

# Occupational Health Indicators

Florida, 2000–2007





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# Highlights



**1. The number and rate of non-fatal work-related injuries and illnesses reported by private sector employers steadily declined from 2000 to 2007, including for the more serious cases involving days away from work. (Indicator 1)**

**2. The work-related hospitalization rate declined 44% during the time-period 2000–2007. (Indicator 2)**

**3. On average 369 work-related deaths occurred each year. (Indicator 3)**

**4. The rate of all work-related musculoskeletal disorders declined 49.6% from 2000 to 2007. (Indicator 7)**

**5. More than 300,000 workers were employed in industries with a high risk of work-related injury or illness. (Indicator 14)**

**6. More than 1 million workers were employed in occupations with a high risk of mortality. (Indicator 16)**

**7. The average workers compensation award per covered worker for the period 2000–2007 was \$391. (Indicator 19)**



The data for indicators is drawn from a multitude of sources including national surveys, census, hospitalization data, and health registry data.

## **A LARGE WORKFORCE OF APPROXIMATELY 8.9 MILLION WORKERS SUPPORTS FLORIDA'S ECONOMY.**

Each year many of these workers experience work-related injuries, illnesses, or fatalities. Work-related accidents result in pain, lost work-time, lost wages and result in an emotional and economic toll on workers and their families. Businesses are impacted through lost productivity. Fortunately, work-related injuries and illnesses are largely preventable through a variety of efforts aimed at controlling workplace hazards.

Identification of risk factors for work-related injuries and illnesses is important in designing targeted interventions to reduce workplace hazards and improve safety. Surveillance data aid in identifying risk factors such as high-risk industries and occupations. Surveillance also monitors the general levels of injury and illness so that increases over baseline are apparent.

A set of surveillance measures called occupational health indicators have been designed through a joint effort between the Council of State and Territorial Epidemiologists (CSTE) and the National Institute of Occupational Safety and Health (NIOSH). These occupational health indicators are a set of 19 measures by which states can monitor the health of their workforce. The purpose of the indicators is to allow uniform examination over time, comparison between individual states and the nation, and to highlight areas that may need additional exploration. Although comparisons can be helpful, care must be taken due to individual state differences in the industry mix, workforce demographics, reporting guidelines, and reporting quality.

The data for indicators is drawn from a multitude of sources including national surveys, census, hospitalization data, and health registry data. The specific sources for each indicator are listed in the footnote section. Detailed methods on

how the indicators were calculated can be found in the CSTE guidance document Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants, available at [www.cste.org](http://www.cste.org).

This surveillance report contains Florida's occupational health indicators for the years 2000–2007. Due to the time lag in all the necessary data sources being made available for analyses the occupational indicators are calculated several years behind the current year.

The purpose of this report is to provide an overview of the occupational health status of the state of Florida. Examining Florida's indicators over-time provides information on which worker health issues need further analyses. The results of this surveillance will help guide interventions and education efforts aimed at reducing occupational injury and illness. Although this report comments on whether the measure appears to be increasing or declining over time no statistical analyses was used to assess the significance of the trend. Where appropriate, Florida's measures are compared to that of the nation. Differences among age groups, races, ethnicities and genders may be obscured in these summary statistics and will be further explored in future reports.

## Florida Employment Demographics, 2000–2007



### FLORIDA IS THE FOURTH MOST POPULOUS STATE IN THE NATION.

The population was estimated to be over 18 million in 2007 (US Census Bureau). Between 2000 and 2007 the Florida workforce increased by over 1 million people (Table A). The majority of these workers were employed full-time and 75% worked a 40-hour workweek or more.

From 2000 to 2007 the percentage of the workforce that is over age 65 increased. The racial and ethnic makeup of the workforce also shifted slightly and there was a notable increase in the percentage of Hispanic workers.

Employment Profile	2000	2001	2002	2003	2004	2005	2006	2007
Number employed Age 16 and older (in thousands)	7,221	7,309	7,642	7,744	8,021	8,390	8,762	8,861
% Workforce unemployed	3.6	4.8	5.5	5.1	4.6	3.6	3.2	4.1
% Self-employed	6.0	6.0	6.0	6.6	5.9	6.1	5.7	6.0
% Employed in part-time jobs	14.0	14.4	15.1	15.4	14.9	14.0	14.3	14.9
% <40 hours/week	26.6	28.8	29.2	28.5	29.4	27.6	27.5	27.4
% 40 hours/week	47.7	44.5	45.0	46.2	44.8	47.0	47.8	49.3
% 41+ hours/week	28.1	26.7	25.7	25.3	25.7	25.5	24.7	23.3
% Males	54.0	54.2	54.1	53.4	53.6	53.7	53.0	53.2
% Females	46.0	45.8	45.9	46.6	46.4	46.3	47.0	46.8
% Age 16 to 17	1.8	1.7	1.5	1.5	1.2	1.3	1.3	1.1
% Age 18 to 64	94.8	94.6	94.6	94.5	94.6	94.3	94.3	94.0
% Age 65+	3.5	3.8	3.8	4.0	4.2	4.5	4.4	4.8
% White Race	83.7	83.9	83.0	81.6	82.2	82.8	82.2	82.1
% Black Race	13.9	14.1	14.3	14.5	14.2	13.8	14.1	14.3
% Other Race	2.4	2.0	2.7	3.9	3.7	3.4	3.7	3.6
% Hispanic Origin	18.3	18.2	19.9	19.2	19.6	20.1	21.5	22.2

Table A.  
Employment Profile  
of Florida  
Workforce, Age 16  
year and older,  
2000–2007



## Workforce Distribution

Workforce Distribution					
Percentage of civilian employment by industry	FL 2000	U.S. 2000	Percentage of civilian employment by industry	FL 2007	U.S. 2007
Construction	6.9	5.4	Mining	0.1	0.5
Manufacturing—Durable goods	5.4	8.8	Construction	10.1	8.1
Manufacturing—Non-durable goods	3.1	5.6	Manufacturing	5.7	11.2
Transportation/communications/public utilities	6.3	5.7	Wholesale and retail trade	15.7	14.3
Trade	22.7	19.4	Transportation and utilities	5.5	5.2
Finance/insurance/real estate	6.6	5.8	Information	2.4	2.4
Services	27.7	25.2	Financial activities	8.7	7.2
Government	12.4	14.1	Professional and business services	12.7	10.7
Agriculture	2.7	2.4	Education and health services	19.0	21.0
			Other services	5.2	4.8
			Agriculture	0.5	1.4
			Leisure and hospitality	10.2	8.5
			Public administration	4.5	4.6
Workforce Distribution					
Percentage of civilian employment by occupation	FL 2000	U.S. 2000	Percentage of civilian employment by occupation	FL 2007	U.S. 2007
Executive/administrative/managerial	14.1	14.6	Management, business and financial operations	14.7	14.8
Professional specialty	14.0	15.6	Professional and related occupations	18.5	20.7
Technicians and related support	3.4	3.2	Service	18.2	16.5
Sales	15.5	12.1	Sales and related occupations	13.2	11.4
Administrative support including clerical	13.6	13.8	Office and administrative support	13.8	13.4
Service occupations	15.1	13.5	Farming, fishing, and forestry	0.4	0.7
Precision production/craft/repair	11.3	11.0	Construction and extraction	7.7	6.5
Machine operators/assemblers/inspectors	2.9	5.4	Installation, maintenance, and repair	3.8	3.6
Transportation/material moving	3.7	4.1	Production	3.9	6.4
Handlers/equipment cleaners/helpers/laborers	3.9	4.0	Transportation and material moving	5.8	6.0

Table B. Distribution of Workforce by Major Industry and Occupation Groups, Florida and United States, 2000 and 2007

Technical Note: Industry and occupation categories in 2000 are not comparable to categories in 2007  
 Data Source: Bureau of Labor Statistics' Current Population Survey

**INDUSTRY IS DEFINED AS THE KIND OF ACTIVITY AT A PERSON'S PLACE OF WORK AND OCCUPATION IS THE KIND OF WORK A PERSON PERFORMS.** Considered by industry employed in, in 2007 the highest percentage of workers in Florida were found in education and health services (19.0%), wholesale and retail trade (15.7%) and professional and business services (12.7%) (Table B). Florida employed a notably lower percentage of workers in manufacturing than the U.S. average. Considered by the occupation of the employee, in 2007 the majority of workers were working in professional and related occupations (18.5%), services (18.2%) and management, business and financial operations (14.7%).



## Non-fatal Work-related Injuries and Illnesses Reported by Employers

**BACKGROUND** Work-related injuries generally result from one-time events such as cuts, falls, burns and amputations. Work-related illnesses are abnormal conditions or disorders that most often result from cumulative exposures or repetitive motion, and include illnesses such as respiratory conditions, skin diseases, poisoning, hearing loss, and carpal tunnel syndrome. Work-related illnesses are often more difficult to associate with work than work-related injuries due to their long development period.

Indicator 1 utilized data from the Bureau of Labor Statistics' annual Survey of Occupational Injury and Illness (SOII). The SOII estimates the number of work-related injuries and illnesses for the state based on logs kept by employers surveyed. Requirements for the log are set forth by the Occupational Safety and Health Administration (OSHA). OSHA requires that employers log work-related injuries and illness that result in medical treatment beyond first aid, loss of consciousness, restricted work, transfer to another job, days away from work (one or more) or death.

The survey covers the majority of private sector industries; however, the military, federal agencies, farms with fewer than 11 employees, self-employed workers, and household workers are excluded. The excluded workers comprise approximately 21% of the U.S. workforce.<sup>1</sup> Additional limitations include

that the survey is subject to sampling error and not all qualifying events are captured in the logs. Employers may not be aware of work-related conditions if the employee seeks treatment from their personal healthcare provider. Work-related illnesses in particular are not well documented.<sup>2</sup>

**RESULTS** In Florida, the number and rate of non-fatal work-related injuries and illnesses reported by private sector employers steadily declined from 2000–2007, including among more serious cases involving days away from work. This decline was also seen nationally.

Table 1 shows the number of work-related injuries and illnesses reported for the period 2000 to 2007. In 2000, there were an estimated 288,200 work-related injuries and illnesses, but by 2007, the reported number had dropped to 216,800. On average 27% of these injuries and illness required days away from work and 11% required at least 10 days away from work.

Figure 1 shows the rate of work-related injuries and illnesses per 100,000 employed persons. From 2000–2007 the rate declined 32.7% for all work-related injuries and illnesses and 37.5% for cases involving days away from work. For all years, Florida's rate of work-related injuries and illnesses was at or below the national average.

