Racial & Ethnic Disparity

Work-Related Health Disparities

Florida, 2010

Florida Department of Health, Occupational Health and Safety Surveillance Program
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Executive Summary

INTRODUCTION

An increasing number of studies suggest that ethnic and racial minorities bear a disproportionate burden of work-related injuries, illnesses and fatalities (McGreevey 2010, Hunt 2005, Shannon 2009, Friedman 2008).The purpose of this report is to:

- **examine whether minorities in Florida have a higher rate of work-related injuries and illnesses compared to white non-Hispanics,**
- **examine whether minorities have a higher proportion of certain types of injuries compared to white non-Hispanics, and**
- **identify industries and occupations where minority work-related injuries and illnesses are concentrated.**

Highlighting areas where minority workers may sustain a disproportionate amount of work-related injuries and illnesses will aid stakeholders in choosing target areas for health and safety interventions.

METHODS

This report defines minorities as non-Hispanic blacks and Hispanics (of any race). Other racial/ethnic categories are not included due to small numbers. Data sources include the Florida Agency for Health Care Administration's hospitalization and emergency department (ED) databases, the Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII), the BLS Census of Fatal Occupational Injuries and Illnesses (CFOI) and the BLS Current Population Survey. In the SOII data set, only cases involving days away from work are included. All data are for the year 2010.

RESULTS/CONCLUSIONS

Did minorities have a higher rate of work-related injuries and illnesses?

Both blacks and Hispanics had a higher rate of work-related non-fatal injuries and illnesses involving days away from work as estimated in the SOII. Blacks had the highest rate of work-related ED visits; however, whites had the highest rate of work-related hospitalizations. Hispanics had the lowest rate of the three groups in both ED and hospitalization data. Minorities did not have a higher rate of fatal accidents in 2010 (although minorities had higher fatality rates in prior years of analyses).

Did minorities have a higher proportion of certain types of injuries?

The data showed that minorities had a higher proportion of certain types of injuries. In the SOII, Hispanics had the highest rates of days away from work resulting from fractures, cuts/lacerations, and abrasion/scratches. Blacks had the highest rates of days away from work resulting from sprains/strains/tears, amputations, intracranial injuries and non-back pain. In the ED data, blacks had the highest rates of several specific conditions including sprains and strains, superficial injury/contusion, certain back problems, non-traumatic joint disorders, and eye disorders. Hispanics visited the ED at a higher rate than whites for eye disorders.

Were work-related injuries and illnesses for minorities concentrated in specific industries or occupations?

In the SOII data, the industry with the highest rate of injuries and illnesses involving days away from work for blacks was wholesale trade. For Hispanics, the industry with the highest rate of injuries involving days away from work was agriculture forestry, fishing, and hunting. In the CFOI data, the highest numbers and rates of work-related fatalities for Hispanics occurred in the construction industry and for blacks the transportation and warehousing industry. Information on industry was not available in the hospital and ED data.

Occupations were only examined in the SOII. Only counts were available. For blacks, the occupational group with the highest number of injuries involving days away from work was nursing aides, orderlies, and attendants. For Hispanics, the occupational group with the highest number of injuries involving days away from work was janitors and cleaners (excludes maids and housekeeping cleaners).

Introduction

A worker's risk of occupational injury or illness varies based on the type of work they engage in.

INTRODUCTION

An increasing number of studies suggest that ethnic and racial minorities bear a disproportionate burden of work-related injuries, illnesses, and fatalities (McGreevey 2010; Hunt 2005; Shannon 2009, Friedman 2008). A worker's risk of occupational injury or illness varies based on the type of work they engage in. Professions with the highest risks often employ a high proportion of minority[a] workers.

The purpose of this report is to:

- examine whether minorities in Florida have a higher rate of work-related injuries and illnesses compared to white non-Hispanics,
- examine whether minorities have a higher proportion of certain types of injuries compared to white non-Hispanics, and
- identify industries and occupations where minority work-related injuries and illnesses are concentrated.

Highlighting areas where minority workers may sustain a disproportionate amount of work-related injuries and illnesses will aid stakeholders in choosing target areas for health and safety interventions. This report is the third in a series of special reports on occupational health in Florida produced by the Occupational Health and Safety Program (OHSP) at the Florida Department of Health[b]. The OHSP began operating in 2010 with funding from the National Institute of Occupational Safety and Health (NIOSH). The goals of OHSP are to characterize work-related injuries and illnesses and to use this information to inform prevention activities that will improve the health and safety of Florida's workforce.

a This report defines minorities as non-Hispanic blacks and Hispanics (of any race).
b Report 1: Florida's Occupational Health Indicators 2000–2007. Report 2: Work-related Fatalities in Florida in 2007. See the Occupational Health and Safety Program webpage http://www.floridahealth.gov/healthy-environments/occupational-health/index.html

Methods

This Report Defines Minorities as Non-Hispanic Blacks and Hispanics of (any race).

METHODS

This report defines minorities as non-Hispanic blacks and Hispanics (of any race). Non-minorities are defined as non-Hispanic whites. Other racial/ethnic categories are not included due to small numbers.

Data sources include the Florida Agency for Health Care Administration's inpatient hospitalization and emergency department (ED) databases, the Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII) data set, the BLS Census of Fatal Occupational Injuries and Illnesses (CFOI) and the BLS Current Population Survey (source for denominator data). All data are for the year 2010.

Both Florida hospitalization data sets (impatient hospitalizations and ED) contain records associated with a hospital visit. For hospital visits, only the principal diagnosis was included in this analysis. If workers' compensation was listed as the primary payer, a hospital visit was considered work-related.

The SOII is an annual survey conducted by the BLS that estimates the number of non-fatal work-related injuries and illnesses based on Occupational Safety and Health Administration (OSHA) logs kept by employers. Employers are required to record all work place injury and illnesses involving days away from work. The estimates cover the majority of private sector industries. Farms with fewer than 11 employees, self-employed workers and household workers are not included in SOII data.

The CFOI is an annual, comprehensive count of work-related fatal injuries that utilizes multiple data sources, such as death certificates, state workers' compensation records, news media, and OSHA reports. To be included in the CFOI, a fatality must be verified in at least two independent data sources.

National SOII and CFOI estimates are used to determine which occupations have a high morbidity or mortality risk. Updates to the lists occur every five years. See Appendices A and B for a complete list of high-risk occupations.

Florida Demographics

In 2010, Florida was the fourth most populous state in the U.S. with over 18.8 million residents[c]. Florida is both racially and ethnically diverse with minorities comprising over 40% of the population, blacks (15%), Hispanics (22%), and other races (5%) (Table 1). Although Florida is often thought of as a state comprised predominantly of retirees, there are over 10 million residents of school and working age.

