

# Survey of Occupational Injuries and Illnesses

## Summary Data and Analysis: 1989 - 2007

### Guam

Release # 2009-06

May 7, 2009



*Bureau of Labor Statistics*

**Department of Labor**  
Government of Guam  
Bureau of Labor Statistics



**SURVEY OF OCCUPATIONAL INJURIES AND ILLNESSES**  
**DATA AND ANALYSIS: 1989-2007**  
**Guam**



**Department of Labor**  
**Government of Guam**

**Maria S. Connelley,**  
Director

**Erica H. Unpingco,**  
Deputy Director

---

## **Prepared by**

**Gary A. Hiles,**  
Chief Economist

**Ernesto L. Ramos,**  
Senior Community Service Employment Program (SCSEP)

**Gerard A. Limtiaco,**  
Program Coordinator III

## **Occupational Safety and Health Statistics (OSH) Program**

**Arlene S. Borja,**  
Statistician I

## TABLE OF CONTENTS

Foreword .....	v
Key Findings.....	2
Work Days Lost Case Characteristics on Guam in 2007 .....	3
Table: Nonfatal Occupational Injury and Illness Incidence Rates per 100 Workers .....	4
Chart: Incidence Rates per 100 Workers - Total Recordable Cases (Guam vs US) .....	6
Chart: Incidence Rates per 100 Workers - Days Lost Cases (Guam vs US) .....	6
Chart: Total Recordable Cases - Private Industry (Guam vs US).....	7
Chart: Cases with Days Lost - Private Industry (Guam vs US).....	7
Table: Industry Trends Total Private Industry 1989-2007 (Guam vs US) .....	10
Chart: Total Private Industry Total Recordable Cases 1989-2007 (Guam vs US) .....	10
Chart: Total Private Industry Days Lost Cases 1989-2007 (Guam vs US).....	11
Table: Industry Trends Agriculture 1989-2007 (Guam vs US).....	12
Chart: Agriculture Total Recordable Cases 1989-2007 (Guam vs US) .....	12
Chart: Agriculture Days Lost Cases 1989-2007 (Guam vs US).....	13
Table: Industry Trends Construction 1989-2007 (Guam vs US).....	14
Chart: Construction Total Recordable Cases 1989-2007 (Guam vs US) .....	14
Chart: Construction Days Lost Cases 1989-2007 (Guam vs US).....	15
Table: Industry Trends Manufacturing 1989-2007 (Guam vs US) .....	16
Chart: Manufacturing Total Recordable Cases 1989-2007 (Guam vs US).....	16
Chart: Manufacturing Days Lost Cases 1989-2007 (Guam vs US) .....	17
Table: Industry Trends Transportation and Public Utilities 1989-2007 (Guam vs US) .....	18
Chart: Transportation and Public Utilities Total Recordable Cases 1989-2007 (Guam vs US).....	18
Chart: Transportation and Public Utilities Days Lost Cases 1989-2007 (Guam vs US) .....	19
Table: Industry Trends Wholesale 1989-2007 (Guam vs US) .....	20
Chart: Wholesale Total Recordable Cases 1989-2007 (Guam vs US).....	20
Chart: Wholesale Days Lost Cases 1989-2007 (Guam vs US) .....	21
Table: Industry Trends Retail 1989-2007 (Guam vs US).....	22
Chart: Retail Total Recordable Cases 1989-2007 (Guam vs US) .....	22

## TABLE OF CONTENTS (continued)

Chart: Retail Days Lost Cases 1989-2007 (Guam vs US) .....	23
Table: Industry Trends Finance, Insurance, and Real Estate 1989-2007 (Guam vs US).....	24
Chart: Finance, Insurance, and Real Estate Total Recordable Cases 1989-2007 (Guam vs US) ....	24
Chart: Finance, Insurance, and Real Estate Days Lost Cases 1989-2007 (Guam vs US).....	25
Table: Industry Trends Services 1989-2002 (Guam vs US).....	26
Chart: Services Total Recordable Cases 1989-2002 (Guam vs US) .....	26
Chart: Services Days Lost Cases 1989-2002 (Guam vs US).....	27
Table: Industry Trends Hotels and Other Lodging Places 1989-2007 (Guam vs US) .....	28
Chart: Hotels and Other Lodging Places Total Recordable Cases 1989-2007 (Guam vs US).....	28
Chart: Hotels and Other Lodging Places Days Lost Cases 1989-2007 (Guam vs US) .....	29
Chart: Sex Demographic - 2007 .....	32
Chart: Age Demographic - 2007 .....	32
Chart: Occupation Demographic - 2007 .....	32
Chart: Length of service with employer Demographic - 2007 .....	33
Chart: Race or ethnic origin Demographic - 2007 .....	33
Chart: Number of days away from work Demographic - 2007 .....	33
Chart: Nature of Injury, Illness Demographic - 2007 .....	34
Chart: Part of body affected Demographic - 2007 .....	34
Chart: Source of injury Demographic - 2007 .....	34
Chart: Event or exposure Demographic - 2007 .....	35
Chart: Day of week Demographic - 2007 .....	35
Chart: Time of Day Demographic - 2007 .....	35
Chart: Hours worked Demographic - 2007 .....	36
Technical Notes .....	38

## **FOREWORD**

The Guam Department of Labor, Bureau of Labor Statistics has participated in the U.S. Department of Labor's Bureau of Labor Statistics (BLS) cooperative Federal/State Occupational Health and Safety Statistics (OSHS) program continuously since 1972. The program conducts an annual survey and produces annual reports on nonfatal occupational injuries and illnesses.

This report compiles the summary data from the annual reports and reviews the trends in Guam's statistics and compares them to the trends in the United States as a whole for the years 1989 - 2007.

Because of space limitations, this report does not present all of the publishable estimates and rates. Additional detailed data are available from the U.S. Department of Labor, BLS Internet site at [www.bls.gov/iff/home.htm](http://www.bls.gov/iff/home.htm) and the Guam Department of Labor Internet site at [www.guamdol.net](http://www.guamdol.net).

## **Acknowledgements**

The U.S. Department of Labor, Bureau of Labor Statistics provided invaluable training, program and technical support and continuity for this safety and health statistics program. It is funded on a 50/50 matching basis from the U.S. Department of Labor and the Government of Guam.

Funding for this report was provided in part by the U.S. Department of Labor, Employment and Training Administration under the Program Year 2008 Workforce Information Grant.

Many thanks also goes to Ernesto L. Ramos of the Senior Community Service Employment Program (SCSEP), whose invaluable contributions through research and compiling of numerical data and visual illustrations led to the commencement and final completion of this publication.

Guam employers' continuing cooperation and support in record keeping and report completion is critical to the success of this program.





## Key Findings and Case Characteristics

## **KEY FINDINGS**

The total number of Recordable Cases of nonfatal occupational injuries and illnesses on Guam in 2007 in the Survey of Occupational Injuries and Illnesses were (rounded to the nearest hundreds) 1,800 of which 900 were cases with days away from work, job transfer or restriction. Most of the cases, 1,600, occurred in private industry with the remaining 200 occurring in the State and Local government. Federal Government workers are not included in this survey program.

Total Recordable Cases in private industry were identical for the U.S. overall and Guam in 2007 at 4.2 cases per 100 full time equivalent workers. While there has been some variation in Guam's rates, they have been generally below the aggregate U.S. rates. Over the time period from 1989-2007, U.S. Recordable Cases have generally declined.

Cases with lost work days for Guam are 2.2 per 100 full time equivalent workers in 2007, nearly identical with the comparable U.S. figure of 2.1 per hundred. In the earlier years, U.S. rates were generally above Guam rates, but their decline has resulted in a convergence of rates between Guam and the U.S. for both Recordable Cases as well as cases with lost workdays. The latest four year average for 2003 – 2007 shows Guam with identical Days Lost Cases as the U.S.

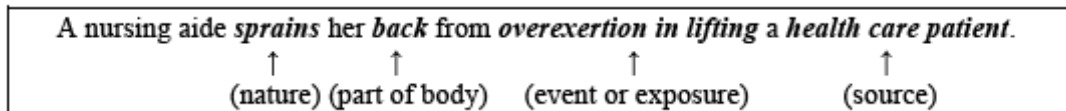
Differences in industry composition could account for differences in overall rates due to the more hazardous nature of some industries. Comparisons of rates for Days Lost Cases on an industry by industry basis indicate comparable patterns between Guam and the U.S. Transportation and Warehousing reports the highest industry incidence rates followed by Manufacturing and then Construction. Financial activities had the lowest incidence rates for both Guam and the U.S.

Unusual spikes in both Recordable and Days Lost Cases in Private Industry occurred in Guam in 1991. A review of the industry data indicates this was associated with a spike in Construction Recordable and Days Lost Cases during that year.

The median number of days away from work in 2007 for Guam was four days compared to seven days for the U.S.

## WORK DAYS LOST CASE CHARACTERISTICS ON GUAM IN 2007

Case characteristics provide detailed information on the circumstances of workplace injuries and illnesses that required one or more days away from work. Days away from work provide a measure of the severity of the injury or illness. The survey uses four case characteristics –nature, part of body, source, and event or exposure—to describe a workplace incident. Highlights of the case characteristics are listed below. Additional detail is included in the section Private Industry Demographic Summary Charts.



**Nature of the injury** - Sprains, strains were the most frequent nature of injuries and illnesses with 170 or 23.6% of the cases followed by cuts and lacerations with 140 or 19.4% of the cases.

**Part of the body** – The part of the body most frequently affected was the Upper Extremities with 220 or 31.0% of the cases followed by the Trunk with 210 or 29.6%.

**Event or exposure** – Contact with object and equipment accounted for 270 or 38.6% of the events or exposure, followed by Overexertion with 110 or 15.7% of the cases.

**Source** – Contact with Containers accounted for 110 or 15.1% of the injuries and in equal numbers by Floors, walkways, ground surfaces with 110 or 15.1% of the cases.

The cases are also classified by Sex, Age, Occupation, Length of service with employer Race or ethnic origin, Number of Days away from work, Day of the Week and Time of Day.

**Sex** – Men accounted for 540 or 74.0% of the cases.

**Age** – Cases occurred most frequently, 210 or 28.4% in the 25-34 year old category.

**Occupation** – Services accounted for 270 or 28.4% of the cases.

**Length of Service with employer** - Employees on the job for Less than one year accounted for 320 or 43.8% of the cases.

**Race or ethnic origin** – Native Hawaiian/Pacific Islander accounted for 430 or 59.7% of the cases.

**Number of days away from work** - The most frequent lost work days time period range is 3-5 days with 4 being the Median number of days away from work.

**Day of week** – Cases occur most frequently on Wednesday with 160 or 21.6% of the cases with Saturday and Sunday having the fewest numbers with 60 or 8.1% on both days.

**Time of day** – Cases occur most frequently from 8:01 a.m. to 12:00 noon with 230 or 31.9% and least in the 12:01 to 4:00 a.m. and 4:01 a.m. to 8:00 a.m. with 30 cases or 4.2% in each respective time period.