	2000	2001	2002	2003	2004	2005	2006	2007
All cases of work-related injuries & illnesses	288,200	287,400	245,900	247,300	254,900	246,300	244,400	216,800
Cases involving days away from work	80,600	77,800	71,400	64,800	68,900	67,300	67,600	57,800
Cases involving more than 10 days away from work	28,524	29,867	26,188	26,100	28,480	27,640	27,820	23,040

Table 1. Number of Non-Fatal Work-Related Injuries and Illnesses Reported by Private Sector Employers, Florida, 2000–2007

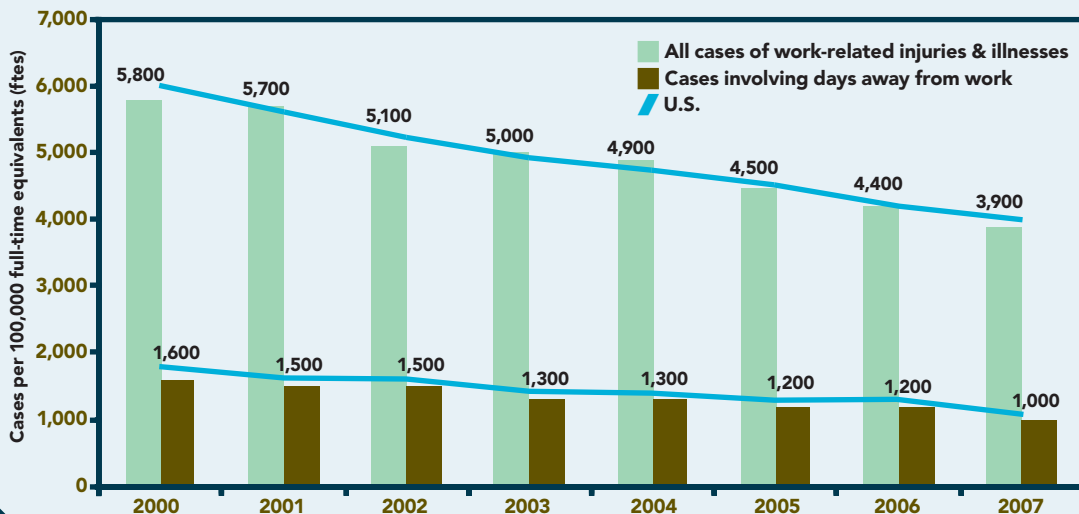


Figure 1. Number of Non-Fatal Work-Related Injuries and Illnesses Reported by Private Sector Employers, Florida, 2000–2007

Data Source: Bureau of Labor Statistics' Annual Survey of Occupational Injuries and Illnesses (SOII)

## Work-related Hospitalizations

**BACKGROUND** Most work-related injuries and illnesses do not result in hospitalizations. Only the most severe injuries and illnesses result in admissions to a hospital. The data source for this indicator was the Florida Agency for Health Care Administration (AHCA) hospital discharge dataset. Hospitalizations were considered work-related if workers compensation was listed as the principal payer. Only cases who were 16 years of age or older were included. Workers compensation varies by state and care should be taken when comparing Florida to other states or the nation.

The results of this indicator are likely to be an underestimate of the true burden of work-related injuries and illnesses that are severe enough to require hospitalization. A major limitation of this indicator is its reliance on payor source (workers compensation) to determine work-relatedness. A large proportion of individuals that are potentially eligible for workers compensation do not file for various reasons and are thus not captured by this indicator.<sup>3,4,5</sup> Changes in the number of employers who carry workers compensation or in practices related to employee filing of workers compensation are not able to be captured in these data sources.

Additionally not all employed persons are covered by state workers compensation. Federal workers and self-employed persons are not covered. Also, employers of small farms and small non-

construction industry businesses are not required to carry workers compensation coverage. See the following link for Florida specific information on workers compensation (<http://www.myfloridacfo.com/wc/employer/coverage.html>).

**RESULTS** The number and rate of work-related hospitalizations declined during the time-period 2000–2007.

Table 1 shows the number of work-related hospitalizations in Florida for the period 2000–2007. On average 12,600 workers were hospitalized annually with work-related injuries and illnesses, however over the time period 2000–2007 the number of work-related hospitalizations declined from 14,835 in 2000 to 10,166 in 2007.

Figure 2 shows the rate of work-related hospitalizations per 100,000 employed persons. From 2000 to 2007 the work-related hospitalizations rate declined 44%; from a rate 205.4 to 114.7 hospitalizations per 100,000 employed persons. However, the Florida hospitalization rate is still higher than the national average until 2007.

**A major limitation of this indicator is its reliance on payor source (workers compensation) to determine work-relatedness.**

	2000	2001	2002	2003	2004	2005	2006	2007
Work-related hospitalizations of persons age 16 years or older	14,835	14,409	13,272	12,824	12,179	12,266	11,480	10,166

Table 2. Number of Work-Related Hospitalizations, Ages 16 Years and Older, Florida, 2000–2007

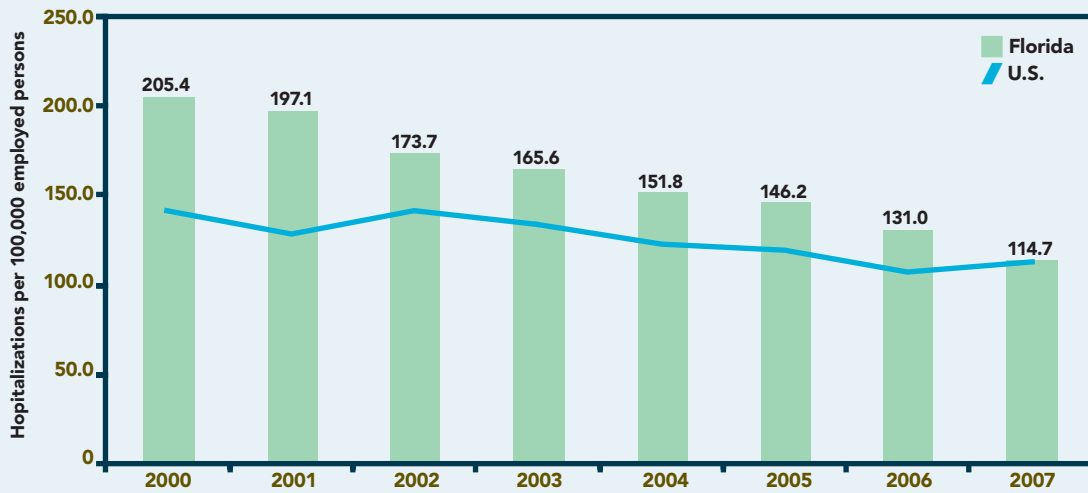


Figure 2. Rate of Work-Related Hospitalizations, Ages 16 Years and Older, Florida and the U.S., 2000–2007

Technical Notes: This dataset may also include multiple admissions or readmission of a single individual

Data Source: Number of hospitalizations = AHCA hospital discharge data. Employment statistics used to calculate rates=Bureau of Labor statistics' Current Population Survey.



# Indicator 3

## Fatal Work-related Injuries

**BACKGROUND** Fatal work-related injuries are defined as injuries that occur at work and result in death. The data source for this indicator is the Bureau of Labor Statistics, Census (annual comprehensive count) of Fatal Occupational Injuries (CFOI). CFOI utilizes multiples sources such as death certificates, State workers' compensation records, news media, and OSHA reports to ensure an accurate count of all work-related deaths. CFOI includes deaths from both unintentional injuries (i.e. falls, electrocutions, caught in machinery, highway accidents, etc.) and intentional injuries (suicide and homicide). Deaths caused by work-related illnesses are not counted.

**RESULTS** Table 3 shows the number of work-related fatalities per year for the period 2000 to 2007. On average 369 workers per year were killed on the job in Florida, with a low of 329 in 2000 and a high of 422 in 2004. This is equivalent to at least one person dying on the job on average every day.

Figure 3 shows the rate of fatal work-related injuries per 100,000 employed persons. The average fatality rate for Florida was 4.6 deaths per 100,000 employed persons and ranged from 4.1 in 2006 and 2007 to a high of 5.3 deaths per 100,000 in 2004. Florida's fatality rate was consistently higher than the national average, which ranged from 3.9 to 4.4 during the same period.



	2000	2001	2002	2003	2004	2005	2006	2007
Work-related fatalities	329	368	354	347	422	406	360	363

Table 3. Number of Fatal Work-Related Injuries, Florida, 2000–2007



Figure 3. Rate of Fatal Work-Related Injuries, Florida and the U.S., 2000–2007

Data Source: Numbers of fatalities = Census of Fatal Occupational Injuries. Employment statistics used to calculate rates = Bureau of Labor Statistics' Current Population Survey.

# Indicator 4

## Work-related Amputations with Days Away from Work Reported by Employers

**BACKGROUND** An amputation is defined as the traumatic loss of a limb or other external body part in which bone loss occurs. This indicator utilizes data from the Bureau of Labor Statistics annual Survey of Occupational Injury and Illness (SOII). The SOII estimates the number of work-related injuries and illnesses based on logs kept by employers surveyed. Requirements for the log are set forth by the Occupational Safety and Health Administration (OSHA). OSHA requires that employers log work-related injuries and illness that result in medical treatment beyond first aid, loss of consciousness, restricted work, transfer to another job, days away from work or death.

Indicator 4 counts those cases that involved days away from work. The cases that involve days away from work are typically more severe in nature than those that do not require time away from work.

Additional limitations include that the survey is subject to sampling error and not all qualifying events are captured in the logs.

The SOII covers the majority of private sector industries; however, the military, federal agencies, farms with fewer than 11 employees, self-employed workers, and household workers are excluded. The excluded workers comprise approximately 21% of the U.S. workforce.<sup>1</sup> Additional limitations include that the survey is subject to sampling error and not all qualifying events are captured in the logs. Employers may not be aware of work-related conditions if the employee seeks treatment from their personal healthcare provider. Work-related illnesses in particular are not well documented.<sup>2</sup>

**RESULTS** Table 4 shows the number of amputations involving days away from work that occurred in 2000–2007. On average, there were 335 amputations per year involving days from work among Florida workers. The number of amputations ranged from a high of 430 in 2006 to 220 in 2003 and 2004.

Figure 4 shows the rate of amputations involving days away from work per 100,000 full-time equivalents (ftes). The rate in Florida has ranged from 4.0–8.0 amputations per 100,000 ftes. The rate of work-related amputations in Florida was below the national average for all years. This may reflect Florida’s lower occurrence of manufacturing, production and farming facilities

	2000	2001	2002	2003	2004	2005	2006	2007
Amputations involving days away from work	417	410	354	220	220	350	430	280

Table 4. Number of Work-Related Amputations Involving Days away from Work Reported by Private Sector Employers, Florida, 2000–2007

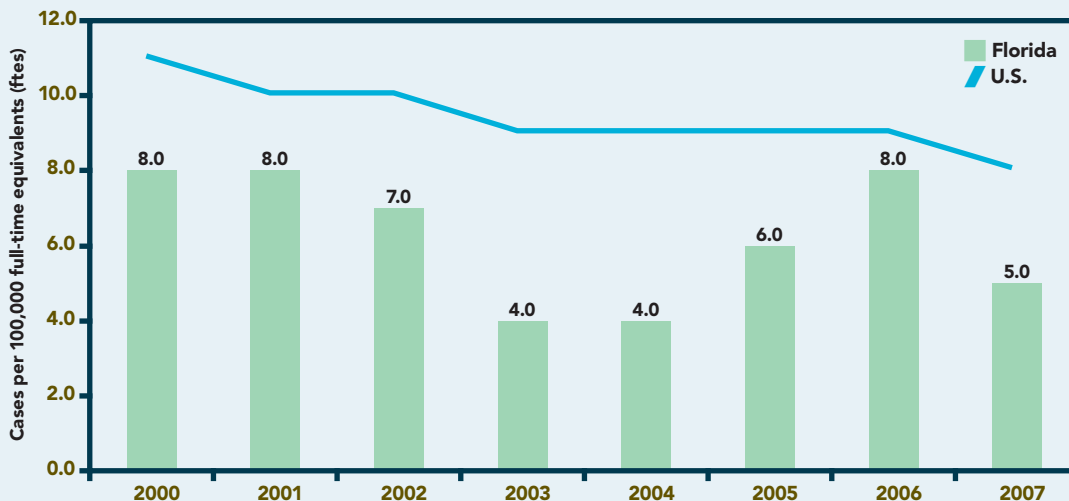


Figure 4. Rate of Work-Related Amputations Involving Days away from Work Reported by Private Sector Employers, Florida and the U.S., 2000–2007



# State Workers' Compensation Claims for Amputations with Lost Work-Time

## Indicator 5

AT THE TIME OF THIS REPORT, STATE WORKERS COMPENSATION CLAIMS DATA WERE NOT AVAILABLE.