Table 1. Florida Demographics, 2010

Characteristic	Number of Persons	Percent
Total Population	**18,801,310**	**100%**
Sex		
Male	9,189,355	49%
Female	9,611,955	51%
Race/Ethnicity		
White Only, Non-Hispanic	10,884,722	58%
Black Only, Non-Hispanic	2,851,100	15%
Other Race, Non-Hispanic	841,682	5%
Hispanic (Any Race)	4,223,806	22%
Age Group		
Under 20 Years	4,512,990	24%
20 To 24 Years	1,228,758	7%
25 To 34 Years	2,289,545	12%
35 To 44 Years	2,431,254	13%
45 To 54 Years	2,741,493	15%
55 To 64 Years	2,337,668	12%
65 Years and Older	3,259,602	17%

Source: U.S. Census Bureau, 2010

c U.S. Census Bureau. http://2010.census.gov/2010census/popmap/

Workforce by Race/Ethnicity

Florida has a large and diverse workforce. An estimated 7,763,604 full-time equivalent workers (FTEs)[d] age 16 years or older were employed in 2010 (Table 2). The workforce was 12.5% black and 22.5% Hispanic (Current Population Survey, 2010).

Table 2. Race/Ethnicity of Employed Persons in Florida, 2010

Employed Persons by Race/Ethnicity	Number of FTEs	Percent
Total Workforce	7,763,604	100.0%
White Only, Non-Hispanic	4,717,528	60.8%
Black Only, Non-Hispanic	972,667	12.5%
Other Race, Non-Hispanic	329,378	4.2%
Hispanic (Any Race)	1,744,031	22.5%

Source: Bureau of Labor Statistics, Current Population Survey, 2010

Across all race/ethnicities, the industries that employed the largest percentage of the population were health care and social assistance (13.7%), retail trade (12.0%), and accommodation and food services (8.6%) (Current Population Survey, 2010). The most common industry of employment varied slightly by race/ethnicity (Table 3). For whites and blacks the most common industry of employment was health care and social assistance, however, for Hispanics it was retail trade. Appendix C provides a list of the number of employed FTEs by industry and race/ethnicity.

Table 3. Five Most Common Industries of Employment by Race/Ethnicity, Florida, 2010

White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic[1]
Health care & social assistance (13.2%)	Health care & social assistance (19.1%)	Retail Trade (13.1%)
Retail Trade (11.4%)	Retail Trade (13.3%)	Health care & social assistance (11.1%)
Professional & technical services (8.5%)	Accommodation & food services (10.3%)	Construction (9.8%)
Educational services (8.2%)	Educational services (8.9%)	Accommodation & food services (9.5%)
Accommodation & food services (7.7%)	Transportation & warehousing (7.9%)	Management, administrative & waste management services (7.3%)

1 Hispanics may be of any race
Source: Current Population Surcey, 2010

The most common occupation for each racial/ethnic group were as follows: for whites—supervisors of retail sales workers; blacks—cashiers; and for Hispanics—drivers.

d Full-time equivalent: One full-time equivalent works 2,000 hours per year. 40 hours per week x 50 weeks per year = 2,000 hours.

Most Common Occupations by Race/Ethnicity

The most common type of occupation varied by racial/ethnic background (Table 4). The most common occupation for each racial/ethnic group were as follows: for whites— supervisors of retail sales workers; blacks—cashiers; and for Hispanics— drivers. Driver was one of the five most common occupations for both blacks (3.3%) and Hispanics (3.8%) and is considered to be an occupation with a high risk for both occupational morbidity and mortality. Nursing, psychiatric, and home health aides are also high morbidity risk occupations. (See Appendices A and B for the list of high-risk morbidity and mortality occupations).

Table 4. Five Most Common Occupations by Race/Ethnicity, Florida, 2010

White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic[1]
Supervisors/managers of retail sales workers (3.0%)	Cashiers (4.0%)	Driver/sales workers & truck drivers[2 3] (3.8%)
Registered nurses (2.8%)	Nursing, psychiatric, & home health aides[2] (3.8%)	Maids & housekeeping cleaners[2] (3.4%)
Managers, all other (2.5%)	Registered nurses (3.6%)	Cashiers (2.8%)
Elementary & middle school teachers (2.4%)	Driver/sales workers & truck drivers[2 3] (3.3%)	Retail salespersons (2.7%)
Retail salespersons (2.4%)	Maids & housekeeping cleaners[2] (2.9%)	Supervisors/managers of retail sales workers (2.3%)

1 Hispanics may be of any race
2 Occupations included on list of high morbidity risk occupations. See Appendix A for complete list.
3 Occupations included on list of high mortality risk occupations. See Appendix B for complete list.
Technical notes: Occupation based on 2000 Standard Occupational Classification System (SOC) codes. Appendices A and B are based on 2007 Census Occupation Codes. Comparisons were made between the two coding systems using crosswalks provided by the U.S. Census Bureau http://www.census.gov/hhes/www/ioindex/crosswalks.html.
Source: Bureau of Labor Statistics, Current Population Survey, 2010

Non-fatal Work-related Injuries and Illnesses Involving Days Away From Work

INJURIES AND ILLNESSES INVOLVING DAYS AWAY FROM WORK

In 2010, across all races and ethnicities there were approximately 53,450 cases of non-fatal work-related injuries and illnesses involving days away from work. Cases with days away from work are those that result in at least one day away from work beyond the day of injury or onset of illness. Table 5 shows the number and rate of non-fatal work-related injury and illnesses involving days away from work for whites, blacks, and Hispanics. Blacks and Hispanics had higher injury and illness rates involving days away from work than whites, (607.6, 539.6, and 439.4 per 100,000 FTE respectively).