**NONFATAL OCCUPATIONAL INJURY AND ILLNESS INCIDENCE RATES PER 100 FULL-TIME WORKERS, BY INDUSTRY**

		<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
<b>Total Recordable Cases*</b>											
PRIVATE INDUSTRY	Guam	3.9	4.4	6.7	4.4	5.1	5.1	4.6	4.5	4.9	4.5
	US	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7
AGRICULTURE	Guam	8.5	1.5	5.9	3.4	2.8	7.4	0.8	-	-	-
	US	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9
CONSTRUCTION	Guam	7.5	8.2	13.0	5.0	6.8	10.0	8.9	12.6	-	5.7
	US	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8
MANUFACTURING	Guam	3.2	4.5	6.5	6.4	6.1	8.7	2.4	-	-	-
	US	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7
TRANSPORTATION & PUBLIC UTILITIES	Guam	4.1	5.8	4.5	5.7	4.4	3.2	5.8	8.6	3.7	7.0
	US	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2	7.3
WHOLESALE TRADE	Guam	1.2	1.8	1.3	1.7	1.9	2.3	2.7	2.8	2.4	2.3
	US	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5	6.5
RETAIL TRADE	Guam	2.2	2.2	3.0	3.9	4.2	2.8	2.1	2.2	5.2	2.4
	US	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8	6.5
FINANCE, INSURANCE & REAL ESTATE	Guam	0.3	0.3	0.3	0.1	0.4	1.0	0.0	1.7	1.1	0.9
	US	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2	1.9
SERVICES	Guam	4.2	4.2	4.6	4.6	6.7	5.4	6.4	2.7	10.1	5.1
	US	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6	5.2
Hotels and other lodging places	Guam	7.1	7.8	5.6	-	-	-	-	-	17.9	8.1
	US	10.8	10.7	10.3	11.2	10.7	10.1	9.7	9.0	8.4	7.3

**Days Lost Cases\***

PRIVATE INDUSTRY	Guam	2.8	2.8	4.5	2.8	3.0	3.0	2.5	2.8	2.2	3.0
	US	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1
AGRICULTURE	Guam	7.4	1.5	5.9	3.1	1.4	5.5	0.8	-	-	-
	US	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9
CONSTRUCTION	Guam	5.0	5.3	8.3	2.8	4.7	5.4	4.0	5.4	-	3.0
	US	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0
MANUFACTURING	Guam	2.3	3.3	4.5	4.6	4.3	6.9	1.9	-	-	-
	US	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7
TRANSPORTATION & PUBLIC UTILITIES	Guam	3.1	3.6	2.9	3.7	2.5	2.5	3.8	6.6	2.8	4.9
	US	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8	4.3
WHOLESALE TRADE	Guam	0.9	1.4	1.1	1.1	1.7	1.4	2.0	1.8	1.6	1.8
	US	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2	3.3
RETAIL TRADE	Guam	1.7	1.3	1.9	2.6	2.5	1.5	1.3	1.3	2.2	1.7
	US	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9	2.7
FINANCE, INSURANCE & REAL ESTATE	Guam	0.2	0.2	0.3	0.1	0.2	0.9	0.0	0.7	0.6	0.6
	US	0.9	1.1	1.1	1.2	1.2	1.1	1.0	0.9	0.9	0.7
SERVICES	Guam	3.2	2.5	3.4	3.1	3.3	2.9	3.1	1.8	3.2	3.6
	US	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5	2.4
Hotels and other lodging places	Guam	5.5	4.3	4.3	-	-	-	-	-	4.9	6.6
	US	4.7	4.9	4.9	4.9	4.8	4.7	4.2	4.5	3.8	3.6

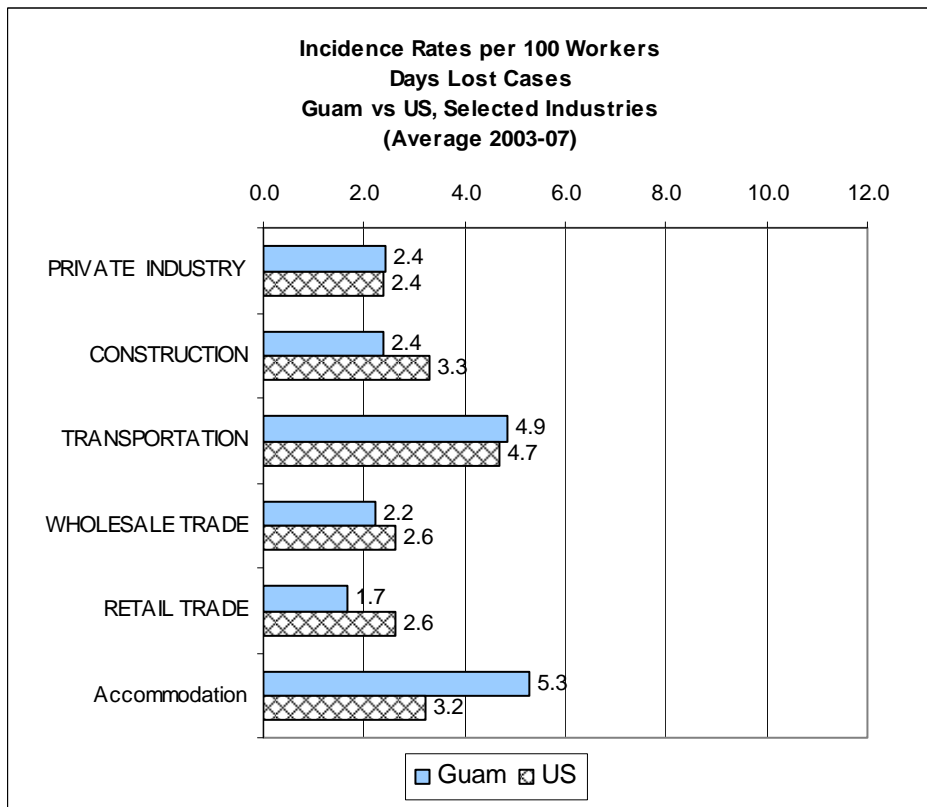
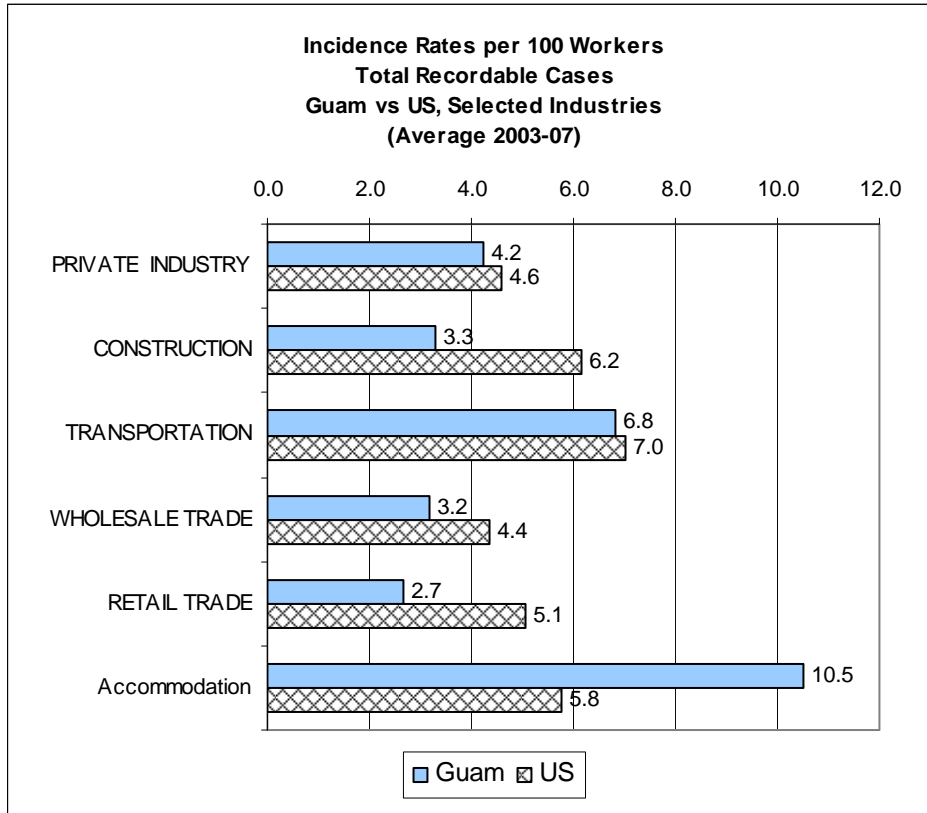
\* Based on NAICS industry grouping (2003-07) which does not have an exact match in SIC grouping (1989-2002).

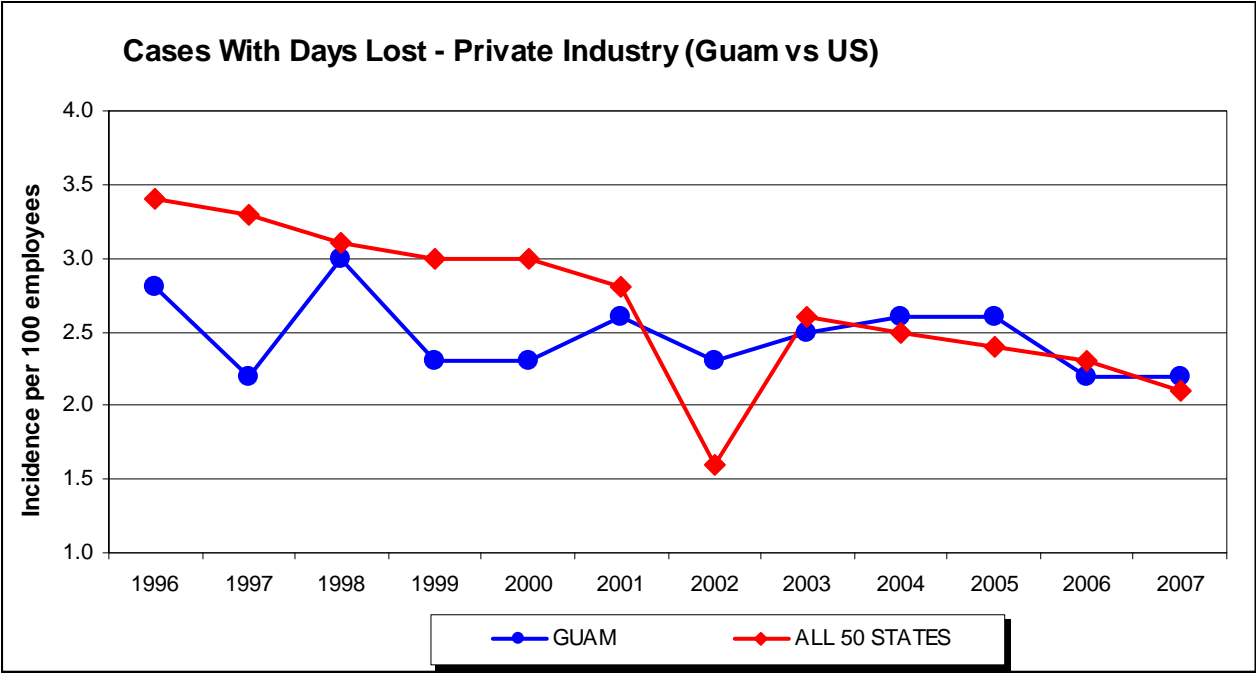
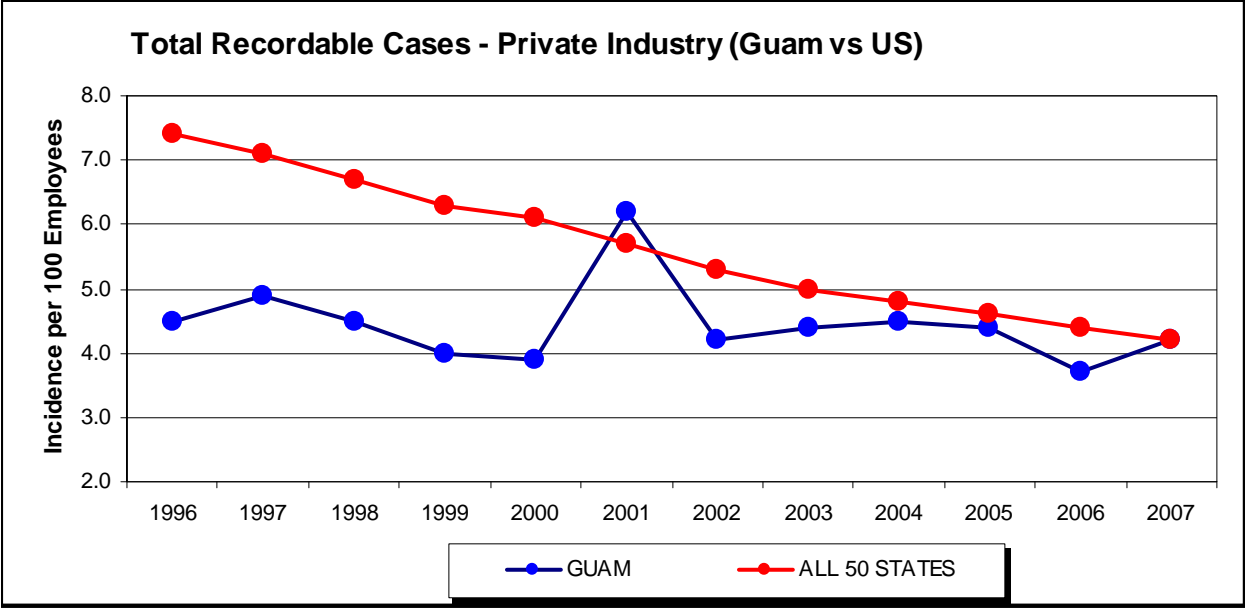
+US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