## Hospitalizations for Work-related Burns

**BACKGROUND** Work-related burns can be caused by dry heat (fire), moist heat (steam), electricity, chemicals, radiation, or friction. The data source for this indicator was the Florida Agency for Health Care Administration (AHCA) hospital discharge dataset. Hospitalizations were considered work-related if workers compensation was listed as the principal payer. Only cases who were 16 years of age or older were included. Burns were identified by ICD-9 codes 940 through 949.

The results of this indicator are likely to be an underestimate of the true burden of work-related burns. A limitation of this indicator is its reliance on payor source (workers compensation) to determine work-relatedness. A large proportion of individuals that are potentially eligible for workers compensation do not file and are thus not captured by this indicator.<sup>3,4,5</sup>

Additionally not all employed persons are covered by state workers compensation. Federal workers and self-employed persons are not covered. Also, employers of small farms and small non-construction industry businesses are not required to carry workers compensation coverage. See the following link for Florida specific information on workers compensation (<http://www.myfloridacfo.com/wc/employer/coverage.html>).

**RESULTS** Table 5 shows the number of work-related burn hospitalizations that occurred 2000–2007. On average, 172 workers in Florida were hospitalized each year for serious burns. The number of burns per year ranged from 149 in 2007 to 216 in 2000.

Figure 5 shows the hospitalization rate for burns per 100,000 employed persons. The rate of hospitalizations for burns ranged from 1.7–3.0 per 100,000 employed persons. Although Florida had a higher overall work-related hospitalization rate than the national average (Figure 2), this was not the case for work-related burns. Florida’s work-related burn hospitalizations were below the national average and showed a decreasing trend.

Work-related burns can be caused by dry heat (fire), moist heat (steam), electricity, chemicals, radiation, or friction

	2000	2001	2002	2003	2004	2005	2006	2007
Work-related burn hospitalizations	216	186	157	175	161	167	167	149

Table 5. Number of Hospitalizations for Work-Related Burns, Ages 16 Years and Older, Florida, 2000–2007

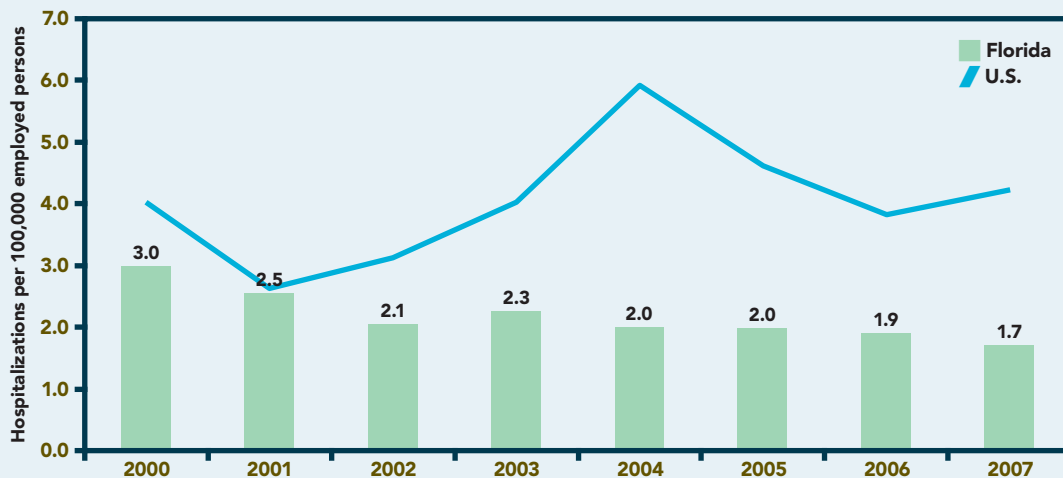


Figure 5. Number of Hospitalizations for Work-Related Burns, Ages 16 Years and Older, Florida, 2000–2007

Data Source: Number of hospitalizations = AHCA hospital discharge data. Employment statistics used to calculate rates = Bureau of Labor Statistics' Current Population Survey.

## Work-related Musculoskeletal Disorders with Days Away from Work Reported by Employers

**BACKGROUND** Musculoskeletal disorders (MSDs) are defined as injuries or illnesses affecting the connective tissues of the body such as muscles, nerves, tendons, joints, cartilage, or spinal disks. Data for this indicator was obtained from the Bureau of Labor Statistics Survey of Occupational Injury and Illness (SOII). The SOII estimates the number of work-related injuries and illnesses based on logs kept by employers surveyed. The Occupational Safety and Health Administration (OSHA) requires that employers log work-related injuries and illness that result in medical treatment beyond first aid, loss of consciousness, restricted work, transfer to another job, days away from work or death. Indicator 4 counts those cases that involved days away from work. The cases that involve days away from work are typically more severe in nature than those that do not require time away from work.

The survey covers the majority of private sector industries; however, the military, federal agencies, farms with fewer than 11 employees, self-employed workers, and household workers are excluded. The excluded workers comprise approximately 21% of the U.S. workforce.<sup>1</sup> Additional limitations include that the survey is subject to sampling error and not all qualifying events are captured in the logs. Employers may not be aware of work-related

conditions if the employee seeks treatment from their personal healthcare provider. Work-related illnesses in particular are not well documented.<sup>2</sup>

**RESULTS** The number and rate of MSDs in Florida declined over the period 2000–2007 and the decline occurred among all three categories of MSDs that were examined in this indicator: neck/shoulder/upper extremities, carpal tunnel syndrome, and back.

Table 6a shows the number of work-related MSDs involving days away from work reported by private sector employers 2000–2007. Between 2000 and 2007, the total number of MSDs steadily declined from 27,299 in 2000 to 15,420 in 2007. Table 6b shows the rates per 100,000 full-time equivalents (ftes) of select work-related MSDs involving days away from work.

Figure 6 shows the rate per 100,000 ftes of all work-related musculoskeletal disorders involving days away from work. Between 2000 and 2007, the rate of all MSDs declined 49.6% from 552 to 278 cases per 100,000 ftes. Florida’s rate was consistently below the national average.

	2000	2001	2002	2003	2004	2005	2006	2007
All MSDs	27,299	29,925	23,620	19,600	21,730	19,160	17,170	15,420
Neck, Shoulder, and Upper Extremities	6,733	7,231	5,723	5,570	5,720	4,830	4,570	4,140
Carpal Tunnel Syndrome	610	1,345	822	620	620	520	460	330
Back	13,816	14,280	13,213	9,560	10,910	9,670	8,090	7,650

Table 6a. Numbers of Work-related Musculoskeletal Disorders (MSDs)\* Involving Days Away from Work Reported by Private Sector Employers, Florida, 2000–2007

	2000	2001	2002	2003	2004	2005	2006	2007
Neck, Shoulder, and Upper Extremities	136	144	117	113	110	89	82	75
Carpal Tunnel Syndrome	12	27	17	13	12	9	8	6
Back	279	285	271	193	208	177	146	138

Table 6b. Rates per 100,000 Full-time Equivalents (ftes) of Select Work-related Musculoskeletal Disorders Involving Days Away from Work Reported by Private Sector Employers, Florida, 2000–2007

Data Source: Bureau of Labor Statistics’ Annual Survey of Occupational Injuries and Illnesses (SOII)

Musculoskeletal disorders (MSDs) are injuries or disorders of the muscles, nerves, tendons, joints, cartilage, and spinal discs. MSDs do not include disorders caused by crashes or similar incidents. The numbers above represent the revised OSHA definition of MSDs: sprains, strains, tears; back pain, hurt back; soreness, pain, hurt, except back; carpal tunnel syndrome (CTS); hernia; and musculoskeletal system and connective tissue diseases and disorders when the event or exposure leading to the case is bodily reaction (bending, climbing, crawling, reaching, twisting), overexertion, or repetitive motion.

# Work-related Musculoskeletal Disorders with Days Away from Work Reported by Employers

## Indicator 7

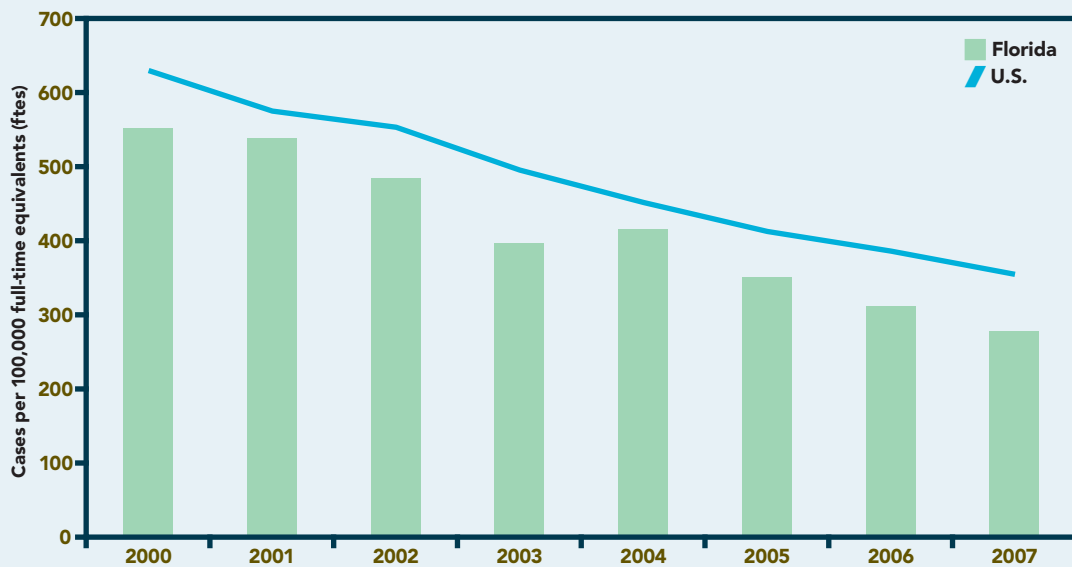


Figure 6. Rate of All Work-related Musculoskeletal Disorders Involving Days Away from Work Reported by Private Sector Employers, Florida and the U.S., 2000–2007

continued from page 12



## State Workers' Compensation Claims for Carpal Tunnel Syndrome with Lost Work-Time

# Indicator 8

AT THE TIME OF THIS REPORT, STATE WORKERS COMPENSATION CLAIMS DATA WERE NOT AVAILABLE.