Table 5. Work-Related Injuries and Illnesses Involving Days Away From Work by Race/Ethnicity, FLorida, 2010

Race/Ethnicity	Average Number	Rate per 100,000 FTEs
White Only, Non-Hispanic	20,730	439.4
Black Only, Non-Hispanic	5,910	607.6
Hispanic	9,410	539.6

Technical notes: Estimates do not include those employed in the military, self-employed individuals, or workers on farms with fewer than 11 employees.
Source: Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses (numerator) and Bureau of Labor Statistics, Current Population Survey (denominator), 2010

Non-fatal Work-related Injuries and Illnesses

Table 6. Work-Related Injuries involving Days Away From Work By Race/Ethnicity, 2010

Injuries[1]	Number of Injuries			Rate per 100,000 FTEs		
	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic
Traumatic injuries to bones, nerves, spinal cord	1,980	250	830	42.0	25.7	47.6
Dislocations	160	20	-	3.4	2.1	-
Fractures	1,820	230	790	38.6	23.6	45.3
Sprains, strains, tears	7,580	1,990	2,760	160.7	204.6	158.3
Open wounds	2,330	620	1,520	49.4	63.7	87.2
Amputations	60	40	40	1.3	4.1	2.3
Animal or insect bites	310	70	110	6.6	7.2	6.3
Cuts, lacerations	1,660	370	1,180	35.2	38.0	67.7
Punctures, except bites	250	80	170	5.3	8.2	9.7
Surface wounds & bruises	1,230	460	1,180	26.1	47.3	67.7
Abrasions, scratches	120	20	270	2.5	2.1	15.5
Bruises, Contusions	880	410	830	18.7	42.2	47.6
Foreign Bodies (Superficial splinters, chips)	220	20	70	4.7	2.1	4.0
Burns	500	70	170	10.6	7.2	9.7
Chemical Burns	110	20	30	2.3	2.1	1.7
Heat burns	390	60	140	8.3	6.2	8.0
Intracranial Injuries	40	70	50	0.8	7.2	2.9
Concussions	30	-	50	0.6	-	2.9
Effects of Heat and light	110	30	40	2.3	3.1	2.3
Multiple tramatic injuries and disorders	1,580	240	460	33.5	24.7	26.4
Cuts, abrasions, bruises	30	-	40	0.6	-	2.3
Sprains and bruises	500	60	90	10.6	6.2	5.2
Fractures and other injuries	160	20	100	3.4	2.1	5.7
Other tramatic injuries and disorders	3,720	1,400	1,650	78.9	143.9	94.6
Asphyxiations/strangulations, suffocations	70	-	-	1.5	0.0	-
Electrocution, electric shocks	30	-	-	0.6	0.0	0.0
Other poisioning & toxic effects	90	30	-	1.9	3.1	-
Crushing injuries	110	30	120	2.3	3.1	6.9
Back pain, hurt back	950	200	330	20.1	20.6	18.9
Soreness, pain, hurt, except the back (non-back pain)	2,400	1,120	1,140	50.9	115.1	65.4

[1] Not all subgroups shown.
Technical note: "-" indicates data are either zero or unavailable due to small numbers.
Estimates do not include those employed in the military, self-employed individuals, workers on farms with fewer than 11 employees, or workers employed by government agencies.

Source: Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses (numerator) and Bureau of Labor Statistics, Current Population Survey (denominator), 2010

Blacks and Hispanics had a higher rate than whites for several types of work-related injuries that involved days away from work (Table 6). Hispanics stood apart from both blacks and whites in incurring the highest rates of fractures, cuts/lacerations, and abrasions/scratches. Blacks had the highest rates of sprains/strains/tears, amputations, intracranial injuries and non-back pain.

Table 7. Work-Related Injuries Involving Days Away From Work By Race/Ethnicity, 2010

Incident Type[1]	Number of Injuries			Rate per 100,000 FTEs		
	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic
Contact with objects and equipment	5,450	1,800	3,310	115.5	185.1	189.8
Struck against object	2,260	980	990	47.9	100.8	56.8
Stuck by object	2,410	650	1,960	51.1	66.8	112.4
Caught in or compressed by equipment or objects	640	160	300	13.6	16.4	17.2
Falls	4,810	830	2,190	102.0	85.3	125.6
Fall to lower level	830	130	360	17.6	13.4	20.6
Jump to lower level	160	-	-	3.4	-	-
Fall on same level	3,800	700	1,810	80.6	72.0	103.8
Bodily reaction & exertion	6,810	2,250	2,620	144.4	231.3	150.2
Bodily reaction	3,190	440	960	67.6	45.2	55.0
Bending, climbing, crawling, reaching, twisting	1,670	190	460	35.4	19.5	26.4
Running -- without other incident	60	-	40	1.3	-	2.3
Slip, trip, loss of balance -- without fall	50	60	200	1.1	6.2	11.5
Walking -- without other incident	100	50	80	2.1	5.1	4.6
Overexertion	3,420	1,340	1,330	72.5	137.8	76.3
Repetitive motion	150	190	120	3.2	19.5	6.9
Harmful substances or environments	1,710	210	370	36.2	21.6	21.2
Contact with electric current	30	-	20	0.6	-	1.1
Contact with extreme temps	540	90	190	11.4	9.3	10.9
Exposure to caustic, noxious, or allergenic substances	1,090	120	140	23.1	12.3	8.0
Transportation incident	880	300	490	18.7	30.8	28.1
Highway accident	660	100	340	14.0	10.3	19.5
Non-highway transportation incident (except rail, air, water)	80	150	70	1.7	15.4	4.0
Pedestrian, non-passenger struck by vehicle, mobile equipment	70	40	70	1.5	4.1	4.0
Assaults and violent acts	760	280	310	16.1	28.8	17.8
Assaults and violent acts by persons	410	200	140	8.7	20.6	8.0
Assaults by animals	350	80	170	7.4	8.2	9.7

[1] Not an exhaustive list. Subgroups may not total to 100% of total.
Technical notes: "-" indicates data are either zero or unavailable due to small numbers.
Estimates do not include those employed in the military, self-employed individuals, workers on farms with fewer than 11 employees, or workers employed by government agencies.

Source: Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses (numerator) and Bureau of Labor Statistics, Current Population Survey (denominator), 2010

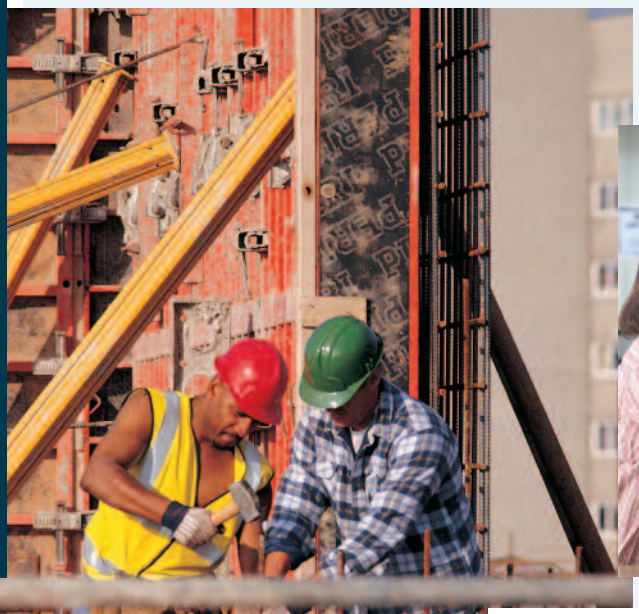
It is interesting to note the differences in injuries and illnesses involving days away from work by incident type by race/ethnicity (Table 7). Overall, Hispanics had the highest rates of falls. Upon closer examination, Hispanics had a greater rate of falls on the same level (floor-level) than whites or blacks, but nearly the same rate of falls as whites for falls onto lower level (from a height). Both Hispanics and blacks had a higher proportion than whites of work-related accidents caused by contact with objects or equipment, as well as transportation incidents. Blacks have a higher rate than both whites and Hispanics of assaults and violent acts, non-highway transportation incidents, and incidents involving overexertion and repetitive motion.