**NONFATAL OCCUPATIONAL INJURY AND ILLNESS INCIDENCE RATES PER 100 FULL-TIME WORKERS, BY INDUSTRY**

		<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	NAICS-based <u>Average 2003-07</u>
<b>Total Recordable Cases*</b>											
PRIVATE INDUSTRY	Guam	4.0	3.9	6.2	4.2	4.4	4.5	4.4	3.7	4.2	4.2
	US	6.3	6.1	5.7	5.3	5.0	4.8	4.6	4.4	4.2	4.6
AGRICULTURE	Guam	2.9	-	-	2.8	-	-	-	-	-	-
	US	7.3	7.1	7.3	6.4	6.2	6.4	6.1	6.0	5.4	6.0
CONSTRUCTION	Guam	7.7	3.3	7.0	2.1	3.7	3.8	-	2.9	2.8	3.3
	US	8.6	8.3	7.9	7.1	6.8	6.4	6.3	5.9	5.4	6.2
MANUFACTURING	Guam	4.0	8.5	3.5	8.2	4.8	4.1	9.2	10.0	9.3	7.5
	US	9.2	9.0	8.1	7.2	6.8	6.6	6.3	6.0	5.6	6.3
TRANSPORTATION AND WAREHOUSING*	Guam	6.7	9.0	7.6	7.7	7.3	5.6	7.0	7.4	6.9	6.8
	US	7.3	6.9	6.9	6.1	7.8	7.3	7.0	6.5	6.4	7.0
WHOLESALE TRADE	Guam	3.5	4.1	3.5	2.8	2.3	4.0	3.0	2.5	4.1	3.2
	US	6.3	5.8	5.3	5.2	4.7	4.5	4.5	4.1	4.0	4.4
RETAIL TRADE	Guam	2.8	2.7	2.5	3.8	3.2	2.3	3.0	1.9	3.0	2.7
	US	6.1	5.9	5.7	5.3	5.3	5.3	5.0	4.9	4.8	5.1
FINANCE AND INSURANCE*	Guam	1.5	-	1.1	1.8	1.4	1.3	2.0	0.9	2.2	1.6
	US	1.8	1.9	1.8	1.7	1.7	1.6	1.7	1.5	1.4	1.6
SERVICES*	Guam	3.1	-	10.3	3.9	-	-	-	-	-	-
	US	4.9	4.9	4.6	4.6	-	-	-	-	-	-
Accommodation*	Guam	-	-	22.2	7.7	11.4	10.8	9.9	9.5	10.9	10.5
	US	7.8	6.9	7.2	6.6	6.7	5.8	6.1	5.8	4.4	5.8
<b>Days Lost Cases*</b>											
PRIVATE INDUSTRY	Guam	2.3	2.3	2.6	2.6	2.5	2.6	2.6	2.2	2.2	2.4
	US	3.0	3.0	2.8	2.8	2.6	2.5	2.4	2.3	2.1	2.4
AGRICULTURE	Guam	1.9	-	-	2.0	-	-	-	-	-	-
	US	3.4	3.6	3.6	3.3	3.3	3.7	3.3	3.2	2.8	3.3
CONSTRUCTION	Guam	2.9	1.8	2.4	1.5	2.4	3.2	-	2.1	1.8	2.4
	US	4.2	4.1	4.0	3.8	3.6	3.4	3.4	3.2	2.8	3.3
MANUFACTURING	Guam	3.0	5.0	2.6	4.7	4.1	3.0	6.2	5.4	5.4	4.8
	US	4.6	4.5	4.1	4.1	3.8	3.6	3.5	3.3	3.0	3.4
TRANSPORTATION AND WAREHOUSING*	Guam	5.1	5.3	5.1	5.7	5.8	4.1	5.1	5.0	4.3	4.9
	US	4.4	4.3	4.3	4.0	5.4	4.9	4.6	4.3	4.3	4.7
WHOLESALE TRADE	Guam	2.2	2.4	2.1	1.9	1.9	2.3	2.1	1.8	3.1	2.2
	US	3.3	3.1	2.8	3.1	2.8	2.7	2.7	2.5	2.4	2.6
RETAIL TRADE	Guam	1.3	1.6	2.0	1.6	1.9	1.6	1.9	1.3	1.7	1.7
	US	2.5	2.5	2.4	2.5	2.7	2.7	2.6	2.6	2.5	2.6
FINANCE AND INSURANCE*	Guam	0.7	-	0.7	0.9	1.0	0.7	1.2	0.8	1.3	1.0
	US	0.8	0.8	0.7	0.8	0.8	0.7	0.8	0.7	0.7	0.7
SERVICES*	Guam	2.1	-	2.6	2.5	-	-	-	-	-	-
	US	2.2	2.2	2.2	2.2	-	-	-	-	-	-
Accommodation*	Guam	-	-	4.5	5.4	5.6	5.7	5.0	4.6	5.6	5.3
	US	3.7	3.3	3.3	3.4	3.6	3.1	3.3	3.1	2.9	3.2

**Note:** Dash indicates data do not meet publication guidelines.









# Private Industry Trends

## All Private Industry and Individual Categories

- ◆ Agriculture
- ◆ Construction
- ◆ Manufacturing
- ◆ Transportation and Public Utilities
- ◆ Wholesale Trade
- ◆ Retail Trade
- ◆ Finance, Insurance and Real Estate
- ◆ Services
- ◆ Hotels and Other Lodging Places

## INDUSTRY TRENDS - Private Industry

### Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

Guam	3.9	4.4	6.7	4.4	5.1	5.1	4.6
<b>US</b>	<b>8.6</b>	<b>8.8</b>	<b>8.4</b>	<b>8.9</b>	<b>8.5</b>	<b>8.4</b>	<b>8.1</b>

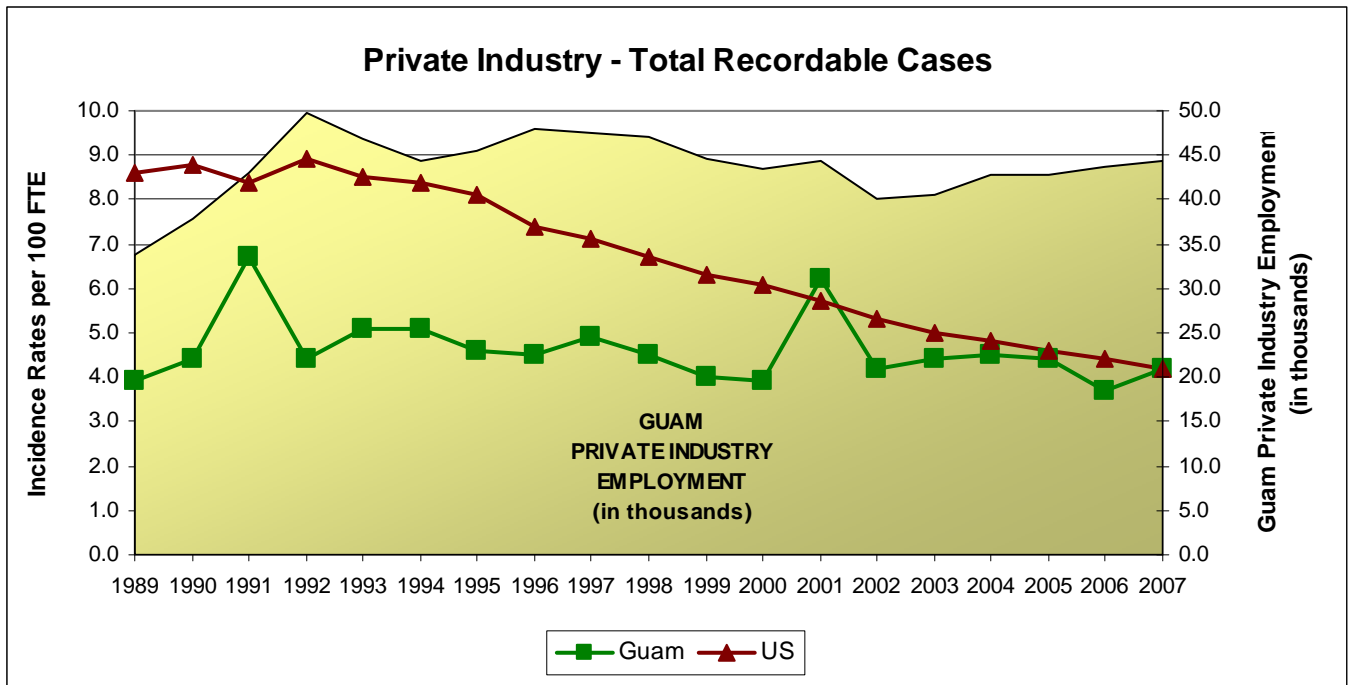
### Days Lost Cases

Guam	2.8	2.8	4.5	2.8	3.0	3.0	2.5
<b>US</b>	<b>4.0</b>	<b>4.1</b>	<b>3.9</b>	<b>3.9</b>	<b>3.8</b>	<b>3.8</b>	<b>3.6</b>

### EMPLOYMENT (in thousands)

33.8      37.9      43.1      49.7      46.8      44.4      45.6

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.



**1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007**

4.5    4.9    4.5    4.0    3.9    6.2    4.2    4.4    4.5    4.4    3.7    4.2

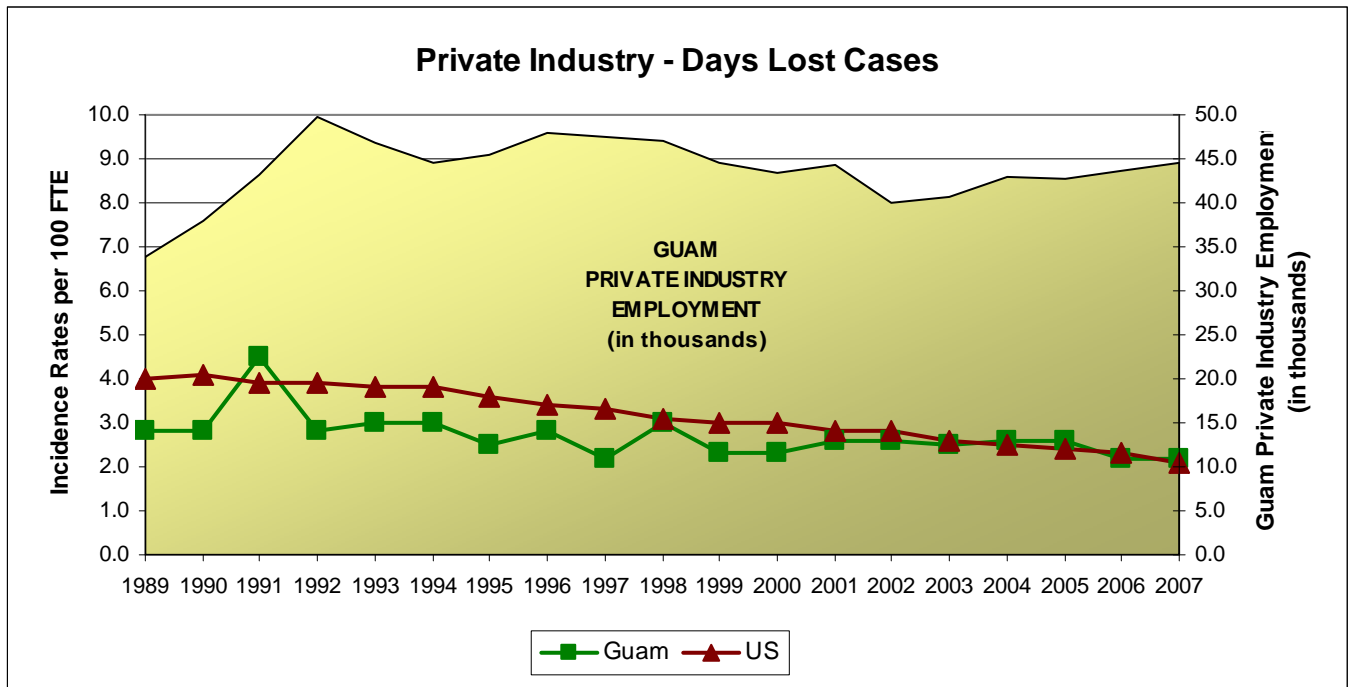
7.4    7.1    6.7    6.3    6.1    5.7    5.3    5.0    4.8    4.6    4.4    4.2

2.8    2.2    3.0    2.3    2.3    2.6    2.6    2.5    2.6    2.6    2.2    2.2

3.4    3.3    3.1    3.0    3.0    2.8    2.8    2.6    2.5    2.4    2.3    2.1

47.9    47.4    47.1    44.6    43.4    44.4    40.1    40.6    42.9    42.8    43.6    44.5

**Note:** Dash indicates data do not meet publication guidelines.



# INDUSTRY TRENDS - Agriculture

## Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

AGRICULTURE, FORESTRY AND FISHING

Guam	8.5	1.5	5.9	3.4	2.8	7.4	0.8
<b>US</b>	<b>10.9</b>	<b>11.6</b>	<b>10.8</b>	<b>11.6</b>	<b>11.2</b>	<b>10.0</b>	<b>9.7</b>

Agriculture, Forestry, Fishing and Hunting (NAICS: 11)

Guam  
**US**

### Days Lost Cases

AGRICULTURE, FORESTRY AND FISHING

Guam	7.4	1.5	5.9	3.1	1.4	5.5	0.8
<b>US</b>	<b>5.7</b>	<b>5.9</b>	<b>5.4</b>	<b>5.4</b>	<b>5.0</b>	<b>4.7</b>	<b>4.3</b>

Agriculture, Forestry, Fishing and Hunting (NAICS: 11)