## Hospitalizations from or with Pneumoconiosis

**BACKGROUND** Pneumoconioses are a group of non-malignant lung diseases caused by inhalation of mineral dusts. Some of these dusts include silica, coal, asbestos, talc, aluminum, bauxite, and graphite. The dust exposure is usually occupationally related and generally develops from cumulative exposure over a long time period. Due to the long latency, most cases are diagnosed in older individuals. Florida is a popular retirement state and many of the cases that are diagnosed in Florida may have been exposed decades earlier while working in other states. In particular, coal mining is not present in Florida so it is unlikely that the cases of coal workers' pneumoconiosis were acquired in state.

The data source for this indicator was the Florida Agency for Health Care Administration (AHCA) hospital discharge dataset. Hospitalizations were considered work-related if workers compensation was listed as the principal payer. Only cases who were 15 years of age or older were included. Pneumoconioses were identified by ICD-9 codes 500 through 505. The primary pneumoconioses are coal workers' pneumoconiosis (black lung disease), asbestosis, and silicosis. An individual could be diagnosed with more than one type of pneumoconiosis.

**RESULTS** Table 7a shows the number of hospitalizations from or with pneumoconiosis. The total number of pneumoconiosis cases has ranged from 1,856 in 2004 to a high of 2,518 in 2006. Asbestosis was the most common type of pneumoconiosis in Florida requiring hospitalization.

Table 7b shows the age-standardized rates of hospitalizations per million residents from or with select types of pneumoconiosis. Coal workers pneumoconiosis and silicosis hospitalizations were rare, on average 17.5 and 3.9 million hospitalizations per millions residents, respectively.

Figure 7 shows the age-standardized rate of hospitalizations from or with total pneumoconiosis and asbestosis. The average hospitalization rate for total pneumoconiosis was 120.5 per million residents; the average hospitalizations rate for asbestosis was 97.8 per million residents. In 2006 and 2007, Florida's rates for both total pneumoconiosis and asbestosis greatly exceeded the national rate. It is difficult to assess the patterns of Florida's pneumoconiosis rates given that it is a popular retirement destination.

	2000	2001	2002	2003	2004	2005	2006	2007
<b>Total pneumoconiosis</b>	2,051	2,148	2,284	2,119	1,856	2,068	2,518	2,209
<b>Coal workers' pneumoconiosis</b>	406	396	455	281	231	263	228	161
<b>Asbestosis</b>	1,564	1,625	1,739	1,748	1,553	1,718	2,196	1,965
<b>Silicosis</b>	63	74	65	56	54	71	80	63
<b>Other and unspecified pneumoconiosis</b>	32	57	37	38	31	25	30	30

Table 7a. Number of Hospitalizations from or with Pneumoconiosis, Ages 15 Years and Older, Florida, 2000-2007

		2000	2001	2002	2003	2004	2005	2006	2007
<b>Coal workers' pneumoconiosis</b>	FL	24.8	24.3	27.1	16.1	13.0	14.1	11.9	8.4
	U.S.	44.9	28.0	40.1	30.3	24.6	39.0	15.4	8.6
<b>Silicosis</b>	FL	4.0	4.5	3.9	3.4	3.2	4.1	4.5	3.7
	U.S.	5.2	1.3	8.2	4.1	5.2	3.1	4.1	2.5
<b>Other &amp; unspecified pneumoconiosis</b>	FL	2.0	3.5	2.3	2.2	1.8	1.5	1.6	1.6
	U.S.	4.4	3.2	0.6	1.9	0.9	7.4	5.7	5.9

Table 7b. Age-standardized Rates of Hospitalizations per Million Residents from or with Select Types of Pneumoconiosis, Ages 15 Years and Older, Florida, 2000-2007

Data Source: Number of hospitalizations for Florida = ACHA hospital discharge data. Number of hospitalization for US = National Hospital Discharge Survey. Employment statistics used to calculate rates = Bureau of Labor Statistics' Current Population Survey

# Indicator 9

## Hospitalizations from or with Pneumoconiosis

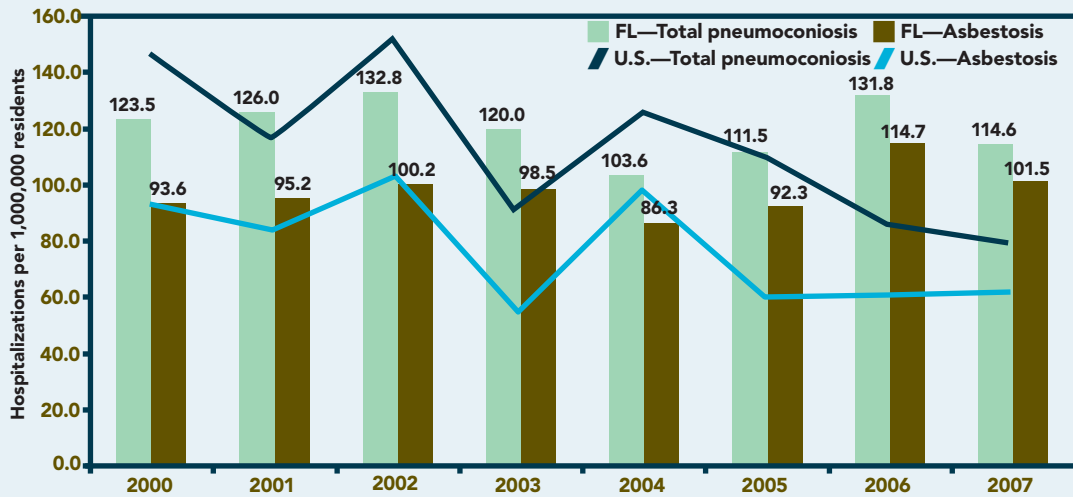


Figure 7. Age-Standardized Rate of Hospitalizations from or with Total Pneumoconiosis and Asbestosis, Ages 15 Years and Older, Florida and the U.S., 2000–2007

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## Mortality from or with Pneumoconiosis

**BACKGROUND** Pneumoconioses are a group of non-malignant lung diseases caused by inhalation of mineral dusts. Some of these dusts include silica, coal, asbestos, talc, aluminum, bauxite, and graphite. The dust exposure is usually occupationally related and generally develops from cumulative exposure over a long time period. Due to the long latency, most cases are diagnosed in older individuals. Florida is a popular retirement state and many of the cases that are diagnosed in Florida may have been exposed decades earlier while working in other states. In particular, coal mining is not present in Florida so it is unlikely that the cases of coal workers' pneumoconiosis were acquired in state.

Death certificate data was obtained from Florida Vital Records. Pneumoconiosis was identified as the underlying or contributing cause of death by ICD-10 codes J60-J66. The primary pneumoconioses are coal workers' pneumoconiosis (black lung disease), asbestosis, and silicosis. An individual could be diagnosed with more than one type of pneumoconiosis.

**RESULTS** Table 8a shows the number of deaths from or with pneumoconiosis for the years 2000-2007. Between 2000 and 2007, there was an average of 103 deaths from pneumoconioses. The most common pneumoconiosis associated with

death was asbestosis with an average of 83 deaths per year.

Table 8b shows the age-standardized mortality rates per million residents from or with select types of pneumoconiosis. Deaths from or with coal workers pneumoconiosis, silicosis, and other unspecified pneumoconiosis were rare. Florida's rates for these pneumoconioses were below the national average.

Figure 8 depicts the age-standardized mortality rates from or with total pneumoconiosis and asbestosis. During the period 2000-2007, the pneumoconiosis age-adjusted mortality rates ranged between 4.6 and 6.0 per million residents. The asbestosis age-adjusted mortality rate ranged between 3.7 and 5.3 per million residents. Florida's pneumoconiosis mortality rates were below the national average for total pneumoconiosis and asbestosis.

**Florida is a popular retirement state and many of the cases that are diagnosed in Florida may have been exposed decades earlier while working in other states.**

	2000	2001	2002	2003	2004	2005	2006	2007
<b>Total pneumoconiosis</b>	101	100	105	101	108	116	91	98
<b>Coal workers' pneumoconiosis</b>	9	10	13	17	10	17	13	8
<b>Asbestosis</b>	89	80	83	75	90	91	73	84
<b>Silicosis</b>	<5	<5	6	6	6	<5	<5	6
<b>Other and unspecified pneumoconiosis</b>	<5	7	<5	<5	<5	6	<5	<5

Table 8a. Number of Deaths from or with Pneumoconiosis, Ages 15 Years and Older, Florida, 2000-2007

		2000	2001	2002	2003	2004	2005	2006	2007
<b>Coal workers' pneumoconiosis</b>	FL	0.5	0.6	0.7	0.9	0.5	0.8	0.7	0.4
	U.S.	4.4	4.0	3.8	3.4	3.0	2.7	N/A	2.1
<b>Silicosis</b>	FL	N/A	N/A	0.3	0.3	0.3	N/A	N/A	0.3
	U.S.	0.7	0.7	0.7	0.8	0.7	0.7	N/A	0.5
<b>Other &amp; unspecified pneumoconiosis</b>	FL	N/A	0.4	N/A	N/A	N/A	0.3	N/A	N/A
	U.S.	1.4	1.2	1.1	1.1	1.0	0.9	N/A	0.7

Table 8b. Age-standardized Mortality Rates per Million residents from or with Select Types of Pneumoconiosis, Ages 15 Years and Older, Florida and the U.S., 2000-2007

N/A: "Not Available" Rates not calculated if four or fewer cases

Data Source: Number of deaths = Florida Vital Records. Population statistics used to calculate rates = U.S. Census Bureau.