Days Away from Work by Injury & Race

Table 8 (page 10) highlights the number and rate of work-related injuries and illnesses requiring days away from work by industry. The highest rate of injury and illnesses for Hispanics was seen in the agriculture, forestry, fishing, and hunting industry (2,594.0 per 100,000 FTEs). This rate among Hispanics was more than double the rate for whites and blacks. Hispanics also had a higher rate of work-related illnesses and injuries than blacks and whites in the real estate/rental/ leasing industry and the administrative and waste services industry.

The highest rate of injuries and illnesses for blacks was in the wholesale trade industry (1,274.5 per 100,000 FTEs). Compared to whites and Hispanics, blacks also had elevated rates in the arts, entertainment, and recreation industry, the accommodation and food services industry as well as the health care and social assistance industry.

The most dangerous industries, defined as those with the highest injury and illness rate, can differ from industries with the highest number (or count) of injuries and illnesses. Although a high rate of injuries and illnesses occurred in the agriculture, forestry, fishing and hunting industry for all three racial/ethnic groups, a much higher number of actual incidents occurred in the health care and social assistance industry and the construction industry.



Work-related Injuries and Illnesses

Table 8. Work-Related Injuries and Illnesses Involving Days Away From Work by Industry and Race/Ethnicity, Florida, 2010

Industry	Number of Injuries & Illnesses[1]			Rate per 100,000 FTEs		
	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic
Agriculture, forestry, fishing, & hunting	440	70	590	1,134.0	1,091.2	2,594.0
Utilities	30	10	10	55.4	130.7	96.4
Construction	2,500	350	1,270	735.7	995.7	807.0
Manufacturing	1,100	350	880	385.4	851.4	781.5
Wholesale trade	870	360	410	588.9	1,274.5	832.0
Retail trade	2,090	390	870	391.8	302.6	429.0
Transportation & warehousing	590	230	300	303.2	260.0	275.1
Information	210	40	60	182.0	210.4	171.8
Finance & insurance	150	40	70	57.3	109.3	101.2
Real estate & rental & leasing	290	20	310	175.9	168.5	546.6
Professional, scientific, & technical services	450	10	100	105.5	33.1	113.7
Management of companies & enterprises[2]	100	20	20	6,826.1	-	1,772.3
Administrative & waste services	1,180	340	830	464.6	489.7	743.5
Educational services	360	10	30	101.1	11.0	33.7
Health care & social assistance	2,850	1,470	910	453.4	740.0	483.2
Arts, entertainment, & recreation	580	160	280	460.9	1,080.8	844.1
Accommodation & food services	1,850	800	1,010	543.7	861.2	686.9
Other services, except public administration	1,180	350	430	515.7	782.7	572.0
Public administration	-	-	-	-	-	-
Mining	-	-	-	-	-	-

1 This is survey data and columns may not sum to the number of injuries and illnesses presented in Table 5.
2 An estimate of the number of blacks employed in the management of companies and enterprises was not available.
Technical notes: "-" indicates data are either zero or unavailable due to small numbers. Estimates do not include those employed in the military, self-employed individuals, workers on farms with fewer than 11 employees, or workers employed by government agencies.
Source: Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses (numerator) and Bureau of Labor Statistics, Current Population Survey (denominator), 2010

High Morbidity Risk Occupations

A higher proportion of blacks and Hispanics were employed in high morbidity risk occupations (Table 9). Working in more dangerous jobs may be related to the higher injury and illness rates observed in minority workers (Table 5).

Table 9. Employed persons in High Morbidity Risk Occupations by Race/Ethnicity, Florida 2010

Race/Ethnicity	Average Number	Percent
White Only, Non-Hispanic	561,011	11.3%
Black Only, Non-Hispanic	238,792	22.0%
Hispanic	378,683	22.0%

Technical notes: Estimate includes government, private and self-employed workers.
High morbidity occupations defined in *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants, May 2010.* See Appendix A for list of high morbidity occupations.
Source: Bureau of Labor Statistics, Current Population Survey, 2010

Table 10 shows the ten most common occupations for work-related injury involving days away from work by race/ethnicity where race/ethnicity was reported. However, for 50% of all work-related injuries and illnesses recorded in 2010, race/ethnicity was not recorded. At the time of this report, data necessary to calculate the occupations with the highest rates of injury and illnesses were not available.

The most common occupations in which work-related injuries involving days away from work are reported varies by race/ethnicity. For whites, the most common occupation reported in 2010 was police and sheriff's patrol officers (1,110 injuries/illnesses), for blacks the most common was nursing aides, orderlies and attendants (590 injuries/illnesses), and for Hispanics, janitors and cleaners, except maids and housekeeping cleaners (820 injuries/illnesses). The occupational category with the most injuries reported overall (for all race/ethnicities) was 'laborers and freight, stock, and material movers, hand' (2,260 were injured in 2010).

Table 10. Five Most Common Occupations for Work-Related Injuries and Illnesses Involving Days Away From Work by Race/Ethnicity, Florida, 2010

Occupations	White Only Non-Hispanic	Occupations	Black Only Non-Hispanic	Occupations	Hispanic
Police and sheriff's patrol officers	1,110	Nursing aides, orderlies, & attendants[1]	590	Janitors & cleaners, except maids & housekeeping cleaners	820
Nursing aides, orderlies, & attendants[1]	920	Police and sheriff's patrol officers	340	Landscaping & grounds-keeping workers	520
Retail salespersons	700	Laborers & frieght, stock & material movers, hand	260	Laborers & frieght, stock & material movers, hand	480
Automotice service technicians and mechanics	640	Production workers, all other	210	Nursing aids, orderlies & attendants[1]	380
Construction laborers	620	Maids & housekeeping cleaners	190	Roofers	370

1 Included on list of high morbidity occupations.
Technical notes: Occupations based on 2000 Standard Occupational Classification System (SOC) Codes.
Estimates do not include those employed by the military, self-employed individuals or workers on farms with fewer than 11 employees.
Source: Survey of Occupational Injuries and Illnesses, 2010

Emergency Department Visits

There were an estimated 73,934 work-related emergency department (ED) visits in Florida in 2010. Blacks had the highest rate of work-related ED visits (1,187 per 100,000 FTEs) (Table 11). Blacks also had a higher rate than whites for several specific conditions such as superficial injury/contusion, sprains and strains, back problems, non-traumatic joint disorders, and eye disorders (Table 12). Hispanics visited the ED at a lower rate than whites for almost all conditions except for eye disorders (14.0 per 100,000 FTEs for Hispanics; 9.7 per 100,000 FTEs for whites).