Guam  
**US**

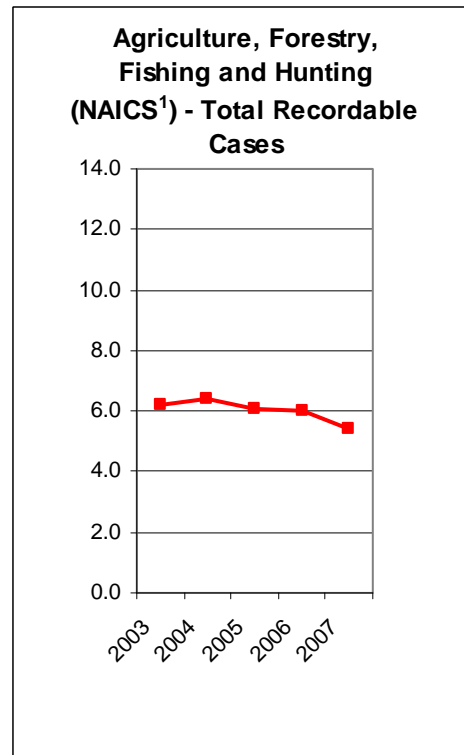
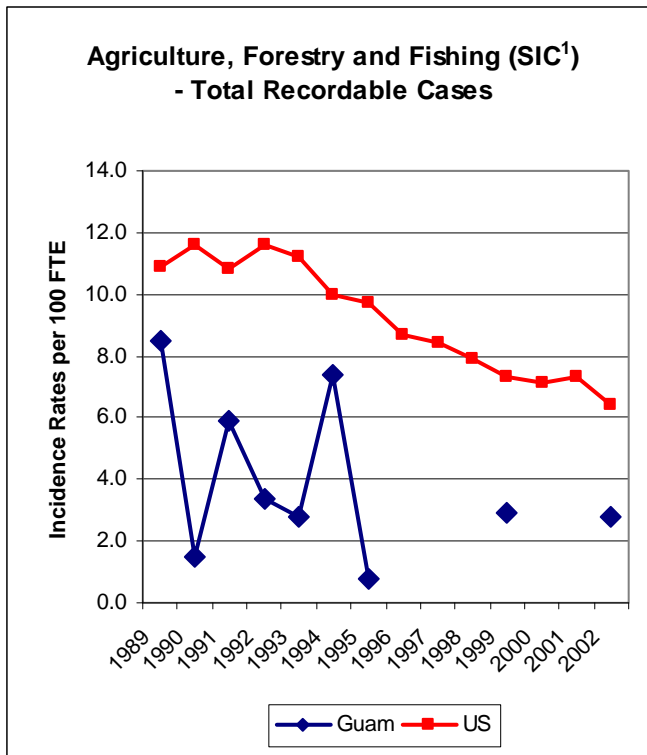
### EMPLOYMENT<sup>2</sup> (in thousands)

0.2      0.2      0.3      0.4      0.4      0.3      0.3

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS)

Data series for 1989-2002 (SIC) were under the heading "Agriculture, forestry, and fishing"; 2003-2007 (NAICS) were labeled Agriculture, forestry, fishing, and hunting; US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only



1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007

-       -       -       2.9       -       -       2.8  
 8.7    8.4    7.9    7.3    7.1    7.3    6.4

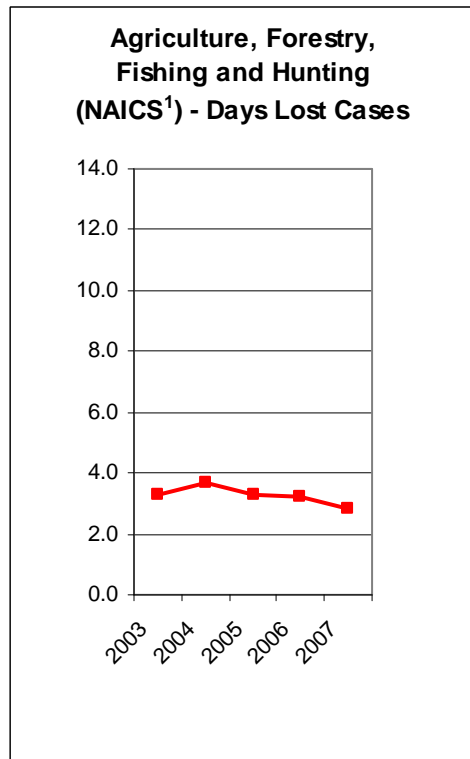
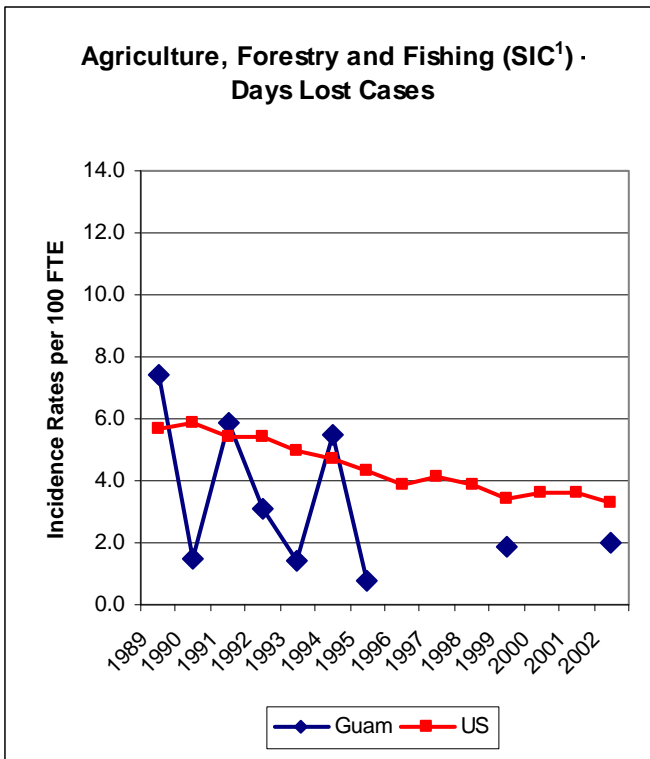
-       -       -       -       -  
 6.2    6.4    6.1    6.0    5.4

-       -       -       1.9       -       -       2.0  
 3.9    4.1    3.9    3.4    3.6    3.6    3.3

-       -       -       -       -  
 3.3    3.7    3.3    3.2    2.8

0.3    0.3    0.3    0.3    0.3    0.3    0.3    0.3    0.2    0.2    0.3    0.3

**Note:** Dash indicates data do not meet publication guidelines.



# INDUSTRY TRENDS - Construction

## Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

CONSTRUCTION	Guam	7.5	8.2	13.0	5.0	6.8	10.0	8.9
	<b>US</b>	14.3	14.2	13.0	13.1	12.2	11.8	10.6

Construction (NAICS: 23)

Guam  
**US**

### Days Lost Cases

CONSTRUCTION	Guam	5.0	5.3	8.3	2.8	4.7	5.4	4.0
	<b>US</b>	6.8	6.7	6.1	5.8	5.5	5.5	4.9

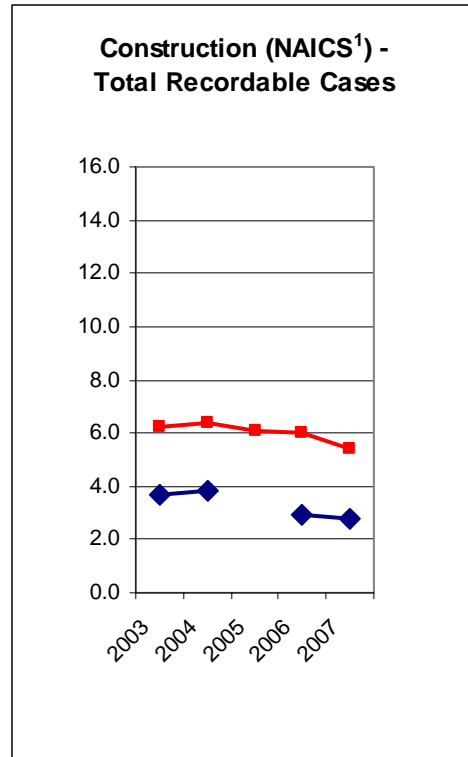
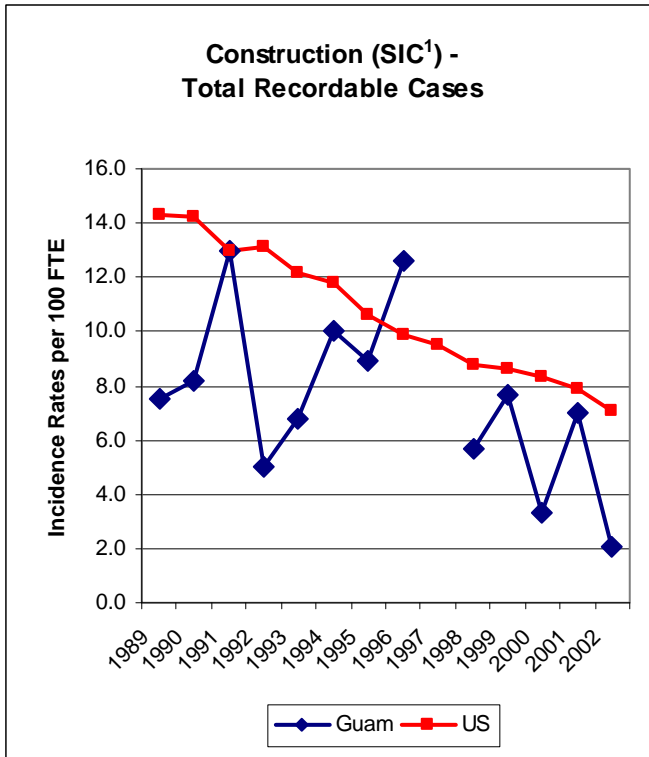
Construction (NAICS: 23)

Guam  
**US**

**EMPLOYMENT<sup>2</sup> (in thousands)**    5.8    8.6    10.4    12.5    10.0    8.7    8.1

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only



**1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007**

12.6    -    5.7    7.7    3.3    7.0    2.1

9.9    9.5    8.8    8.6    8.3    7.9    7.1

3.7    3.8    -    2.9    2.8

6.8    6.4    6.3    5.9    5.4

5.4    -    3.0    2.9    1.8    2.4    1.5

4.5    4.4    4.0    4.2    4.1    4.0    3.8

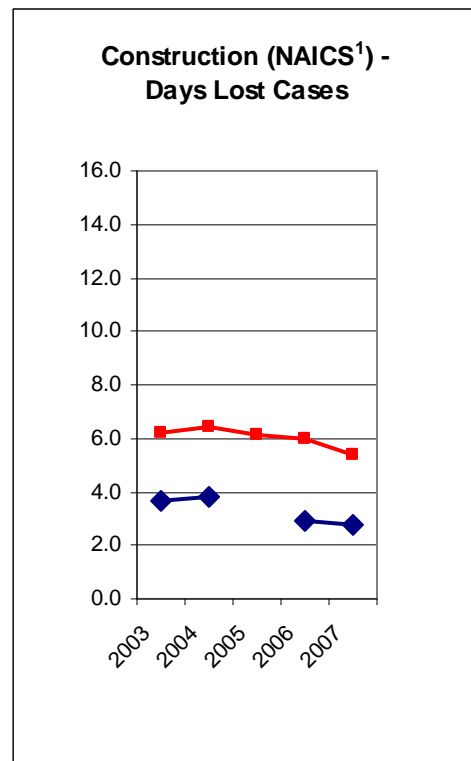
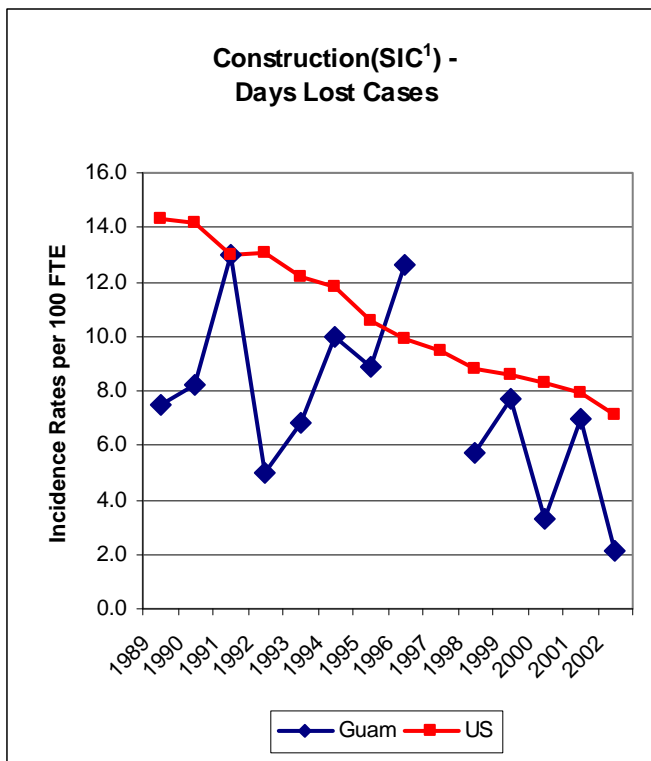
2.4    3.2    -    2.1    1.8