# Mortality from or with Pneumoconiosis

## Indicator 10

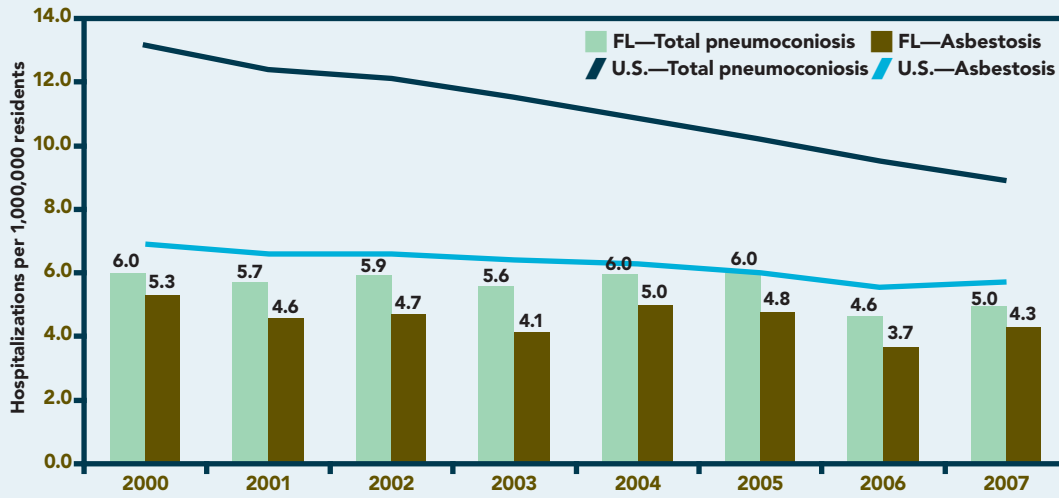


Figure 8. Age-Standardized Mortality Rates from or with Total Pneumoconiosis and Asbestosis, Ages 15 Years and Older, Florida and the U.S., 2000-2007

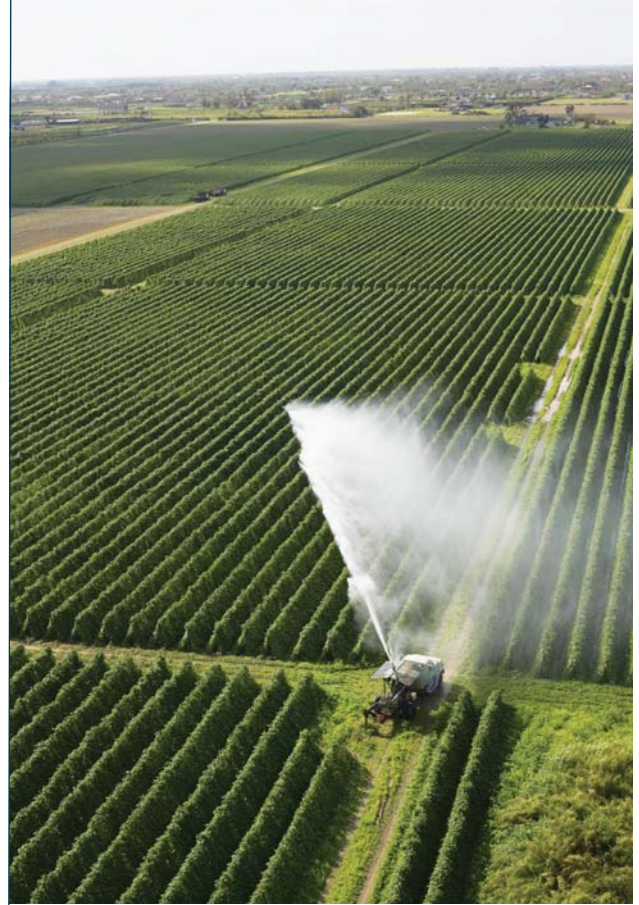
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## Acute Work-related Pesticide-associated Illness and Injury Reported to Poison Control Centers

**BACKGROUND** A pesticide is a substance or mixture of substances used to control undesired insects, plants, animals, or fungi. Human exposure to certain pesticides can cause adverse health effects depending on the type of chemical, the exposure route, and the amount. Data for this indicator are obtained from the American Association of Poison Control Centers, and reflect the number of calls that go to these centers in which callers report work related pesticide exposure and acute signs and symptoms indicative of pesticide poisoning. Calls are typically taken from individuals, physicians, EMS responders, emergency departments and other health care facilities. It is unlikely that these numbers reflect the true number of work-related pesticide poisonings in Florida because only a portion of pesticide poisonings are captured through calls to the poison control centers.

**RESULTS** Table 9 shows the number of work-related pesticide poisoning for the period 2000–2007. On average 153 work-related, pesticide-associated illnesses and injuries were reported annually.

Figure 9 shows the rate of work-related pesticide poisonings. The rate has ranged from 1.4–2.0 cases per 100,000 employed persons.



	2000	2001	2002	2003	2004	2005	2006	2007
Cases of pesticide associated poisonings	147	155	163	154	166	172	138	125

Table 9. Number of Work-related Pesticide-Associated Poisonings Reported by Florida Poison Information Centers, 2000–2007

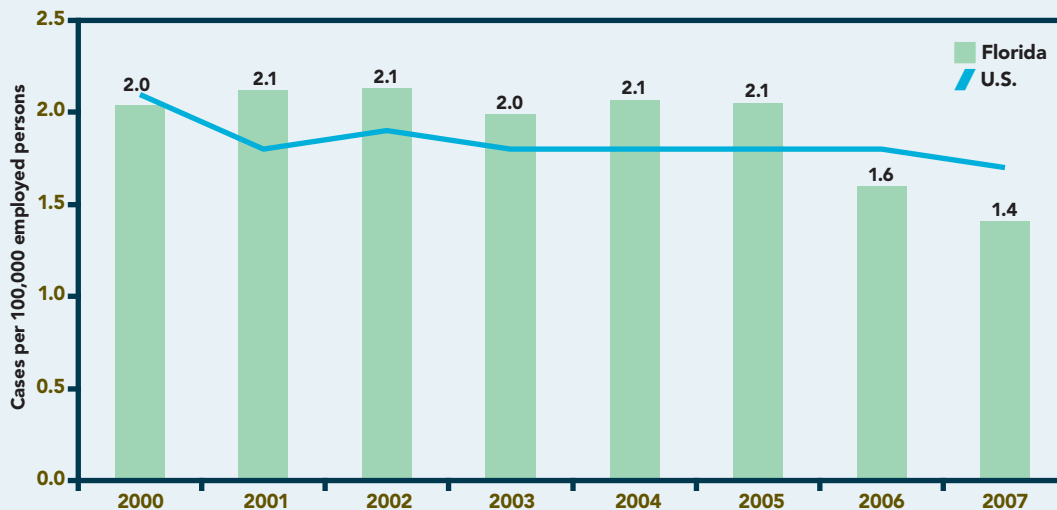


Figure 9. Rate of Work-Related Pesticide-Associated Poisonings, Florida and the U.S., 2000–2007

Data Source: Numbers of pesticide-associated illness and injury = American Association of Poison Control Centers. Employment statistics used to calculate rates = Bureau of Labor Statistics' Current Population Survey.



## Incidence of Malignant Mesothelioma

**BACKGROUND** Malignant mesothelioma is a fatal cancer that is caused by exposure to asbestos or related fibers and 90% of cases are directly attributable to asbestos exposure. Mesothelioma has a long latency period of 20–40 years and is primarily found in the mesothelial tissue lining the pleura (lung cavity), the peritoneum (abdominal cavity), the pericardium (heart sac), and the tunica vaginalis (testis sac).

Asbestos as a material is extremely resistant to fire, heat and chemical damage and was used heavily from the 1940s to the 1970s in a myriad of products such as electrical and building insulation, drywall, floor tiles, roofing materials, popcorn ceilings, brake pads, and shoes and as fireproofing material. Beginning in the 1970s, regulations to limit or regulate asbestos in the environment were enacted. Asbestos use has since declined but workers are still occupationally exposed today, as commercial use of asbestos in the United States is only partially banned and remodeling and/or removal of asbestos containing material are common.

Data for indicator 10 were obtained from the Florida Cancer Data System, the statewide comprehensive cancer registry.

**RESULTS** Table 10 shows the number of cases of malignant mesothelioma that occurred annually for the years 2000–2007. An average of 236 cases of malignant mesothelioma was reported each year.

Figure 10 shows the age-standardized rates of malignant mesothelioma. The rate of mesothelioma in Florida ranged from 11.1–15.4 cases per million residents. The rates were similar to the U.S. average.

Asbestos as a material is extremely resistant to fire, heat and chemical damage and was used heavily from the 1940s to the 1970s in a myriad of products such as electrical and building insulation, drywall, floor tiles, roofing materials, popcorn ceilings, brake pads, and shoes and as fireproofing material.

	2000	2001	2002	2003	2004	2005	2006	2007
Mesothelioma cases	248	242	250	246	199	226	248	230

Table 10. Number of Cases of Malignant Mesothelioma, Ages 15 Years and Older, Florida, 2000–2007

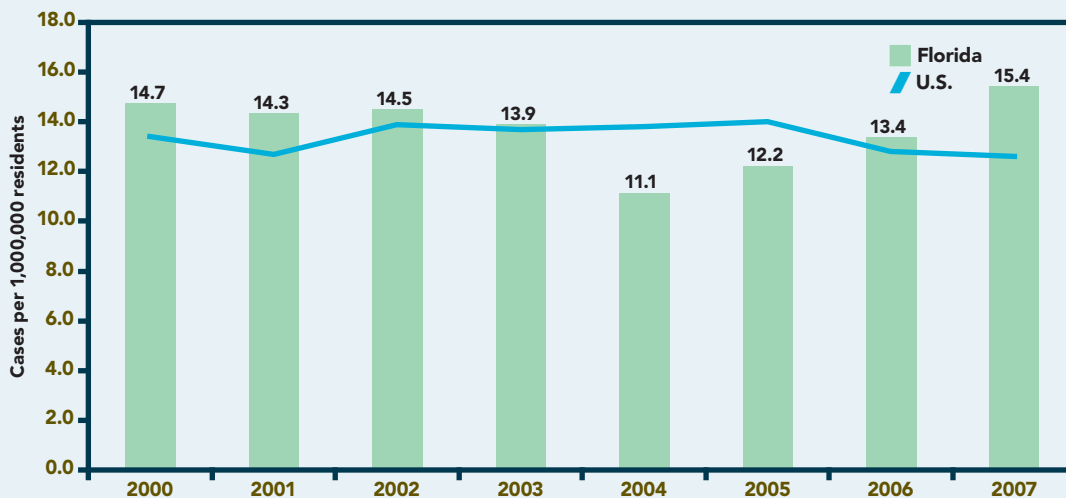


Figure 10. Age-Standardized Incidence Rate of Malignant Mesothelioma, Ages 15 Years and Older, Florida and the U.S., 2000–2007

Data Source: Numbers of mesothelioma cases = Florida Cancer Data System. Population statistics used to calculate rates = U.S. Census Bureau.

## Elevated Blood Lead Levels Among Adults

**BACKGROUND** Adult blood lead is considered elevated at 25µg/dL though there is evidence that toxicity may occur at levels as low as 5µg/dL.<sup>6,7,8</sup> The majority of elevated blood lead levels among adults are occupationally related. Occupational exposures include manufacturing or recycling lead containing products such as batteries, bullets, metals and electrical components, handling lead pipes (plumbers and pipe fitters), paint, and ammunition exposure (police officers, gunsmiths, and firing range instructors). For a more complete list, see <http://www.cdc.gov/niosh/topics/lead/WorkerInfo.html>.

Non-occupational exposures may occur through activities such as remodeling, renovating, painting, shooting and reloading firearms, and casting lead bullets or fishing weights.

Workers in the above occupations may bring home lead dust on their clothing and potentially expose household members. Lead is particularly dangerous to children, which experience adverse health effects at lower blood lead levels than adults. Negative health effects of lead exposure may include nervous system dysfunction, kidney damage, hypertension, anemia, decreased fertility, and pregnancy issues such as miscarriage and premature birth.

Data were obtained from the Florida Adult Blood Lead Epidemiology Surveillance (ABLES)

program. Incident cases (new cases) are defined as cases with an elevated blood lead level reported in the calendar year, but not reported in the immediately preceding year with an elevated blood lead level (may appear in earlier years with an elevated blood lead level). Prevalent cases (new plus existing cases) are defined as the total number of cases reported that year. All cases of elevated blood lead are included regardless of whether an occupational exposure was identified.