Table 11. Emergency Department Visits With Workers' Compensation as the Primary Payer, Florida, 2010

Race/Ethnicity	Number	Rate per 100,000 FTEs
White Only, Non-Hispanic	45,833	971.5
Black Only, Non-Hispanic	11,546	1,187.0
Hispanic	13,477	772.8

Source: Florida Agency for Health Care Administration Emergency Department data (numerator) and Bureau of Labor Statistics, Current Population Survey (denominator), 2010

Table 12. Emergency Department Visits for Specific Work-related Conditions, Florida, 2010

Condition	Number of injuries or illnesses			Rate per 100,000 FTEs		
	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic
Open wounds	9,411	1,688	2,917	199.5	173.5	167.3
Superficial injury/ contusion	7,075	1,994	2,143	150.0	205.0	122.9
Sprains/ strains	8,739	2,585	2,090	185.2	265.8	119.8
Back problems	2,520	860	799	53.4	88.4	45.8
Fractures	2,830	416	795	60.0	42.8	45.6
Burns	958	249	334	20.3	25.6	19.2
Non-traumatic joint disorders	903	277	250	19.1	28.5	14.3
Joint disorders and dislocations; trauma-related	440	95	33	9.3	9.8	1.9
Eye disorders	459	160	244	9.7	16.4	14.0
Poisoning	470	115	128	10.0	11.8	7.3
Crushing injury or internal injury	291	65	127	6.2	6.7	7.3
Intracranial injury	563	86	115	11.9	8.8	6.6
Ear conditions	150	56	56	3.2	5.8	3.2
Other conditions	11,024	2,900	3,446	233.7	298.1	197.6

Technical note: Categories based on Clinical Classification Software (CCS) for ICD-9.
Source: Florida Agency for Health Care Administration Emergency Department data (numerator) and Bureau of Labor Statistics, Current Population Survey (denominator), 2010

Inpatient Hospitalizations

There were an estimated 8,373 work-related hospitalizations in 2010. Overall, whites had the highest incidence rate for inpatient hospitalizations (117.0 per 100,000 FTEs) (Table 13). When specific types of injuries and illnesses were examined, whites had higher rates than minority workers for the subtypes of injuries and illnesses examined (data not shown).

Table 13. Inpatient Hospitalizations with Workers' Compensation as the Primary Payer, Florida, 2010

Race/Ethnicity	Number	Rate per 100,000 FTEs
White Only, Non-Hispanic	5,520	117.0
Black Only, Non-Hispanic	971	99.8
Hispanic any race	1,534	88.0

Source: Florida Agency for Health Care Administration inpatient hospitalizations (numerator) and Bureau of Labor Statistics, Current Population Survey (denominator), 2010

WORK-RELATED FATALITITES

In 2010, there were 225 work-related fatalities in Florida among the 7,763,604 FTEs. The fatality rate was highest among whites, 3.3 per 100,000 FTEs (Table 14). Fatality rates for whites, blacks, and Hispanics in Florida were lower than the U.S. average in 2010. The U.S. fatality rate for Hispanics was higher than the fatality rate for whites and blacks.

Table 14. Work-related Fatalities, Florida and United States, 2010

Race/Ethnicity	Total Number	Fatality Rate per 100,000 FTEs (FL)	Fatality Rate per 100,000 FTEs (US)
White Only, Non-Hispanic	155	3.3	3.7
Black Only, Non-Hispanic	24	2.5	3.1
Hispanic	38	2.2	3.9

Technical note: High mortality risk industries defined in *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants*, May 2010.
Source: Bureau of Labor Statistics, Current Population Survey

Although whites had the highest work-related fatality rate, the Hispanic workforce had the highest percentage of individuals employed in high mortality risk industries (Table 15) and occupations (Table 16). The construction industry had both the highest number and rate of work-related fatalities for Hispanics. The transportation and warehousing industry had the highest number and rate of work-related fatalities for blacks and whites (Table 17). Florida fatality rates for whites, blacks, and Hispanics were lower than the U.S. rates. At the national level, the highest fatality rates in 2010 were among Hispanics; however, in Florida, higher rates were among white non-Hispanics. There were too few cases of fatalities to examine by occupation at a meaningful level of detail.

Florida fatality rates for whites, blacks, and Hispanics were lower than the U.S. rates.

High Mortality Risk Industries & Occupations

Table 15. Persons Employed in High Mortality Risk Industries, Florida, 2010

Race/Ethnicity	Average Number Employed	Percent
White Only, Non-Hispanic	623,631	12.5%
Black Only, Non-Hispanic	126,847	11.7%
Hispanic	326,942	19.0%

Technical note: High mortality risk industries defined in *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants*, May 2010.
Source: Bureau of Labor Statistics, Current Population Survey

Table 16. Persons Employed in High Mortality Risk Occupations, Florida, 2010

Race/Ethnicity	Average Number Employed	Percent
White Only, Non-Hispanic	512,688	10.2%
Black Only, Non-Hispanic	132,026	12.1%
Hispanic	277,799	16.1%

Technical note: High mortality risk occupations defined in *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants*, May 2010. See Appendix B for a list of high mortality risk occupations.
Source: Bureau of Labor Statistics, Current Population Survey

The Florida Occupational Health and Safety Program must prioritize its efforts to reduce injury and illness in the state.