3.6    3.4    3.4    3.2    2.8

7.4    7.0    7.1    6.5    4.4    4.1    3.2

4.4    5.5    4.6    4.5    5.4

**Note:** Dash indicates data do not meet publication guidelines.



# INDUSTRY TRENDS - Manufacturing

## Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

MANUFACTURING	Guam	3.2	4.5	6.5	6.4	6.1	8.7	2.4
	<b>US</b>	<b>13.1</b>	<b>13.2</b>	<b>12.7</b>	<b>12.5</b>	<b>12.1</b>	<b>12.2</b>	<b>11.6</b>

Manufacturing (NAICS: 31-33)

Guam  
**US**

### Days Lost Cases

MANUFACTURING	Guam	2.3	3.3	4.5	4.6	4.3	6.9	1.9
	<b>US</b>	<b>5.8</b>	<b>5.8</b>	<b>5.6</b>	<b>5.4</b>	<b>5.3</b>	<b>5.5</b>	<b>5.3</b>

Manufacturing (NAICS: 31-33)

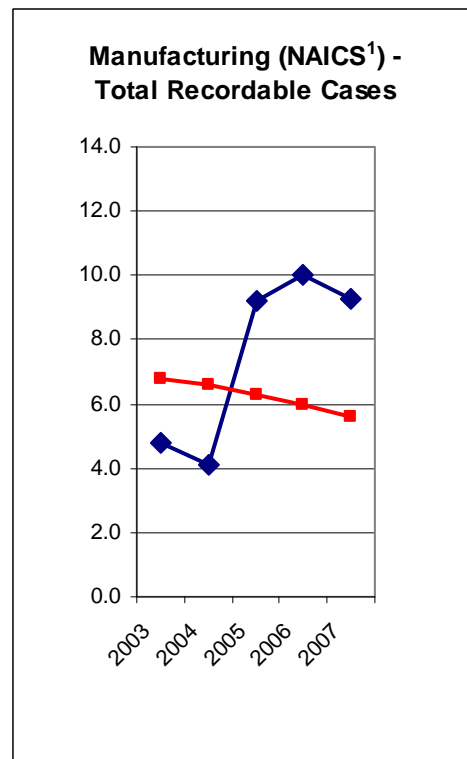
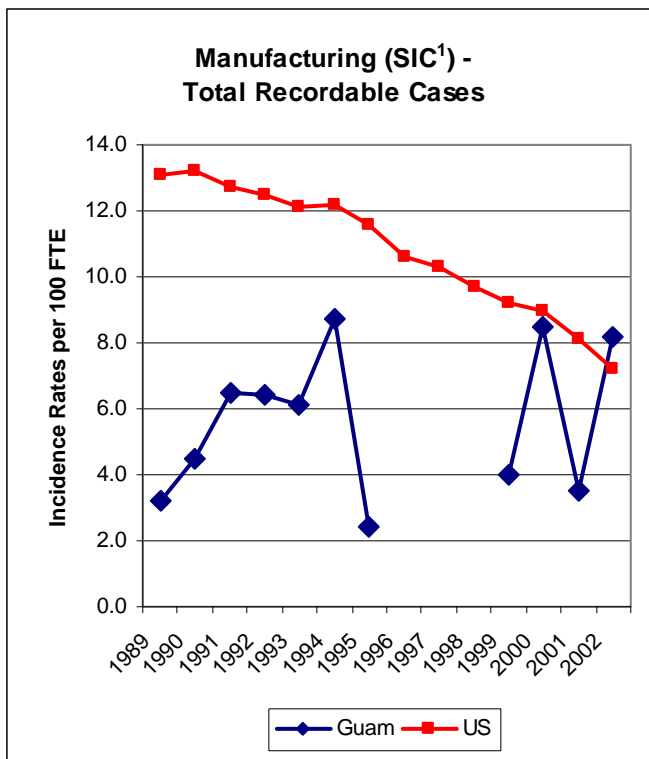
Guam  
**US**

### EMPLOYMENT<sup>2</sup> (in thousands)

1.9      1.9      1.9      2.1      1.8      1.9      1.8

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only





1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007

-	-	-	4.0	8.5	3.5	8.2
10.6	10.3	9.7	9.2	9.0	8.1	7.2

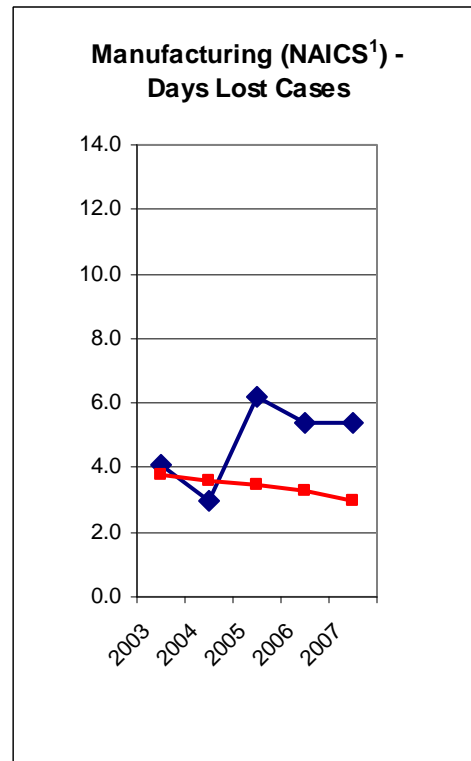
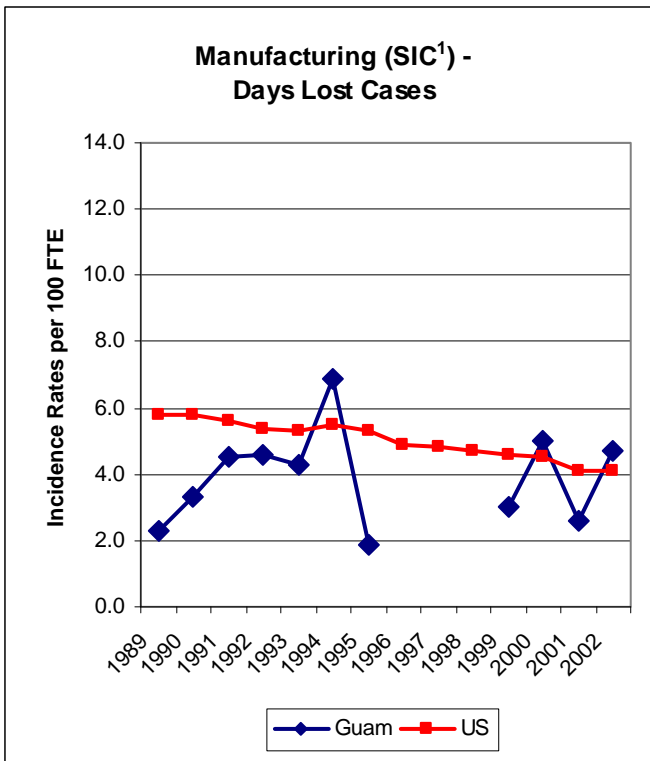
4.8	4.1	9.2	10.0	9.3
6.8	6.6	6.3	6.0	5.6

-	-	-	3.0	5.0	2.6	4.7
4.9	4.8	4.7	4.6	4.5	4.1	4.1

4.1	3.0	6.2	5.4	5.4
3.8	3.6	3.5	3.3	3.0

1.7    1.6    1.8    1.8    1.6    1.6    1.5    1.6    1.7    1.7    1.6    1.7

**Note:** Dash indicates data do not meet publication guidelines.



# INDUSTRY TRENDS - Transportation and Public Utilities

## Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

TRANSPORTATION AND PUBLIC UTILITIES

Guam	4.1	5.8	4.5	5.7	4.4	3.2	5.8
<b>US</b>	<b>9.2</b>	<b>9.6</b>	<b>9.3</b>	<b>9.1</b>	<b>9.5</b>	<b>9.3</b>	<b>9.1</b>

Transportation and Warehousing (NAICS: 48-49)

Guam
<b>US</b>

### Days Lost Cases

TRANSPORTATION AND PUBLIC UTILITIES

Guam	3.1	3.6	2.9	3.7	2.5	2.5	3.8
<b>US</b>	<b>5.3</b>	<b>5.5</b>	<b>5.4</b>	<b>5.1</b>	<b>5.4</b>	<b>5.5</b>	<b>5.2</b>

Transportation and Warehousing (NAICS: 48-49)

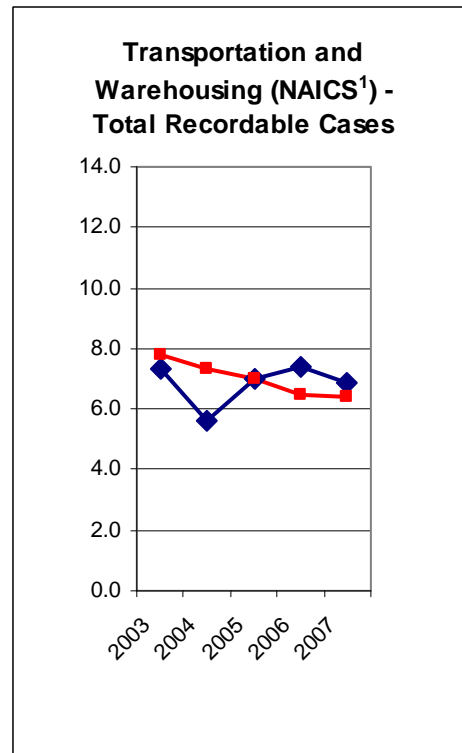
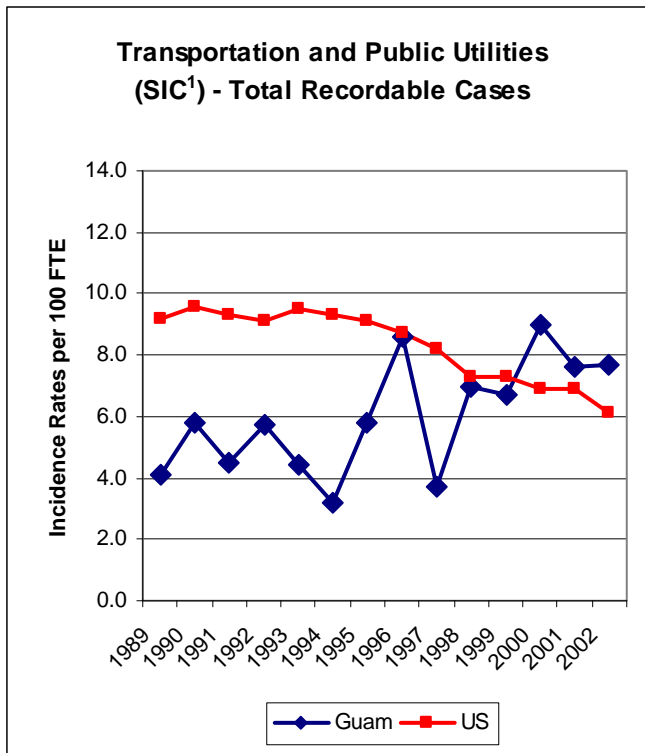
Guam
<b>US</b>