**RESULTS** Table 11a shows the number of prevalent and incident cases of elevated blood lead levels each year 2000–2007. The total annual cases of adult blood lead ≥25µg/dL varied greatly from year to year and ranged between 179 and 352 cases. The number of incident cases ranged from 71 to 282.

Table 11b shows the rate of incident cases with elevated blood lead levels. The rate of adult blood lead ≥ 25µg/dL ranged from 0.8–3.9 per 100,000 employed persons.

Figure 11 shows the prevalence rates of persons with blood lead levels ≥ 25µg/dL and ≥ 40µg/dL. The Florida adult blood lead rates declined over the period 2000 to 2007 and were consistently lower than the national rates.

	2000	2001	2002	2003	2004	2005	2006	2007
Prevalent cases with blood lead level ≥ 25 µg/dL	286	317	352	298	273	223	166	179
Incident cases with blood lead level ≥ 25 µg/dL	282	164	165	126	109	82	83	71
Prevalent cases with blood lead level ≥ 40 µg/dL	98	102	102	88	71	78	41	46
Incident cases with blood lead level ≥ 40 µg/dL	97	42	48	34	25	30	21	20

Table 11a. Number of Prevalent<sup>1</sup> and Incident<sup>2</sup> Cases of Persons Age 16 Years and Older with Elevated Blood Lead Levels, Florida, 2000–2007

1. A prevalent case is a person with a BLL greater than or equal to 25µg/dL (or 40µg/dL) that was reported at least once in the calendar year.
2. An incident case is a person with a BLL greater than or equal to 25µg/dL that was reported in the calendar year, but not in the immediately preceding calendar year.

	2000	2001	2002	2003	2004	2005	2006	2007
Rate of blood level ≥ 25µg/dL	3.9	2.2	2.2	1.6	1.4	1.0	0.9	0.8
Rate of blood level ≥ 40µg/dL	1.3	0.6	0.6	0.4	0.3	0.4	0.2	0.2

Table 11b. Rate of Incident Cases of Persons Age 16 Years and Older with Elevated Blood Lead Levels, Florida, 2000–2007

Rates are expressed as residents with elevated BLL per 100,000 employed persons

Data Source: Numbers of cases with elevated blood lead levels = Florida Adult Blood Lead Epidemiology Surveillance (ABLES) program. Employment estimates used to calculate rates = Bureau of Labor Statistics' Current Population Survey.

## Elevated Blood Lead Levels Among Adults

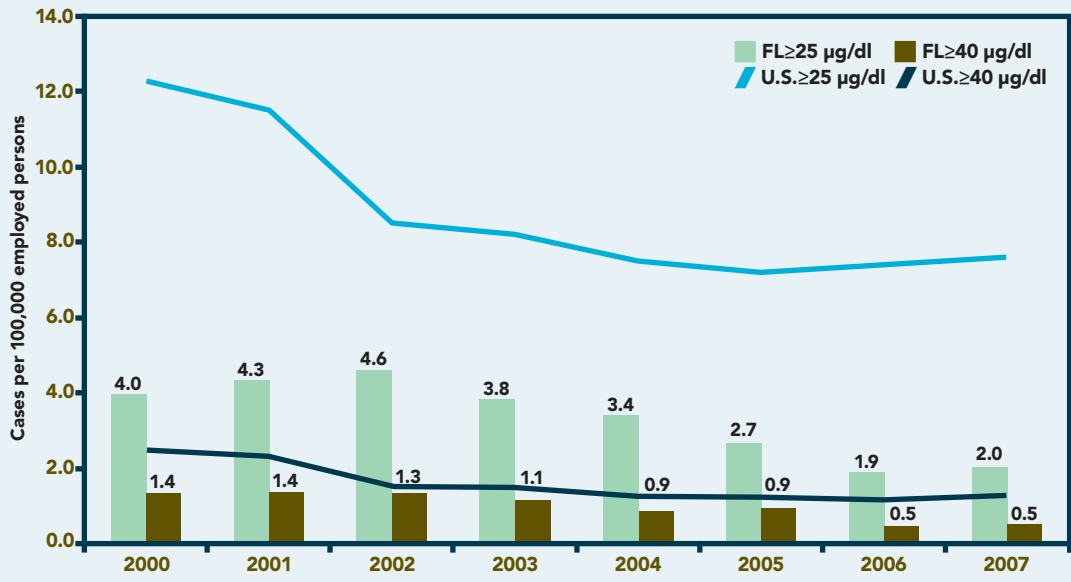


Figure 11. Prevalence Rates of Persons with Blood Lead Levels ≥ 25 µg/dL and ≥ 40 µg/dL, Ages 16 Years and Older, Florida and the U.S., 2000–2007

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Technical Notes: Florida rates included all cases of adult elevated BLL in the numerator; denominators are limited to employed persons. This may result in an overestimation of rates (cases per 100,000 employed persons) if some cases were the result of non-occupational exposures.  
 U.S. rates were based on data published by the ABLES program.  
 Data Source: Numbers of cases with elevated blood lead levels = Florida Adult Blood Lead Epidemiology Surveillance (ABLES) program. Employment estimates used to calculate rates = Bureau of Labor Statistics' Current Population Survey.



## Workers Employed in Industries at High Risk for Occupational Morbidity

**BACKGROUND** have an above average risk of becoming injured or ill on the job. High-risk industries as defined by this indicator have an injury and illness rate that is at least double the overall national occupational morbidity rate estimated in the Survey of Occupational Injuries and Illnesses (SOII). For example, in 2003, the U.S. rate of non-fatal work-related injuries and illness was 5.0 per 100 full-time equivalents (ftes) therefore industries with 10 cases of occupational morbidity per 100 ftes were considered high-risk. In 2003, 37 industries met that definition. The definition was created by the indicator workgroup comprised of representatives from federal and state agencies as well as the Council of State and Territorial Epidemiologist (CSTE).

The list of high-risk industries differs for the period 2000–2002 and 2003–2007 as national criteria and definitions were changed, therefore, data between these two periods are not comparable. High-risk industries for the period 2000–2002 were defined using the Standard Industrial Classification (SIC) coding system. The coding system was changed in 2003 to the North American Industry Classification System (NAICS). The list of high-risk industries is updated every 5 years. Data on the number of workers employed in each industry were obtained from the Census Bureau County Business Patterns.

**RESULTS** Table 12a shows the annual number of workers employed in high-risk industries in Florida, 2000–2007. On average among the roughly 8 million Florida workers there were 346,525 workers employed in high-risk industries.

Figure 12 shows the percentage of workers employed in industries with high risk of occupational morbidity. The percentage for 2003–2007 ranged between 4.7% and 5.2%. Between 2003 and 2007, the percentage of Floridians employed in these industries was slightly below the U.S. average, which ranged from 6.4–6.7%.

Table 12b shows the Florida industries that had the highest rate of morbidity in 2007 according to the Survey of Occupational Injuries and Illnesses (SOII). The industries with the highest morbidity rate were air transportation, couriers, and messengers with a rate of 8,800 per 100,000 ftes.

**On average among the roughly 8 million Florida workers there were 346,525 workers employed in high-risk industries**

	2000	2001	2002	2003	2004	2005	2006	2007
<b>Workers in high risk industries</b>	343,582	341,833	336,794	306,440	353,965	367,175	360,976	361,436

High-risk industries had at least two times the overall national injury and illness rates, as estimated by the Survey of Occupational Injuries and Illnesses, Bureau of Labor Statistics.

Table 12a. Number of Workers Employed in Industries with High Risk\* of Occupational Morbidity, Florida, 2000–2007

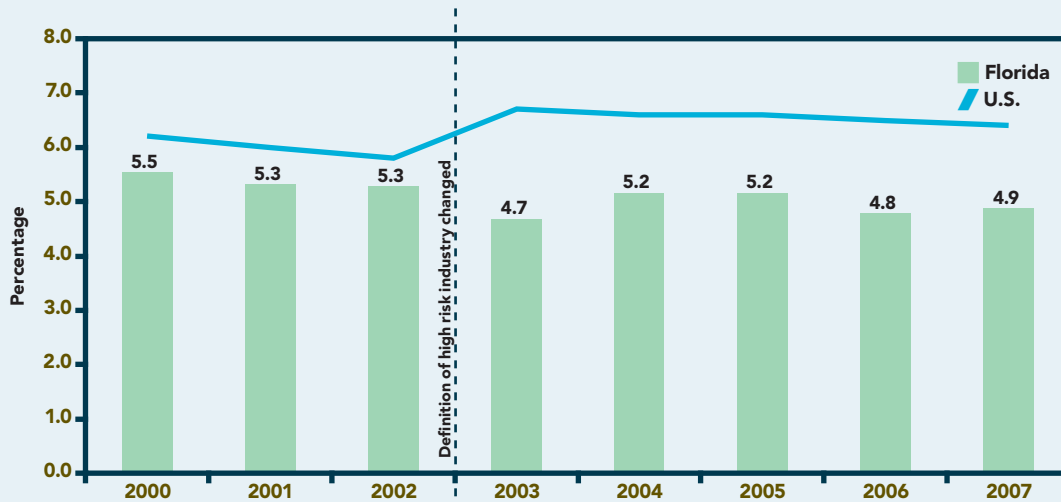


Figure 12. Percentage of Workers Employed in Industries with High Risk of Occupational Morbidity, Florida and the U.S., 2000–2007

Technical Note: The composition of industries that comprise "high risk" for this indicator have changed from the group of industries that were used to generate 2000–2002 data. This most recent group will be used through 2007.

Data Source: Census Bureau County Business Patterns

## Workers Employed in Industries at High Risk for Occupational Morbidity



NAICS Code	Industry	Rate per 100,000 Full-time Equivalents (ftes)
48100	Air transportation	8,800
49200	Couriers and messengers	8,800
62300	Nursing and residential care facilities	8,200
49300	Warehousing and storage	8,100
33200	Fabricated metal product manufacturing	7,700
48500	Transit and ground passenger transportation	7,500
62200	Hospitals	7,400
31200	Beverage and tobacco product manufacturing	6,900
32600	Plastics and rubber products manufacturing	6,200
45200	General merchandise stores	6,100

Table 12b. Top Ten Industries with Highest Morbidity, Florida, 2007

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## Workers Employed in Occupations at High Risk for Occupational Morbidity

**BACKGROUND** Occupations at high risk for occupational morbidity are those occupations identified in national analyses in which workers have an above average risk of becoming injured or ill on the job. High-risk occupations as defined by this indicator have an injury and illness rate that is at least double the overall national occupational morbidity rate estimated in the Survey of Occupational Injuries and Illnesses (SOII). The definition of high risk was created by the indicator workgroup comprised of representatives from federal and state agencies as well as the Council of State and Territorial Epidemiologist (CSTE).

The list of high-risk occupations differs for the period 2000–2002 and 2003–2007 as national criteria and definitions were changed, therefore, data between these two periods are not comparable. High-risk occupations for the period 2000–2002 were defined using the Census Occupation Codes (COC) coding system. The coding system was changed in 2003 to the Standard Occupational Classification (SOC). The list of high-risk occupations is updated every 5 years. Data on the number of workers employed in each occupation was obtained from the Bureau of Labor Statistics Current Population Survey.