Work Related Fatalities by Industry & Race/Ethnicity

Table 17. Work-Related Fatilities by Industry and Race/Ethnicity, Florida, 2010

Industry	Number of Fatalities			Rate per 100,000 FTEs		
	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic
Agriculture, forestry, fishing, & hunting	9	-	-	24.7	-	-
Mining	-	-	-	-	-	-
Construction	28	-	8	7.6	-	7.7
Manufacturing	10	-	-	3.7	-	-
Wholesale trade	-	-	-	-	-	-
Retail trade	12	-	3	2.3	-	-
Transportation & warehousing	24	6	6	11.4	10.1	4.9
Utilities	3	-	-	-	-	-
Information	-	-	-	-	-	-
Finance & Insurance	-	-	-	-	-	-
Real estate & rental leasing	6	-	-	5.3	-	-
Professional, scientific & technical services	5	-	-	1.2	-	-
Management of companies & enterprises	-	-	-	-	-	-
Administrative & waste services	21	4	7	8.2	6.6	4.6
Education & health services	7	-	-	0.7	-	-
Arts, entertainment, & recreation	6	-	-	3.7	-	-
Accommodation & food services	-	-	6	-	-	5.0
Other services, except public administration	8	-	-	3.3	-	-
Public administration	10	-	-	4.0	-	-

Technical note: "-" indicates data are either zero or unavailable due to small number.
Source: Bureau of Labor Statistics, Census of Fatal Occupational Injuries (numerator) & Bureau of Labor Statistics, Current Population Survey Data (denominator), 2010

The distribution of Florida workers in various industries has changed over time, particularly due to the 2007–2009 economic recession.

Limitations

LIMITATIONS OF HOSPITAL AND ED DATA

In this descriptive analysis, blacks and Hispanics had a higher incidence of work-related injuries and illnesses reported in the SOII, but this pattern was not seen in state hospital visit data sets, especially for Hispanics. This discrepancy may be due to differences in care seeking behavior for injuries or on reliance on workers' compensation as a primary payer to identify work-related hospital visits. Studies have shown that workers' compensation filing patterns varies by race/ethnicity and that 55–79% of workers who were eligible to file a workers' compensation claim did not do so (Fan 2006, Rosenman 2000, Biddle 1998, Biddle 2003).

Many workers who are injured on the job do not receive workers' compensations benefits. Studies have shown that Hispanics with a work-related injury are less likely to receive workers' compensation benefits than whites (Dong 2007). There are many reasons workers do not file for workers' compensation including lack of knowledge about workers' compensation eligibility and the filing process, (Fan 2006, Rosenman 2000, Dembe 2001), fear of retaliation by employer (Fan 2006, Dembe 2001), and an injury/illness that is perceived to be of a lesser severity (Rosenman 2000).

Particularly for Hispanics that have recently immigrated, language and cultural barriers may impede knowledge of the workers' compensation system and filing process. It is unknown how many of Florida's workers encounter language barriers that affect job safety and treatment-seeking behaviors. However, one survey estimated that 47.5 percent of Florida residents whose primary household language is Spanish or Spanish Creole describe themselves as speaking English less than "Very Well" (Rich 2007).

Additionally, workers' compensation does not cover all workers, which leads to an undercount of work-related injuries. In Florida, workers' compensation does not cover approximately 18% of the employed population (Sengupta 2010). Those not covered include:

- federal workers[e],
- self-employed workers[f],
- workers on small farms (fewer than five regular employees and/or fewer than 12 seasonal employees, who work less than 30 days), and
- workers in small businesses (non-construction industry employers with fewer than four part or full-time employees)[g].

LIMITATIONS OF BLS DATA

There are also limitations associated with the SOII. The survey does not cover all members of the workforce. The estimates cover the majority of private sector industries. However, farms with fewer than 11 employees, self-employed workers and household workers are not covered. One study estimated that the survey does not cover approximately 21% of the U.S. working population (Leigh 2004). Additionally, this survey is reliant on the reporting habits of employers and employees. Estimates show that estimated that the SOII does not capture between 33–69% of all work-related injuries due to segments of the workforce not being covered and underreporting on the OSHA logs (Leigh 2004). In contrast, the CFOI data set is a not a survey but a count and is considered to be a fairly complete account of work-related deaths that occur.

Many workers who are injured on the job do not receive workers' compensations benefits.

[e] In 2011, in Florida, there were approximately 90,000 federal employees (Feds Data Center http://www.fedsdatacenter.com/).
[f] In 2007, in Florida, 6.5% of whites, 2.9% of blacks, and 7.3 percent of Hispanics were self-employed (Geographic Profile of Employment and Unemployment).
[g] In 2010, in Florida there were an estimated 383,301 persons employed in non-construction industry firms with 0–4 employees. Note this is larger than the number not covered by workers' compensation, as workers' compensation does cover firms with four employees (U.S. Small Business Administration, Office of Advocacy, based on data provided by the U.S. Census Bureau http://www.sba.gov/advocacy/849/12162).

Changing Demographics

CHANGING DEMOGRAPHICS AND WORKFORCE DISTRIBUTION

The distribution of Florida workers in various industries has changed over time, particularly due to the 2007–2009 economic recession (State of the State 2011). For instance, the construction industry in Florida has been among the hardest hit by the economic crisis and has resulted in decreased employment numbers in this industry. This changing distribution may affect the concentration of work-related injuries and illnesses in the coming years. Table 8 highlights the number and rate of work-related injuries and illnesses requiring days away from work by industry. The highest number of injuries and illnesses for both whites (2,850) and blacks (1,470) in 2010 occurred in the health care and social assistance industry. The health care and social assistance industry was the one industry in Florida that continued to grow throughout the economic downturn (State of the State 2011) and continued growth is expected in this industry.

Among blacks the 2010 data show a high number of 'sprain, strains, and tears' and 'soreness and pain injuries that do not involve the back'. As these are among the most commonly reported injuries in the health care and social assistance industry, these types of injuries may increase. The number of these types of injuries may increase among all race/ethnicities as employment in this industry continues to grow in Florida.

For Hispanics, the highest number of injuries and illnesses occurred in the construction industry (1,270). In 2010, the percentage of Hispanics employed in the construction industry fell below both the percent employed in the retail trade industry and in the health care and social assistance industry (in previous years, construction was the industry that employed the highest percentage of Hispanics). If this shift in employment by industry continues, there may be a shift in the types of injuries that are most common among Hispanics.

FOCUS AREAS

The industries that have the highest rates of injuries/illnesses often differ from those that have the highest number of injuries/illnesses. In Table 8, the second highest rate of work-related injuries and illnesses involving days away from work for Hispanics was the management of companies and enterprises industry. However, in 2010 a relatively small number of injuries and illnesses were reported in that industry; only 20. There are relatively few Floridians employed in this industry (approximately 3,900). While all injuries and illnesses are important, the Florida Occupational Health and Safety Program must prioritize its efforts to reduce injury and illness in the state. The program will focus its efforts on areas with elevated rates that also have high numbers because of the potential to affect a higher number of workers.

Conclusion

SUMMARY

The purpose of this report was to:

- examine whether minorities in Florida have a higher rate of work-related injuries and illnesses,
- examine whether minorities have a higher proportion of certain types of injuries, and
- identify industries and occupations where minority work-related injuries and illnesses are concentrated.