### EMPLOYMENT<sup>2</sup> (in thousands)

3.2      3.5      3.7      4.3      4.2      4.8      5.0

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only



1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007

8.6    3.7    7.0    6.7    9.0    7.6    7.7

8.7    8.2    7.3    7.3    6.9    6.9    6.1

7.3    5.6    7.0    7.4    6.9

7.8    7.3    7.0    6.5    6.4

6.6    2.8    4.9    5.1    5.3    5.1    5.7

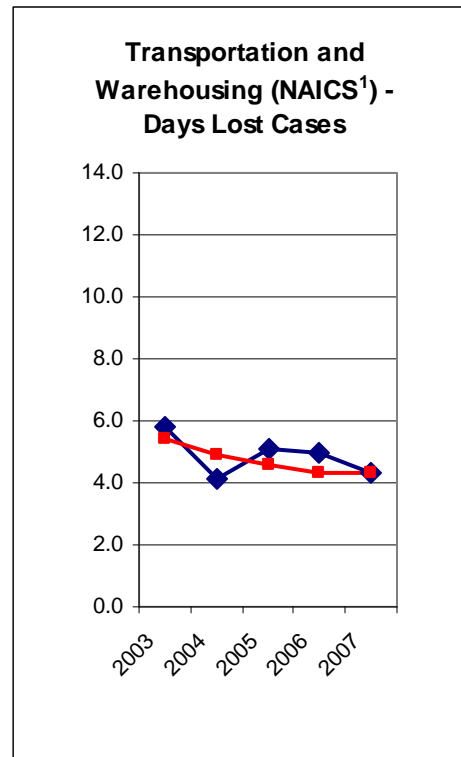
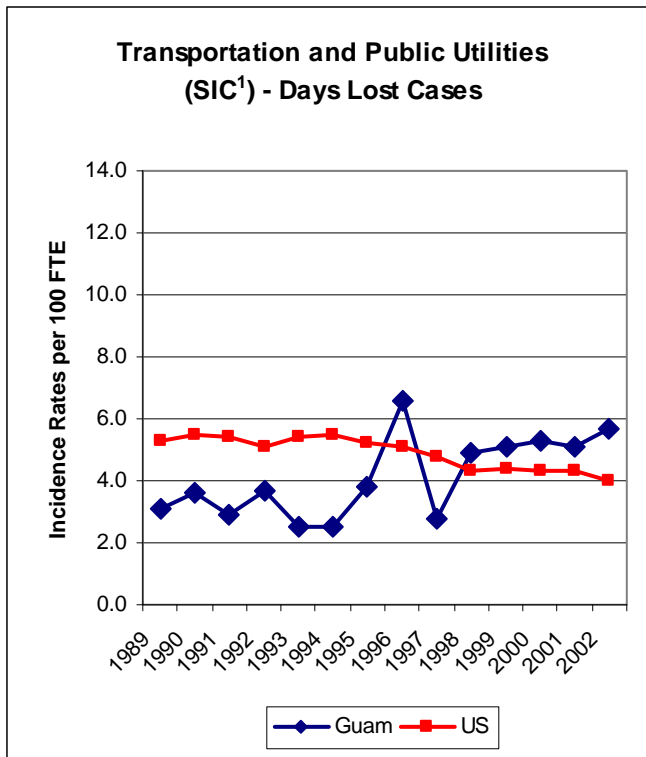
5.1    4.8    4.3    4.4    4.3    4.3    4.0

5.8    4.1    5.1    5.0    4.3

5.4    4.9    4.6    4.3    4.3

5.8    5.7    5.6    4.8    5.0    5.0    4.6    4.7    4.6    4.8    4.9    4.8

**Note:** Dash indicates data do not meet publication guidelines.



# INDUSTRY TRENDS - Wholesale Trade

## Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

WHOLESALE TRADE	Guam	1.2	1.8	1.3	1.7	1.9	2.3	2.7
	<b>US</b>	<b>7.7</b>	<b>7.4</b>	<b>7.2</b>	<b>7.6</b>	<b>7.8</b>	<b>7.7</b>	<b>7.5</b>

Wholesale Trade (NAICS: 42)

Guam  
**US**

### Days Lost Cases

WHOLESALE TRADE	Guam	0.9	1.4	1.1	1.1	1.7	1.4	2.0
	<b>US</b>	<b>4.0</b>	<b>3.7</b>	<b>3.7</b>	<b>3.6</b>	<b>3.7</b>	<b>3.8</b>	<b>3.6</b>

Wholesale Trade (NAICS: 42)

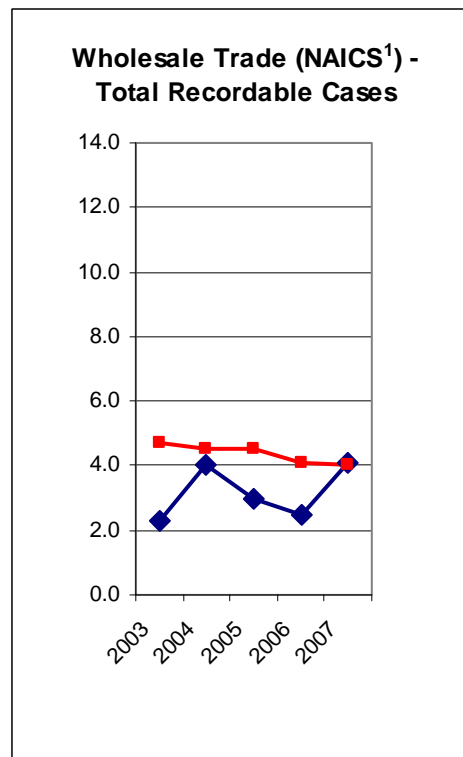
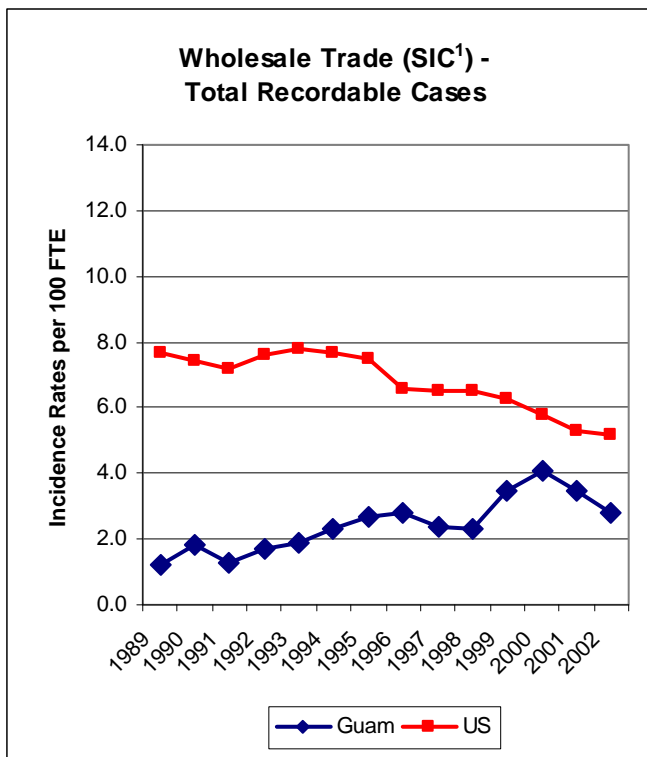
Guam  
**US**

### EMPLOYMENT<sup>2</sup> (in thousands)

1.7      1.7      1.9      2.0      2.2      2.1      2.2

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only



**1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007**

2.8    2.4    2.3    3.5    4.1    3.5    2.8

6.6    6.5    6.5    6.3    5.8    5.3    5.2

2.3    4.0    3.0    2.5    4.1

4.7    4.5    4.5    4.1    4.0

1.8    1.6    1.8    2.2    2.4    2.1    1.9

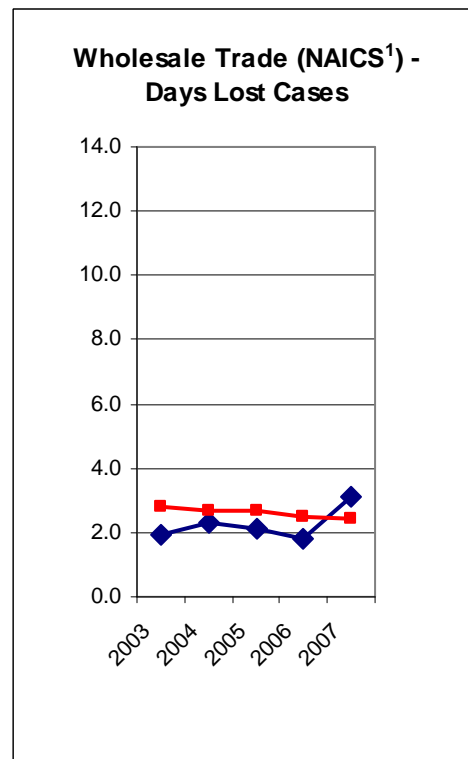
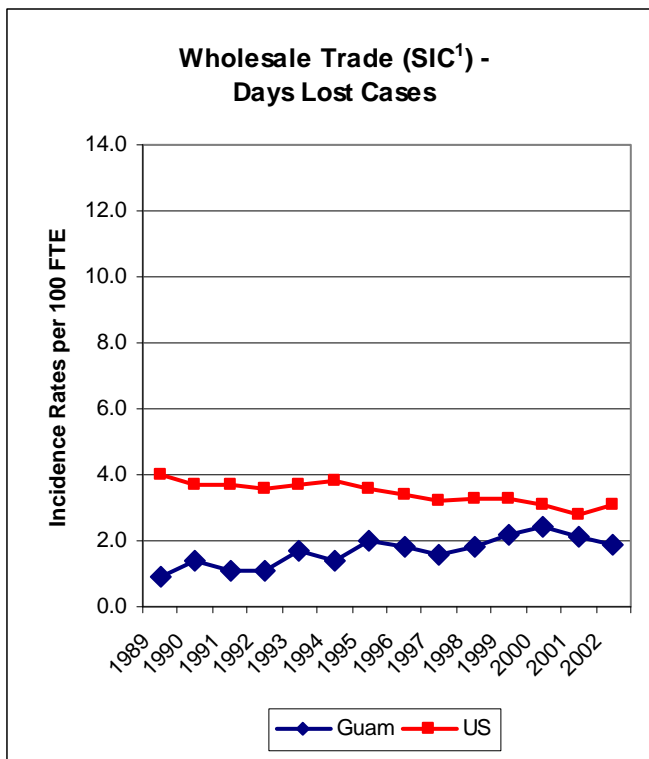
3.4    3.2    3.3    3.3    3.1    2.8    3.1

1.9    2.3    2.1    1.8    3.1

2.8    2.7    2.7    2.5    2.4

2.2    2.3    2.1    2.0    1.9    1.9    1.8    1.9    1.8    1.9    2.0    2.0

**Note:** Dash indicates data do not meet publication guidelines.



## INDUSTRY TRENDS - Retail Trade

### Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

RETAIL TRADE	Guam	2.2	2.2	3.0	3.9	4.2	2.8	2.1
	<b>US</b>	<b>8.1</b>	<b>8.1</b>	<b>7.7</b>	<b>8.7</b>	<b>8.2</b>	<b>7.9</b>	<b>7.5</b>

Retail Trade (NAICS: 44-45)

Guam  
**US**

### Days Lost Cases

RETAIL TRADE	Guam	1.7	1.3	1.9	2.6	2.5	1.5	1.3
	<b>US</b>	<b>3.4</b>	<b>3.4</b>	<b>3.3</b>	<b>3.4</b>	<b>3.3</b>	<b>3.3</b>	<b>3.0</b>

Retail Trade (NAICS: 44-45)

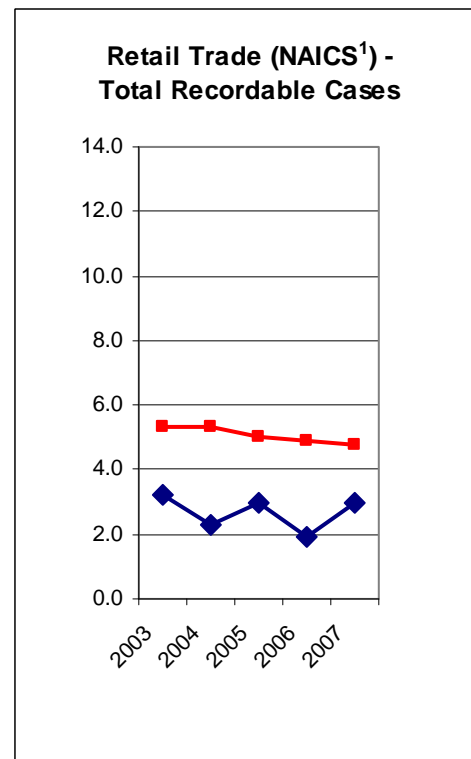
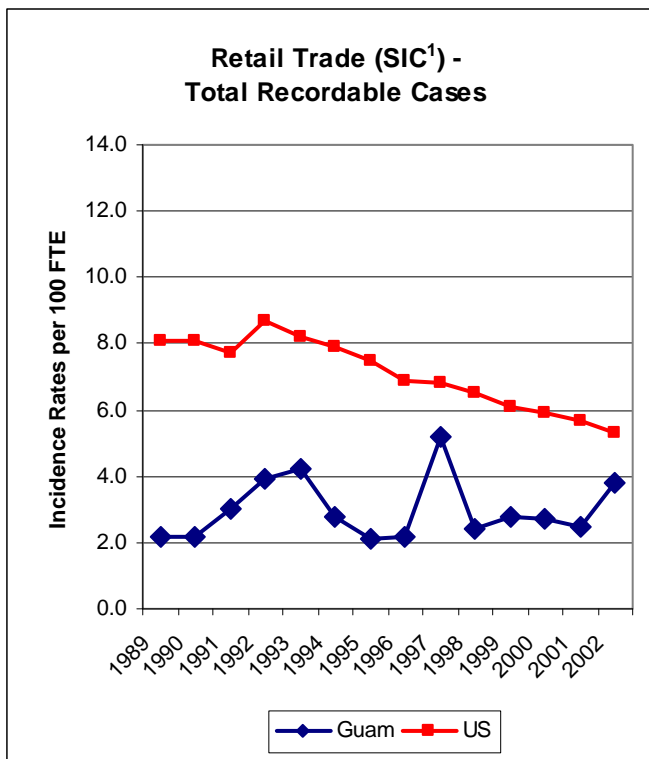
Guam  
**US**

