race/ethnic categories.

In each year, the majority of HID cases were in the 35–44 year age group (about 23%), the 45–54 year age group (about 29.5%), and the 55–64 year age group (about 21%). About 6% of HID cases were among those 15–24 years of age and about 7% were among those 65–74 years of age. This distribution differs somewhat when examining ED data. The majority of ED cases were in the 25–34 year age group (about 24%), the 35–44 year age group (about 24%), and the 45–54 year age group (about 22%). About 17% of ED cases were among those 15–24 years of age, about 11% were among those 55–64 years of age, and about 2% were among those 65–74 years of age. Overall, the total gross charges for occupational injury/illness cases using HID and ED data were about \$1.1 billion among those aged 45–54 years, about \$881 million among those aged 35–44 years, about \$763 million among those aged 55–64 years, about \$579 million among those aged 25–34 years, about \$292 million among those aged 15–24, and about \$252 million among those aged 65–74 years.



Charges by ICD Code Categories

For the five years examined, over half of the principle diagnosis codes had residual/unclassified E codes. After a closer examination of these codes, about 60% of these could be subcategorized. The subcategories with the most cases included accidental falls (n=4015, 14.1%), surgical/medical care accidents (n=3422, 12%) and other accidents (n=4047, 14.2%). Diseases of the musculoskeletal system and connective tissue ranked second with 10,688 cases, which equates to 21.4% of all HID cases examined. Other categories of note are diseases of the circulatory system (5.8% of cases), injury and poisoning (3.1% of all cases) and mental illness (2.8% of cases).

Florida Occupational Injury & Illness 2006–2010

In the ED data, about 81% of cases had principle diagnosis codes categorized as residual/unclassified codes. A closer examination of subcategories within this category showed that about 46% could not be subcategorized, about 34% were categorized as other accidents, about 11% were accidental falls, and nearly 4% were transport accidents. Ill-defined conditions comprised about 5.7% of all ED cases and diseases of the musculoskeletal system/connective tissue comprised about 5% of all ED cases.

In all, about \$2.6 billion in total gross charges resulted from occupational injury/illness categorized as residual codes/unclassified. Second to this category, about \$722 million in total gross charges was due to disease of the musculoskeletal system/connective tissue. Lastly, about \$148 million in total gross charges resulted from diseases of the circulatory system.

Charges by County

As expected, the largest counties in Florida recorded the largest number of HID and ED occupational injury/illness cases and the most total gross charges. In total for the 2006–2010 study period, the top five counties based on total gross charges (HID and ED combined) were: Miami-Dade with 55,989 cases totaling about \$470 million, Broward with 54,195 cases totaling about \$334 million, Hillsborough with 37,022 cases totaling about \$269 million, Palm Beach with 34,975 cases totaling about \$288 million, and Orange with 28,624 cases totaling about \$200 million. The county with the fewest HID and ED cases were Lafayette (298), Jefferson (321), and Glades (339). Each of these counties had over \$1 million in total gross charges for the period examined.

Charges by Quarter

The reporting quarters for both HID and ED data follow the calendar year. The first quarter is January 1 through March 31, the second is April 1 through June 30, the third is July 1 through September 30, and the fourth is October 1 through December 31. About one-fourth of HID and ED cases were reported each quarter. No discernible patterns were observed to indicate any seasonal trends in occupational injury/illness using these data.

APPENDIX I: ICD-9-CM E-codes indicating work-relatedness

E-code first 3 digits	4 th digit	Description
E800 - Railway accident involving collision with rolling stock E801 - Railway accident involving collision with other object E802 - Railway accident involving derailment without antecedent collision E803 - Railway accident involving explosion fire or burning E804 - Fall in on or from railway train E805 - Hit by rolling stock E806 - Other specified railway accident E807 - Railway accident of unspecified nature	0	Railway employee (federal railway employees covered by Federal Employers Liability Act and not WC; BART employees covered by WC)
E830 - Accident to watercraft causing submersion E831 - Accident to watercraft causing other injury E832 - Other accidental submersion or drowning in water transport accident E833 - Fall on stairs or ladders in water transport E834 - Other fall from one level to another in water transport E835 - Other and unspecified fall in water transport E836 - Machinery accident in water transport E837 - Explosion fire or burning in watercraft	2 6	Crew Docker/stevedore (longshoremen/stevedores covered by the Longshore and Harbor Workers' Compensation Act, not WC)
E840 - Accident to powered aircraft at takeoff or landing E841 - Accident to powered aircraft other and unspecified E842 - Accident to unpowered aircraft E843 - Fall in on or from aircraft E844 - Other specified air transport accidents E845 - Accident involving spacecraft	2 8	Aircraft crew (state in which WC claims are filed varies) Ground crew
E846	N/A	Accidents involving powered vehicles used solely within the buildings and premises of industrial or commercial establishment
E849 - Place of occurrence	1 2 3	Farm accidents Mine and quarry accidents Accidents occurring in industrial places/premises

ICD-9-CM V-codes (supplementary codes) indicating work-relatedness

V-code first 3 digits	4 th digit	Description
V62 - Other psychosocial circumstances	1	Adverse effects of work environment
V71 - Observation and evaluation for suspected conditions not found	3	Observation following accident at work

ICD-9-CM E-codes indicating work-relatedness (Effective 1 October 2009)

E-code first 3 digits	4 th digit	Description
E000 - External cause status	0	Civilian activity done for income or pay
	1	Military activity