DID MINORITIES HAVE A HIGHER RATE OF WORK-RELATED INJURIES AND ILLNESSES?

The SOII data showed that minorities incurred a higher level of work-related injuries and illnesses resulting in days away from work (Table 5). In the SOII, blacks and Hispanics had a higher rate of injuries and illnesses (607.6 and 539.6 per 100,000 FTEs) than whites (439.4 per 100,000 FTEs). In Florida CFOI data, whites had the highest fatality rate (Table 14).

Blacks had the highest rate of work-related ED visits (1,187 per 100,000 FTEs) (Table 11). However, whites had the highest rate of work-related hospitalizations. Hispanics had the lowest rate of the three groups in both ED and hospitalization data. Workers' compensation filing behavior among minorities may contribute to the lower rates seen in the hospital and ED data. Several studies have shown that Hispanics, in particular, are less likely than other racial/ethnic groups to file for workers' compensation. If the worker did not file for workers' compensation, it is not possible to identify them as having a work-related injury even if they presented at the hospital.

DID MINORITIES HAVE A HIGHER PROPORTION OF CERTAIN TYPES OF INJURIES?

The data showed that minorities had a higher proportion of certain types of injuries. In the SOII data, Hispanics had the highest rates of days away from work resulting from fractures, cuts/lacerations, and abrasions/scratches. Blacks had the highest rates of days away from work resulting from sprains/ strains/ tears, amputations, intracranial injuries, and non-back pain (Table 6).

In the ED data, blacks had the highest rates of several specific conditions including sprains and strains, superficial injury/contusion, certain back problems, non-traumatic joint disorders, and eye disorders (Table 12). Hispanics visited the ED at a higher rate than whites for eye disorders (14.0 and 9.7 per 100,000 FTEs, respectively). When hospitalization data were examined, no differences by race/ethnicity were found.

WERE WORK-RELATED INJURIES AND ILLNESSES FOR MINORITIES CONCENTRATED IN SPECIFIC INDUSTRIES OR OCCUPATIONS?

Work-related injuries and illnesses for minorities were concentrated in specific industries that sometimes differed from the industries that had the highest rates or numbers for white non-Hispanic workers. In the SOII data (Table 8), the industries with the highest rates of injuries and illnesses involving days away from work for blacks were wholesale trade; agriculture, forestry, fishing, and hunting; and arts, entertainment and recreation (1,275; 1,091; and 1,080 per 100,000 FTEs, respectively). For Hispanics, the industries with the highest rates of injuries and illnesses involving days away from work were in agriculture forestry, fishing, and hunting; management of companies and enterprises; and wholesale trade (2,594; 1,772; and 832 per 100,000 FTEs, respectively). It appears only a very small proportion of the employed population worked in the agriculture, forestry, fishing and hunting or management of companies and enterprises industries (Appendix C).

In the CFOI data, the highest numbers and rates of work-related fatalities for Hispanics occurred in the construction industry and for blacks the transportation and warehousing industry. Information on industry was not available in the hospital and ED data in Florida.

Occupations were only able to be examined in the SOII. Only counts were available. For blacks, the occupational group with the highest number of injuries involving days away from work was nursing aides, orderlies, and attendants. For Hispanics, the occupational group with the highest number of injuries involving days away from work was janitors and cleaners (except maids and housekeeping cleaners).

Conclusion

Future Steps

INTERVENTIONS

The data showed that there are certain industries where minorities incur a higher number and/or rate of work-related injuries and illnesses. The Florida Occupational Health and Safety Program plans to collaborate with other stakeholders in minority occupational health to design intervention efforts aimed at lowering the injury and illness rates in specific industries such as construction, health care and social assistance and agriculture, forestry, fishing and hunting.

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

To gain more insight into work-related injuries and illnesses, the Occupational Health and Safety program will be adding several occupational health questions to the Behavioral Risk Factor Surveillance System (BRFSS) survey. BRFSS is a telephone survey of health conditions and risks. These questions will add valuable information such as "Was a worker injured on the job?", "Did they file workers' compensation?", and "What industry and occupation were they employed in?" This, coupled with the detailed demographic information provided by BRFSS that is not available in other occupational health data sets such as education level, body mass index and chronic health conditions, will provide insight into which characteristic Florida's most at-risk workers share, which will aid in creating targeted interventions.

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Appendix A

List of High-Risk Occupations for Occupational Morbidity, 2008

"In 2008, the Bureau of Labor Statistics (BLS) reported nationwide an estimated 1.1 million injuries and illnesses that resulted in "days away from work", and a rate of 113.1 "days away from work" cases per 100,000 full-time-equivalent workers. The risk of injuries and illnesses are significantly higher in certain occupations. Nationwide, 61 occupational categories had "days away from work" injury and illness rates higher than 226.2 cases per 10,000 full-time-equivalent workers in 2008." These 61 occupations are considered high-risk for occupational morbidity. (See footnote).

2002 Census Occupation Code/ 2002 Census Occupation Title

2720	Athletes, coaches, umpires, and related workers
3400	Emergency medical technicians and paramedics
3600	Nursing, psychiatric, and home health aides
3700	First-line supervisors/managers of correctional officers
3850	Police and sheriff patrol officers
3860	Transit and railroad police
3900	Animal control workers
4120	Food servers, non-restaurant
4210	First-line supervisors/managers of landscaping, lawn service, and grounds keeping
4220	Janitors and building cleaners
4230	Maids and housekeeping cleaners
4350	Nonfarm animal caretakers
4550	Transportation attendants
5410	Reservation and transportation ticket agents and travel clerks
5530	Meter readers, utilities
6120	Forest and conservation workers
6210	Boilermakers
6220	Brick masons, block masons, and stonemasons
6230	Carpenters
6260	Construction laborers
6310	Pile-driver operators
6360	Glaziers
6440	Pipe layers, plumbers, pipefitters, and steamfitters
6500	Reinforcing iron and rebar workers
6510	Roofers
6530	Structural iron and steel workers
6730	Highway maintenance workers
6760	Miscellaneous construction and related workers
6840	Mining machine operators
6910	Roof bolters, mining
7140	Aircraft mechanics and service technicians
7160	Automotive glass installers and repairers
7200	Automotive service technicians and mechanics
7210	Bus and truck mechanics and diesel engine specialists
7310	Heating, air conditioning, and refrigeration mechanics and installers
7330	Industrial and refractory machinery mechanics
7420	Telecommunications line installers and repairers
7510	Coin, vending, and amusement machine servicers and repairers
8140	Welding, soldering, and brazing workers
8160	Lay-out workers, metal and plastic
8520	Model makers and patternmakers, wood
8530	Sawing machine setters, operators, and tenders, wood
8610	Stationary engineers and boiler operators
8850	Cementing and gluing machine operators and tenders
8860	Cleaning, washing, and metal pickling equipment operators and tenders
8900	Cooling and freezing equipment operators and tenders
8910	Etchers and engravers
8920	Molders, shapers, and casters, except metal and plastic
8930	Paper goods machine setters, operators, and tenders
8940	Tire builders
8950	Helpers--production workers
8960	Production workers, all other
9120	Bus drivers
9130	Driver/sales workers and truck drivers
9140	Taxi drivers and chauffeurs
9240	Railroad conductors and yardmasters
9260	Subway, streetcar, and other rail transportation workers
9300	Sailors and marine oilers
9560	Hoist and winch operators
9620	Laborers and freight, stock, and material movers, hand
9730	Shuttle car operators