### EMPLOYMENT<sup>2</sup> (in thousands)

9.2      9.6      10.6      12.1      12.2      11.2      11.6

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2005 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only



1996   1997   1998   1999   2000   2001   2002   2003   2004   2005   2006   2007

2.2   5.2   2.4   2.8   2.7   2.5   3.8

6.9   6.8   6.5   6.1   5.9   5.7   5.3

3.2   2.3   3.0   1.9   3.0

5.3   5.3   5.0   4.9   4.8

1.3   2.2   1.7   1.3   1.6   2.0   1.6

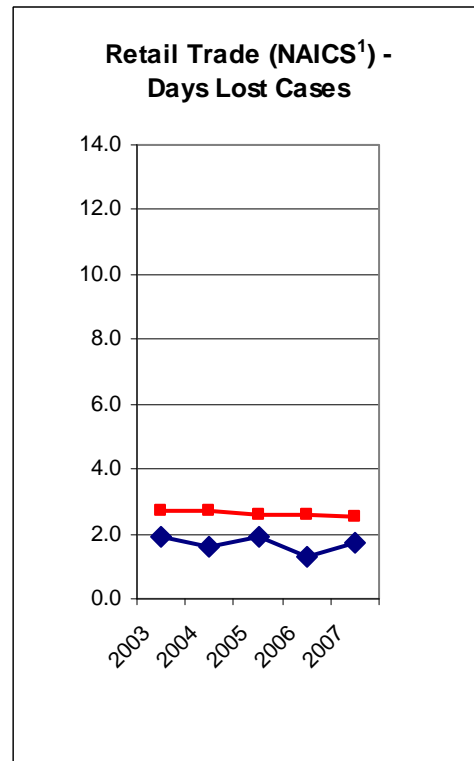
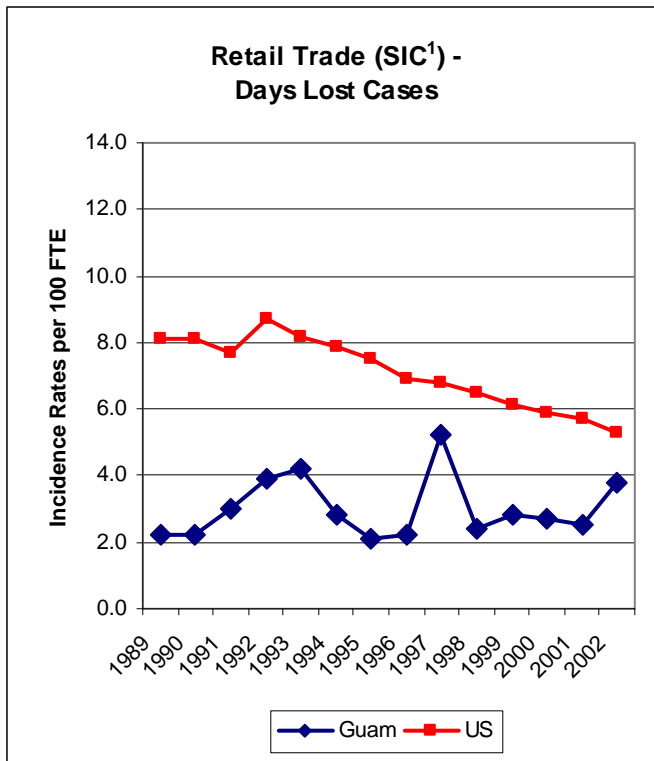
2.8   2.9   2.7   2.5   2.5   2.4   2.5

1.9   1.6   1.9   1.3   1.7

2.7   2.7   2.6   2.6   2.5

12.6   12.4   12.6   12.2   12.3   12.4   11.4   11.2   11.7   12.0   12.0   11.6

**Note:** Dash indicates data do not meet publication guidelines.



# INDUSTRY TRENDS - Finance, Insurance, and Real Estate

## Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

FINANCE, INSURANCE AND REAL ESTATE

Guam	0.3	0.3	0.3	0.1	0.4	1.0	-
<b>US</b>	<b>2.0</b>	<b>2.4</b>	<b>2.4</b>	<b>2.9</b>	<b>2.9</b>	<b>2.7</b>	<b>2.6</b>

Finance and Insurance (NAICS: 52)

Guam
<b>US</b>

### Days Lost Cases

FINANCE, INSURANCE AND REAL ESTATE

Guam	0.2	0.2	0.3	0.1	0.2	0.9	-
<b>US</b>	<b>0.9</b>	<b>1.1</b>	<b>1.1</b>	<b>1.2</b>	<b>1.2</b>	<b>1.1</b>	<b>1.0</b>

Finance and Insurance (NAICS: 52)

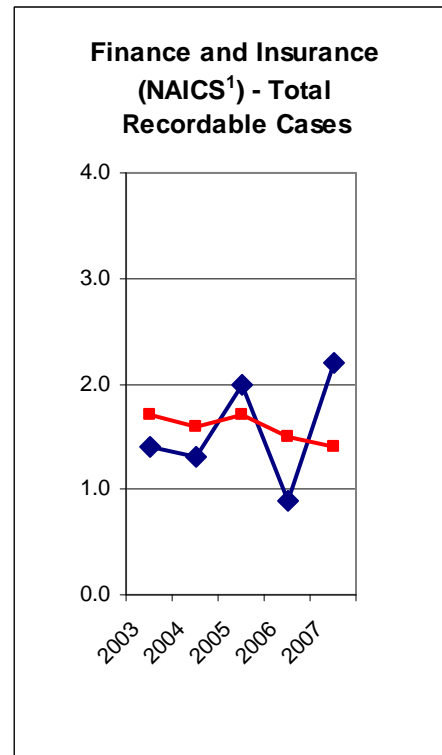
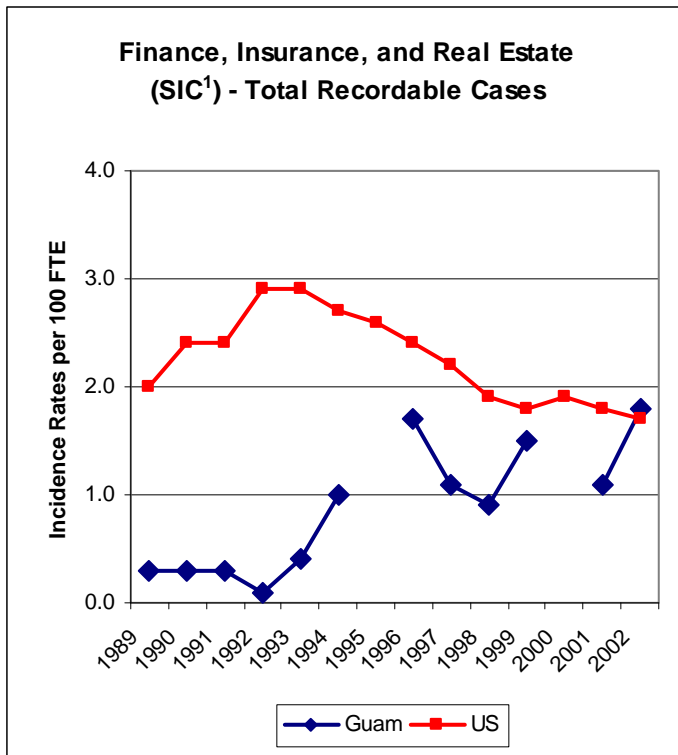
Guam
<b>US</b>

### EMPLOYMENT<sup>2</sup> (in thousands)

2.1      2.2      2.5      2.7      2.7      2.7      2.7

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only





1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007

1.7    1.1    0.9    1.5    -    1.1    1.8

2.4    2.2    1.9    1.8    1.9    1.8    1.7

1.4    1.3    2.0    0.9    2.2

1.7    1.6    1.7    1.5    1.4

0.7    0.6    0.6    0.7    -    0.7    0.9

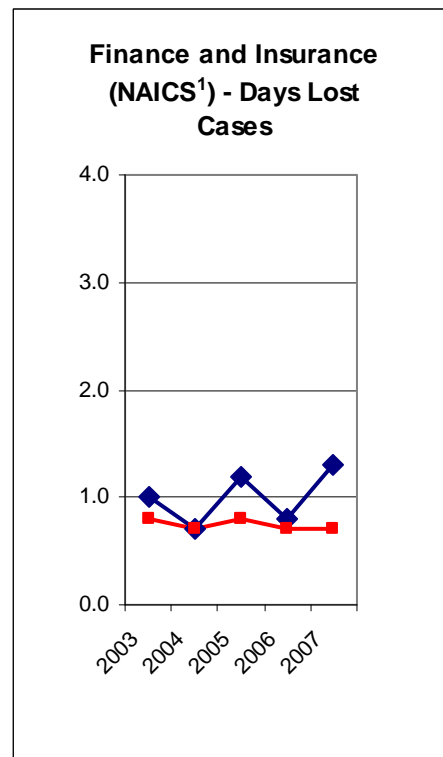
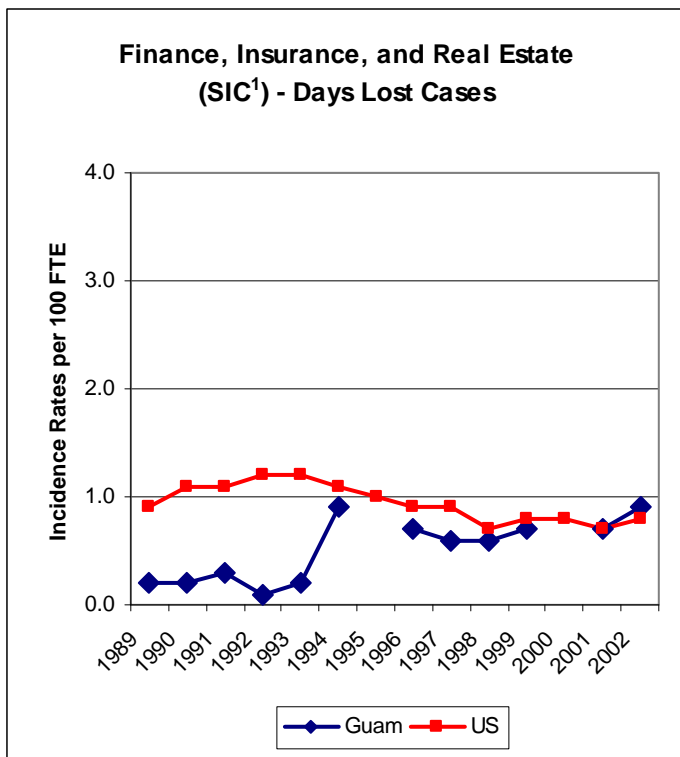
0.9    0.9    0.7    0.8    0.8    0.7    0.8

1.0    0.7    1.2    0.8    1.3

0.8    0.7    0.8    0.7    0.7

2.8    2.8    2.7    2.7    2.7    2.6    2.4    2.3    2.3    2.5    2.4    2.4

**Note:** Dash indicates data do not meet publication guidelines.



## INDUSTRY TRENDS - Services

### Incidence Rates per 100 FTE

YEAR <sup>1</sup>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
-------------------	-------------	-------------	-------------	-------------	-------------	-------------

### Total Recordable Cases

SERVICES (SIC)	Guam	1989	1990	1991	1992	1993	1994
	Guam	4.2	4.2	4.6	4.6	6.7	5.4
	<b>US</b>	<b>5.5</b>	<b>6.0</b>	<b>6.2</b>	<b>7.1</b>	<b>6.7</b>	<b>6.5</b>