**RESULTS** Table 13a shows the number of workers employed in high-risk occupations from 2000–2007. From 2003–2007 the number of workers employed in occupations with a high risk of morbidity increased 28.2 %, from 792,978 to 1,060,257.

Figure 13 shows the percentage of workers employed in high-risk occupations. The percentage of workers employed in these high-risk occupations increased from 10.4% in 2004 to 12.0% in 2007. These percentages were below the national average.

Table 13b shows the ten occupations with the highest rate of injuries and illnesses requiring days away from work in 2007. The rates were obtained from the Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses. The occupation group with the highest rate of injuries and illnesses was transportation and material moving, with a rate of 2,350 per 100,000 ftes.

	2000	2001	2002	2003	2004	2005	2006	2007
Workers in high risk occupations	411,755	404,368	413,656	792,978	826,389	969,025	1,032,994	1,060,257

\*High risk occupations had at least twice the overall national rate of injuries and illnesses resulting in days away from work, as estimated by the Survey of Occupational Injuries and Illnesses, Bureau of Labor Statistics. See Technical Note below.

Table 13a. Number of Workers Employed in Occupations with High Risk\* of Occupational Morbidity, Florida, 2000–2007

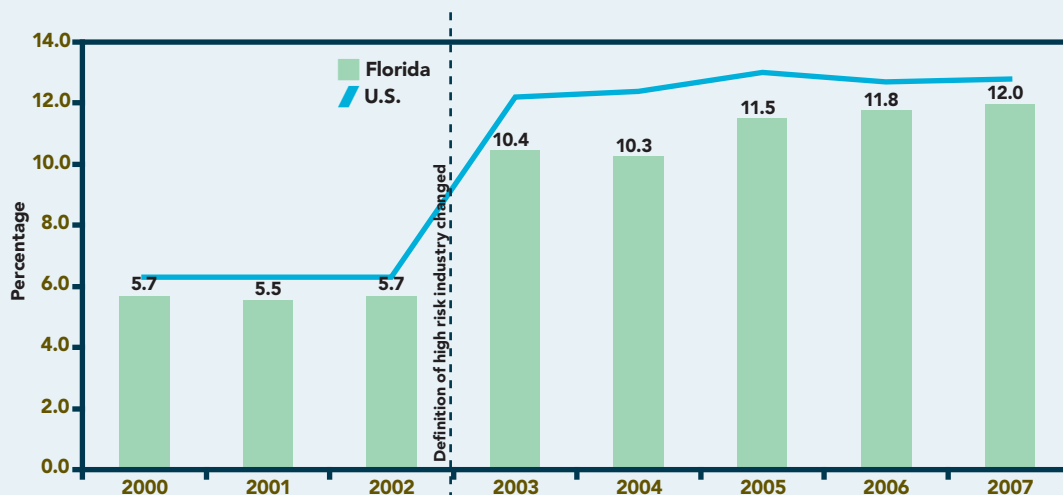


Figure 13. Percentage of Workers in Occupations with High Risk for Occupational Morbidity, Florida and the U.S., 2000–2007

Technical Note: The composition of occupations that comprise “high risk” for this indicator have changed from the group of occupations that were used to generate 2000–2002 data. This most recent group will be used through 2007.

Data Source: Bureau of Labor Statistics’ Current Population Survey

## Workers Employed in Occupations at High Risk for Occupational Morbidity



SOC	Occupation group	Rate per 100,000 FTE
53	Transportation and material moving	2,350
47	Construction and extraction	2,179
45	Farming, fishing, and forestry occupations	2,018
49	Installation, maintenance and repair	1,998
31	Healthcare support	1,687
51	Production	1,584
39	Personal care and service	1,512
37	Building and grounds cleaning and maintenance	1,476
21	Community and social services	1,084
11	Management occupations	1,003

Table 13b. Top Ten Occupations with the Highest Rate of Injuries and Illnesses Requiring Days Away From Work, Florida, 2007

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## Workers Employed in Industries and Occupations at High Risk for Occupational Mortality

**BACKGROUND** Industries and occupations at high risk for occupational mortality are those industries and occupations identified in national analyses in which workers have an above average risk of being killed on the job. High-risk industries and occupations as defined by this indicator have a fatality rate that is at least double the overall national occupational fatality rate estimated in the Census of Fatal Occupational Injuries (CFOI). The definition of high risk was created by the indicator workgroup comprised of representatives from federal and state agencies as well as the Council of State and Territorial Epidemiologist (CSTE).

The list of high-risk industries and occupations differs for the period 2000–2002 and 2003–2007 as national criteria and definitions were changed, therefore, data between these two periods are not comparable. High-risk industries for the period 2000–2002 were defined using the Standard Industrial Classification (SIC) coding system. The coding system was changed in 2003 to the North American Industry Classification System (NAICS). High-risk occupations for the period 2000–2002 were defined using the Census Occupation Codes (COC) coding system. The coding system was changed in 2003 to the Standard Occupational Classification (SOC). The list of high-risk occupations is updated every 5 years. Data on the number of workers employed in each industry and occupation were obtained from the Bureau of Labor Statistics Current Population Survey.

**RESULTS** Table 14a shows the number of workers employed in industries and occupations at high risk of occupational mortality. From 2003–2007, the number of workers in high mortality risk industries increased 20.5% and the number of workers in high mortality risk occupations increased 25.6%.

Figure 14 shows the percentage of workers employed in occupations and industries with high risk of occupational mortality. Post 2003 the percentage of workers in high-risk occupation and industries was very close to the national average.

Table 14b shows the number of fatalities by industry in Florida in 2007. Agriculture, forestry, fishing, and hunting had the highest rate of fatalities, 37.7 per 100,000 persons employed in that industry and 16 deaths. The industry with the highest number of fatalities was construction, with 80 deaths, rate of 9.0 per 100,000 persons employed in that industry.

Table 14c shows the top 10 high fatality occupations in Florida in 2007. Miscellaneous agricultural workers had the highest fatality rate, 49.6 per 100,000 persons employed that occupation and nine deaths. The occupation with the highest number of fatalities was Driver/Sales Workers and Truck Drivers with 44 deaths, 20.2 per 100,000 persons employed in that occupation.

	2000	2001	2002	2003	2004	2005	2006	2007
Workers in high risk occupations	386,489	383,918	363,977	841,834	866,745	946,904	975,863	1,014,195
Workers in high risk industries	1,072,455	1,030,929	1,060,466	1,109,709	1,198,543	1,345,836	1,403,272	1,394,290

\*High-risk industries and occupations had a fatality rate that was at least double the national fatality rate reported by the Census of Fatal Occupational Injuries (CFOI), Bureau of Labor Statistics, 2003.

Table 14a. Number of Workers Employed in Occupations and Industries with High Risk\* of Occupational Mortality, Florida, 2000–2007

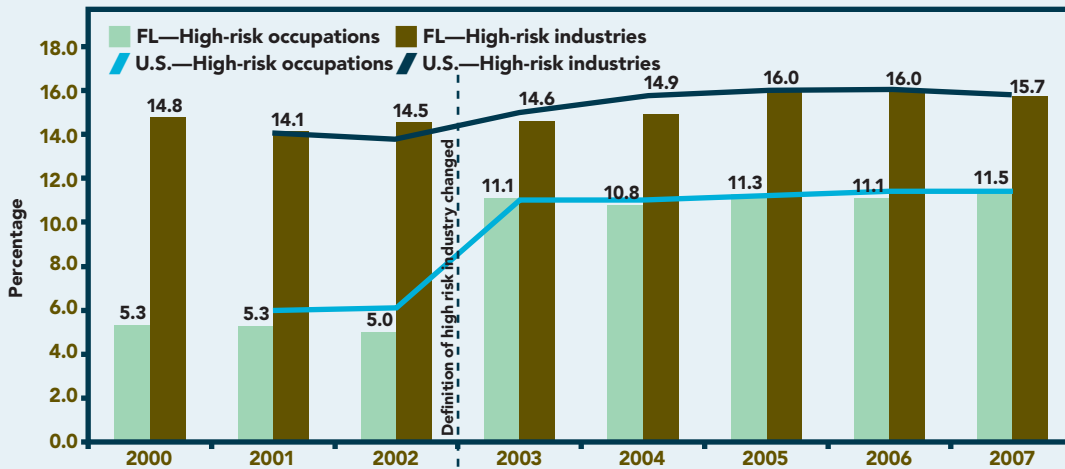


Figure 14. Percentage of Workers Employed in Occupations and Industries with High Risk of Occupational Mortality, Florida and the U.S., 2000–2007

Technical Note: The composition of occupations that comprise “high risk” for this indicator have changed from the group of occupations that were used to generate 2000–2002 data. This most recent group will be used through 2007.

Data Source: Bureau of Labor Statistics’ Current Population Survey

## Workers Employed in Industries and Occupations at High Risk for Occupational Mortality

NAICS	Industry	Number	Rate
11	Agriculture, forestry, fishing, and hunting	16	37.7
56	Administrative and waste services	64	12.6
23	Construction	80	9.0
NA	Government	35	8.9
48-49	Transportation and warehousing	36	8.5
71	Arts, entertainment, and recreation	13	5.6
42	Wholesale trade	11	3.6
31-33	Manufacturing	17	3.4
44-45	Retail trade	34	3.1
12	Other services (excluding Public administration)	12	2.6
15	Accommodation and food services	15	2.2
8	Financial activities	8	1.0
54	Professional, scientific, and technical services	6	1.0
61-62	Education and health services	11	0.7
51	Information	<5	N/A
22	Utilities	<5	N/A
21	Mining	<5	N/A

Table 14b. Number of Fatalities by Industry, Florida, 2007

SOC	Occupation	Number	Rate
452090	Miscellaneous Agricultural Workers	9	49.6
532010	Aircraft Pilots and Flight Engineers	5	34.3
472180	Roofers	9	26.4
472060	Construction Laborers	28	21.5
333050	Police Officers	15	20.6
533030	Driver/Sales Workers and Truck Drivers	44	20.2
472110	Electricians	11	20.1
373010	Grounds Maintenance Workers	21	18.2
472140	Painters and Paperhangers	6	10.9
372010	Building Cleaning Workers	11	9.7

Table 14c. Top Ten Occupations by Fatality Rate, Florida, 2007

Rates are expressed as workers per 100,000 employed in the specific industry/occupation

N/A: "Not Available" rates not calculated if four or fewer cases

Data Source: Numbers of fatalities = Census of Fatal Occupational Injuries. Employment statistics used to calculate rates = Bureau of Labor Statistics' Current Population Survey.