This list is taken from Occupational Health Indicator #15 in the April 2012 version of the *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants.*

Appendix B

List of High-Risk Occupations for Occupational Morbidity, 2008

In 2008, the Bureau of Labor Statistics (BLS) reported 5,000 cases of work-related fatalities nationwide, and an average of 14 fatalities per day. The risk of fatalities is significantly higher in certain occupations. Nationwide, 62 occupational categories had fatality rates of 7.5 deaths per 100,000 workers or higher in 2008. These 62 occupations are considered high-risk for occupational mortality. (See footnote).

2007 Census Occupation Code/ 2007 Census Occupation Title

0210	Farmers and Ranchers
2720	Athletes, Coaches, Umpires, and Related Workers
2800	Announcers
3740	Fire Fighters
3920	Security Guards and Gaming Surveillance Officers
3940	Crossing Guards
4210	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers
4240	Pest Control Workers
4250	Grounds Maintenance Workers
4540	Tour and Travel Guides
6000	First-line Supervisors/Managers of Farming, Fishing, and Forestry Workers
6050	Miscellaneous Agricultural Workers
6100	Fishers and Related Fishing Workers
6130	Logging Workers
6200	First-line Supervisors/Managers of Construction Traders and Extraction Workers
6210	Boilermakers
6220	Brick masons, Block masons, and Stonemasons
6250	Cement Masons, Concrete Finishers, and Terrazzo Workers
6260	Construction Laborers
6300	Paving, Surfacing, and Tamping Equipment Operators
6320	Operation Engineers and Other Construction Equipment Operators
6350	Electricians
6360	Glaziers
6400	Insulation Workers
6420	Painters, Construction, and Maintenance
6510	Roofers
6530	Structural Iron and Steel Workers
6600	Helpers, Construction Trades
6730	Highway Maintenance Workers
6760	Miscellaneous Construction and Related Workers
6800	Derrick, Rotary Drill, and Service Unit Operators, Oil, Gas, and Mining
6820	Earth Drillers, Except Oil and Gas
6840	Mining Machine Operators
6920	Roustabouts, Oil, and Gas
6940	Other Extraction Workers
7000	First-line Supervisors/Managers of Mechanics, Installers, and Repairers
7210	Bus and Truck Mechanics and Diesel Engine Specialists
7220	Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics
7340	Maintenance and Repair Workers, General
7350	Maintenance Workers, Machinery
7360	Millwrights
7410	Electronic Power-line Installers and Repairers
7560	Riggers
8100	Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic
8140	Welding, Soldering, and Brazing Workers
8640	Chemical Processing Machine Setters, Operators, and Tenders
9030	Aircraft Pilots and Flight Engineers
9130	Driver/Sales Workers and Truck Drivers
9140	Taxi Drivers and Chauffeurs
9150	Motor Vehicle Operators, All Other
9200	Locomotive Engineers and Operators
9230	Railroad Brake, Signal, and Switch Operators
9240	Railroad Conductors and Yardmasters
9300	Sailors and Marine Oilers
9310	Ship and Boat Captains and Operators
9330	Ship Engineers
9360	Service Station Attendants
9500	Conveyor Operators and Tenders
9510	Crane and Tower Operators
9600	Industrial Truck and Tractor Operators
9720	Refuse and Recyclable Material Collectors
9750	Material Moving Workers, All Other

This list is taken from Occupational Health Indicator #16 in the April 2012 version of the *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants*

Appendix C

Number and Percent of Employed Workers by Industry and Race/Ethnicity, Florida 2010

Industry	Number of FTEs Employed			Percent of Workforce		
	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic	White Only, Non-Hispanic	Black Only, Non-Hispanic	Hispanic
Agricultural, Forestry, Fishing, & Hunting	38,799	6,415	22,745	0.8%	0.6%	1.4%
Mining	2,790	0	812	0.06%	0.00%	0.05%
Utilities	54,170	7,652	10,377	1.1%	0.7%	0.6%
Construction	339,830	35,150	157,375	7.1%	3.4%	9.6%
Manufacturing	285,444	41,108	112,600	6.0%	4.0%	6.9%
Wholesale Trade	147,732	28,246	49,277	3.1%	2.8%	3.0%
Retail Trade	533,429	128,904	202,784	11.1%	12.6%	12.4%
Transportation & Warehousing	194,600	88,476	109,047	4.1%	8.6%	6.7%
Information	115,367	19,010	34,924	2.4%	1.9%	2.1%
Finance & Insurance	261,745	36,607	69,178	5.5%	3.6%	4.2%
Real Estate & Rental & Leasing	164,824	11,872	56,710	3.4%	1.2%	3.5%
Professional, Scientific & Technical Services	426,628	30,199	87,963	8.9%	2.9%	5.4%
Management Of Companies & Enterprises	1,465	0	1,129	0.03%	0.00%	0.07%
Administrative & Waste Services	253,960	69,430	111,634	5.3%	6.8%	6.8%
Educational Services	356,123	91,271	89,094	7.4%	8.9%	5.4%
Health Care & Social Assistance	628,520	198,659	188,340	13.1%	19.4%	11.5%
Arts, Entertainment, & Recreation	125,827	14,803	33,170	2.6%	1.4%	2.0%
Accommodation & Food Services	340,284	92,892	147,043	7.1%	9.1%	9.0%
Private Households	10,831	6,301	18,061	0.2%	0.6%	1.1%
Other Services, Except Private Households	228,803	44,714	75,181	4.8%	4.4%	4.6%
Public Administration	281,446	72,248	58,171	5.9%	7.1%	3.6%
All Industries	*4,792,618*	*1,023,959*	*1,635,613*	*100.0%*	*100.0%*	*100.0%*

Technical note: These numbers are estimates based on a survey and are not an actual count.
Source: Current Population Survey, 2010