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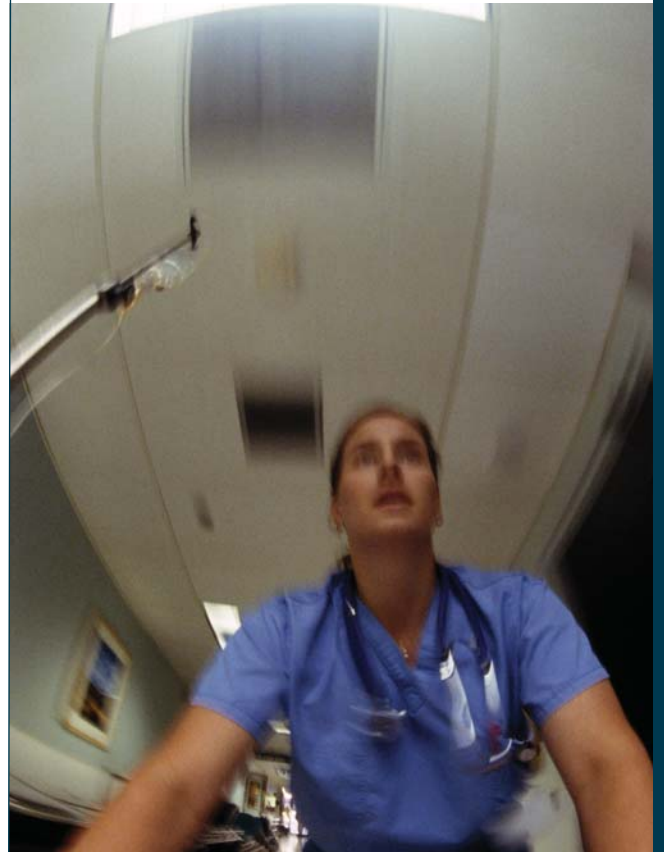
## Occupational Safety and Health Professionals

**BACKGROUND** Occupational safety and health professionals include occupational medicine physicians, occupational health nurses, industrial hygienists, and safety professionals. An adequate number of safety and health professionals is important for workplace hazard identification and the prevention and treatment of work-related injuries. The number of occupational safety and health professionals was estimated from counts of board-certified professionals in each profession as well as membership numbers from professional organizations. Data were obtained from the current membership rosters of cited organizations.

**RESULTS** Table 15a shows the estimated number of occupational safety and health professionals for the period 2001 to 2007.

Table 15b shows the number of occupational safety and health professionals per 100,000 employed persons. On average per 100,000 employed persons, there was one occupational medicine physician, three occupational health nurses, three industrial hygienists, and five safety professionals that were board-certified. For all occupational safety and health professionals there was a lower rate of board-certified professionals and members in professional organizations within Florida than the U.S. average, which is perhaps reflective of the south's overall lower

manufacturing base and historical agrarian economy.



	2001	2002	2003	2004	2005	2006	2007
<b>Board-certified occupational medicine physicians</b>	87	87	87	96	101	106	112
ACOEM members	219	219	219	216	189	184	175
<b>Board-certified occupational health nurses</b>	229	229	229	257	265	295	255
Member nurses of AAOHN	307	307	307	381	371	381	391
<b>Board-certified industrial hygienists</b>	205	205	205	214	218	211	209
IH members of AIHA	394	394	394	386	388	370	290
<b>Board-certified safety professionals</b>	359	359	359	370	381	384	389
Safety engineers who are members of ASSE	1,227	1,227	1,227	1,340	1,517	1,290	1,351

Table 15a. Number of Occupational Safety and Health Professionals, Florida, 2001-2007

	2001	2002	2003	2004	2005	2006	2007	U.S. Average 2001-2007
<b>Board-certified occupational medicine physicians</b>	1.2	1.1	1.1	1.2	1.2	1.2	1.3	1.8
ACOEM members	3.0	2.9	2.8	2.7	2.3	2.1	2.0	3.7
<b>Board-certified occupational health nurses</b>	3.1	3.0	3.0	3.2	3.2	3.4	2.9	4.6
Member nurses of AAOHN	4.2	4.0	4.0	4.8	4.4	4.3	4.4	6.2
<b>Board-certified industrial hygienists</b>	2.8	2.7	2.6	2.7	2.6	2.4	2.4	4.8
IH members of AIHA	5.4	5.2	5.1	4.8	4.6	4.2	3.3	7.6
<b>Board-certified safety professionals</b>	4.9	4.7	4.6	4.6	4.5	4.4	4.4	7.4
Safety engineers who are members of ASSE	16.8	16.1	15.8	16.7	18.1	14.7	15.3	22.7

Table 15b. Rate of Occupational Safety and Health Professionals per 100,000 Employees, Florida, 2001-2007

Technical Notes: Counts of safety and health professionals may include retired individuals and individuals who devote the majority of their time to research and have limited or no time for provision of actual preventive services.

An individual may practice part-time or even full-time in the field of occupational health and not be board-certified or a member of the organization representing occupational health professionals.

The completeness and frequency of updating addresses varies by each organization. Members are often listed in a database by a preferred address, which may not be the address where they practice.

Other important occupational health specialties such as fire prevention, health physicists, occupational health psychologists, employee-assistance professionals, ergonomists, and health educators are not included.

Data Source: Numbers of safety and health professionals = Current membership rosters of cited organizations. Employment estimates used to calculate rates = Bureau of Labor Statistics' Current Population Survey

ACOEM: American College of Occupational and Environmental Medicine

AAOHN: American Association of Occupational Health Nurses Inc.

AIHA: American Industrial Hygienist Association

ASSE: American Society of Safety Engineers

## OSHA Enforcement Activities

**BACKGROUND** The Occupational Safety and Health Administration (OSHA) was established by Congress as part of the Occupational Safety and Health Act of 1970. This act established a workers right to a safe workplace. OSHA's activities include workplace safety and health standards development, compliance assistance and enforcement.

The numbers of OSHA inspections and workers covered by OSHA inspections were obtained from the OSHA Office of Statistics. The number of establishments and workforce estimates were obtained from the Bureau of Labor Statistics Covered Employers and Wages (ES 202).

The Occupational Safety and Health Administration (OSHA) was established by Congress as part of the Occupational Safety and Health Act of 1970. This act established a workers right to a safe workplace.

**RESULTS** Table 16 shows the number of establishments under OSHA jurisdiction, the number of establishments inspected by OSHA and the number of workers covered by inspections for the years 2001 to 2007. The total number of establishments under OSHA jurisdiction increased 33.2% from 2001 to 2007 (446,216 to 594,363).

Figure 16 shows the percentage of establishments inspected by OSHA and percentage of workers in establishments under OSHA jurisdiction whose work areas were inspected by OSHA. The percentage of these establishments inspected has remained steady at 0.4–0.5%. This is lower than the national average (1.2–1.3% of establishments inspected). The estimated percentage of all employees in establishments under OSHA jurisdiction whose work areas were inspected ranged from 0.7–0.9% in Florida. This was consistently lower than the national average percentage of employees whose work areas were inspected (3.0–3.5%).

	2001	2002	2003	2004	2005	2006	2007
Total number of establishments under Federal/State OSHA jurisdiction	446,216	467,022	486,562	515,580	549,781	574,033	594,363
Number of establishments inspected by Federal/State OSHA	2,015	2,516	2,203	2,045	2,363	3,050	2,387
Number of employees whose work areas were inspected by Federal/State OSHA	54,932	53,646	54,172	45,163	52,016	49,982	55,660

Table 16. Number of Establishments under OSHA Jurisdiction, Number Inspected by OSHA, and Number of Workers Covered by Inspections, Florida, 2001–2007

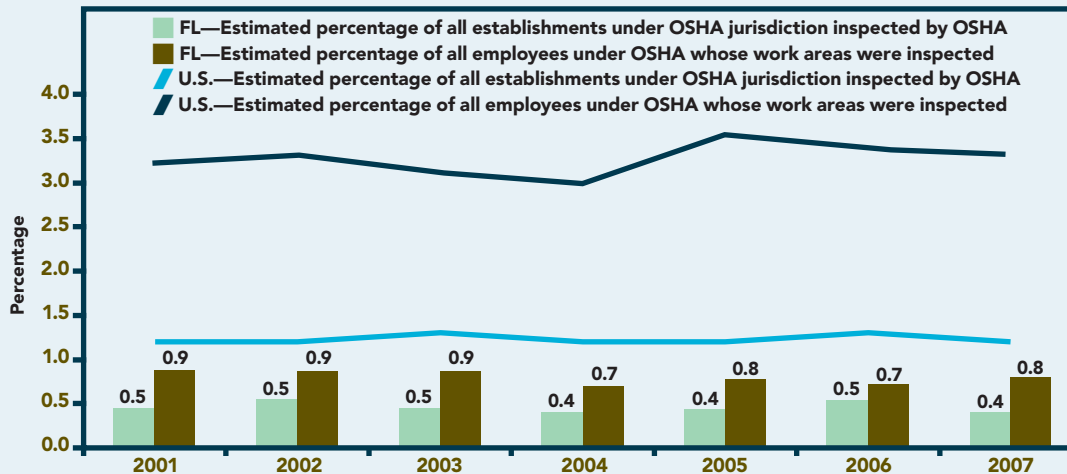


Figure 16. Percentage of Establishments under OSHA Jurisdiction Inspected by OSHA, and Percentage of Workers in Establishments under OSHA Jurisdiction whose Work Areas were Inspected by OSHA, Florida and the U.S., 2001–2007

Technical Notes: The calculation of the percentages for Figure 18 excluded agriculture/farms. It was necessary to make this exclusion because it is difficult to identify large farms (i.e., those with more than 10 employees and thus covered by OSHA). This means that inspections of farms were included in the numerator, but not the denominator. The effect should be negligible because: the 2002 Census of Agriculture data indicated that most farms had 10 or fewer employees and were not covered by OSHA; and few OSHA inspections of large farms were conducted according to data from several states.

Mining is covered by the Mining Safety and Health Administration (MSHA), not OSHA.

Data Source: Numbers of OSHA inspections and workers covered by OSHA inspections = OSHA Office of Statistics. Number of establishments and workforce estimates = Bureau of Labor Statistics' Covered Employers and Wages (ES 202).



## Workers Compensation Awards

**BACKGROUND** Workers' compensation provides benefits for medical expenses and partial coverage for lost wages in the event that an individual experiences a work-related injury or illness and meets the eligibility requirements. Workers' compensation coverage requirements vary by state. In Florida, not all workers are eligible for state workers compensation coverage. Federal workers and self-employed persons are not covered. Additionally, employers of small farms and small non-construction industry businesses are not required to carry workers compensation coverage. See the following link for Florida specific information on workers compensation (<http://www.myfloridacfo.com/wc/employer/coverage.html>).

Data for this indicator were obtained from the National Academy of Social Insurance.

**RESULTS** Table 17 shows the total workers compensations benefits paid per year from 2000 to 2007. On average, workers' compensation paid \$2.7 billion in benefits per year

Figure 17 shows the average workers' compensation benefit paid per covered worker. The average benefit ranged from a high of \$449 in 2001 to a low of \$338 in 2006. The average benefit paid per covered worker, across all years was, \$391.



	2000	2001	2002	2003	2004	2005	2006	2007
Total benefits paid in thousands	\$2,576,875	\$3,033,955	\$2,678,082	\$2,811,302	\$2,759,712	\$2,899,301	\$2,532,864	\$2,684,761

Table 17. Workers' Compensation Awards, Florida, 2000-2007



Figure 17. Average Workers' Compensation Benefit Paid per Covered Worker\*, Florida, 2000-2007

\*All workers who are eligible for compensation should they sustain work-related injuries or illnesses are considered "covered" workers.

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