### Days Lost Cases

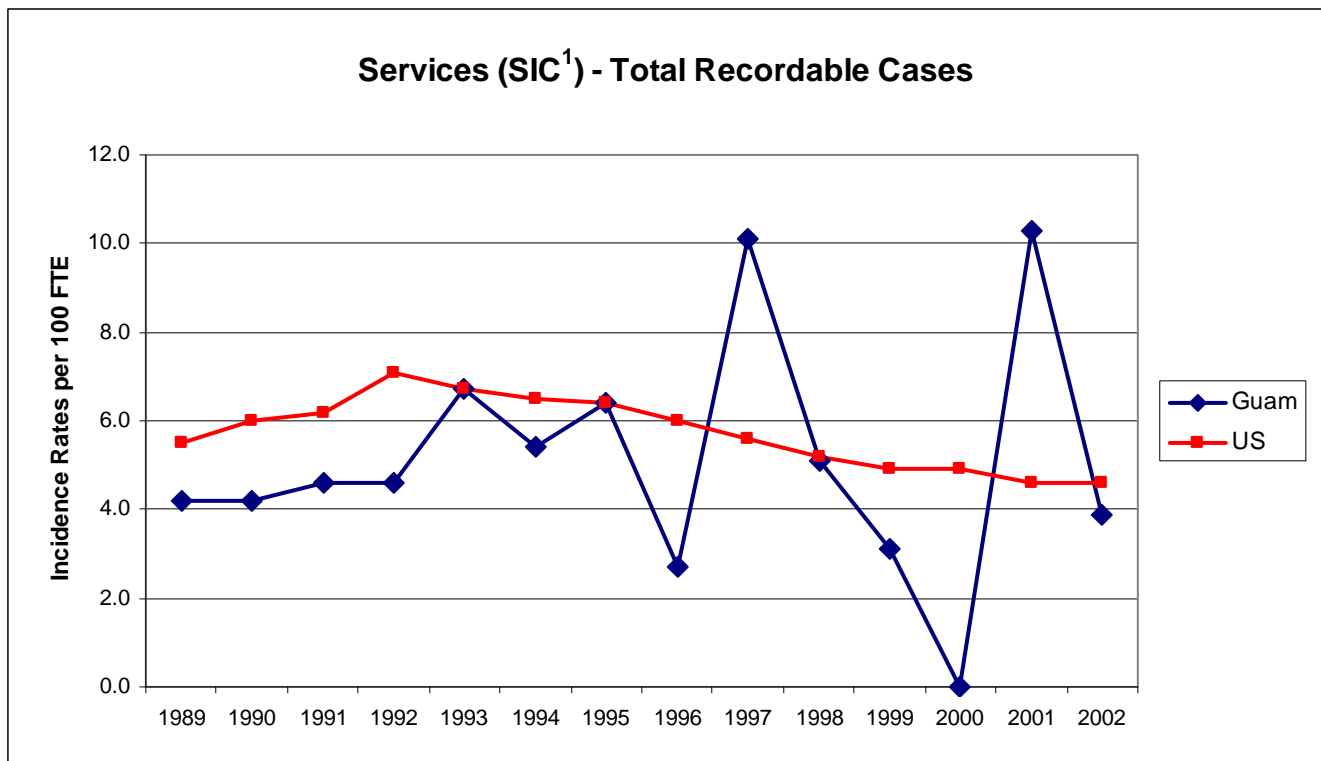
SERVICES (SIC)	Guam	1989	1990	1991	1992	1993	1994
	Guam	3.2	2.5	3.4	3.1	3.3	2.9
	<b>US</b>	<b>2.7</b>	<b>2.8</b>	<b>2.8</b>	<b>3.0</b>	<b>2.8</b>	<b>2.8</b>

### EMPLOYMENT<sup>2</sup> (in thousands)

1989	9.8	10.1	11.9	13.5	13.3	12.8
------	-----	------	------	------	------	------

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC); there is no direct equivalent group in the North American Industry Classification (NAICS) for 2003-2007; US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only



**1995    1996    1997    1998    1999    2000    2001    2002**

6.4    2.7    10.1    5.1    3.1    -    10.3    3.9

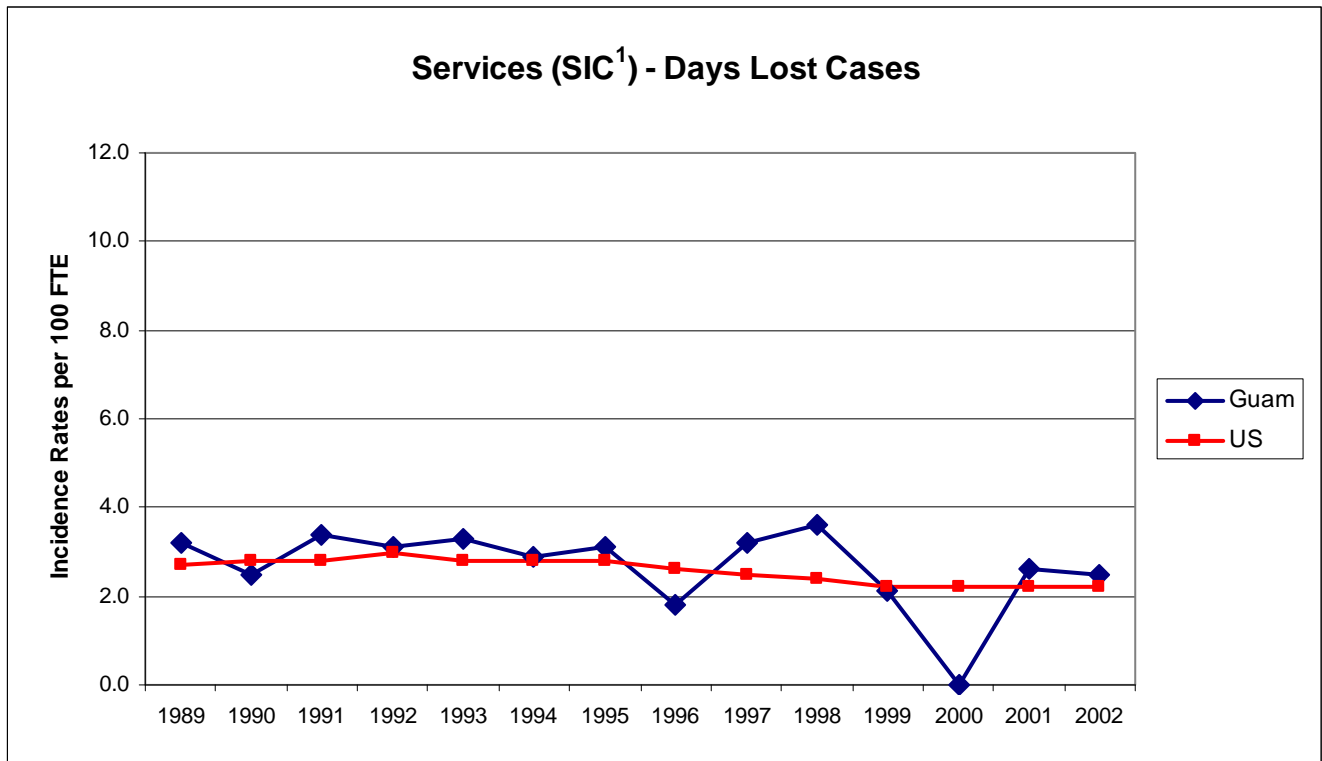
6.4    6.0    5.6    5.2    4.9    4.9    4.6    4.6

3.1    1.8    3.2    3.6    2.1    -    2.6    2.5

2.8    2.6    2.5    2.4    2.2    2.2    2.2    2.2

13.9    15.1    15.4    14.8    14.3    15.1    16.4    14.8

**Note:** Dash indicates data do not meet publication guidelines.



# INDUSTRY TRENDS - Hotels and Other Lodging Places

## Incidence Rates per 100 FTE

YEAR<sup>1</sup>      1989      1990      1991      1992      1993      1994      1995

### Total Recordable Cases

Hotels and Other Lodging Places

(SIC)	Guam	1989	1990	1991	1992	1993	1994	1995
Guam	7.1	7.8	5.6	-	-	-	-	
<b>US</b>	<b>10.8</b>	<b>10.7</b>	<b>10.3</b>	<b>11.2</b>	<b>10.7</b>	<b>10.1</b>	<b>9.7</b>	

Accommodation (NAICS: 721)

Guam  
**US**

### Days Lost Cases

Hotels and Other Lodging Places

(SIC)	Guam	1989	1990	1991	1992	1993	1994	1995
Guam	5.5	4.3	4.3	-	-	-	-	
<b>US</b>	<b>4.7</b>	<b>4.9</b>	<b>4.9</b>	<b>4.9</b>	<b>4.8</b>	<b>4.7</b>	<b>4.2</b>	

Accommodation (NAICS: 721)

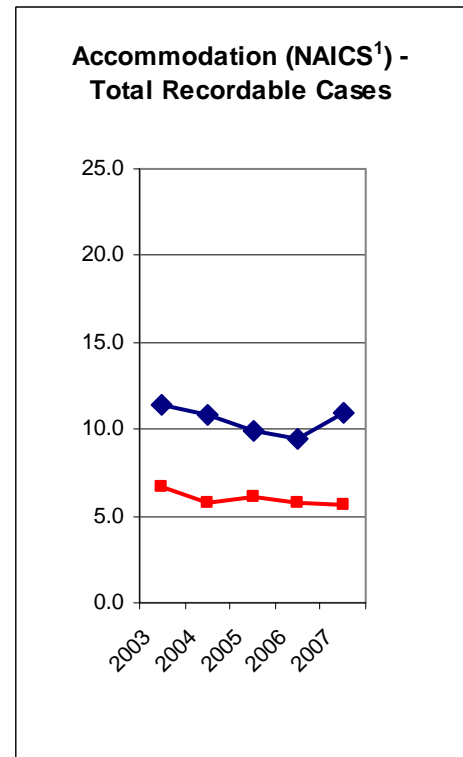
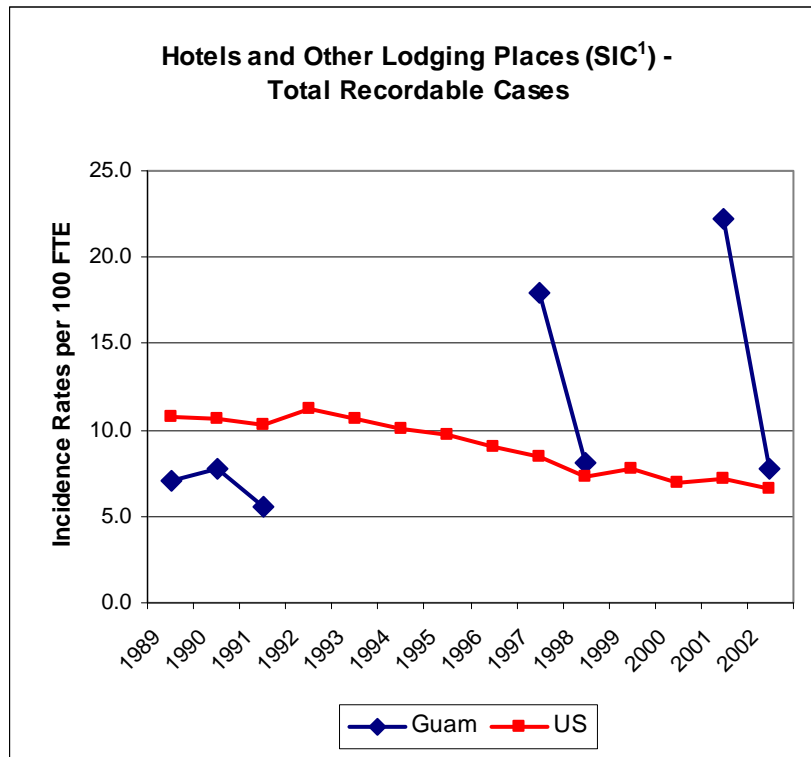
Guam  
**US**

### EMPLOYMENT<sup>2</sup> (in thousands)

3.7      3.8      4.7      5.6      5.2      5.0      5.5

<sup>1</sup> Data for 1989-2002 were based on Standard Industry Classification (SIC) while data for 2003-2007 were based on the North American Industry Classification (NAICS); US Data for 1989 - 1993 includes fatalities due to federal recording system in use during that period.

<sup>2</sup> Employment data grouping was based on Standard Industry Classification (SIC) only



1996    1997    1998    1999    2000    2001    2002    2003    2004    2005    2006    2007

-    17.9    8.1    -    -    22.2    7.7  
 9.0    8.4    7.3    7.8    6.9    7.2    6.6

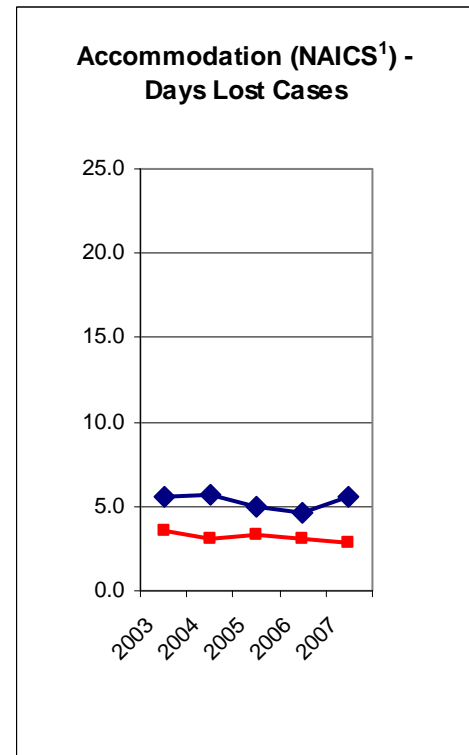
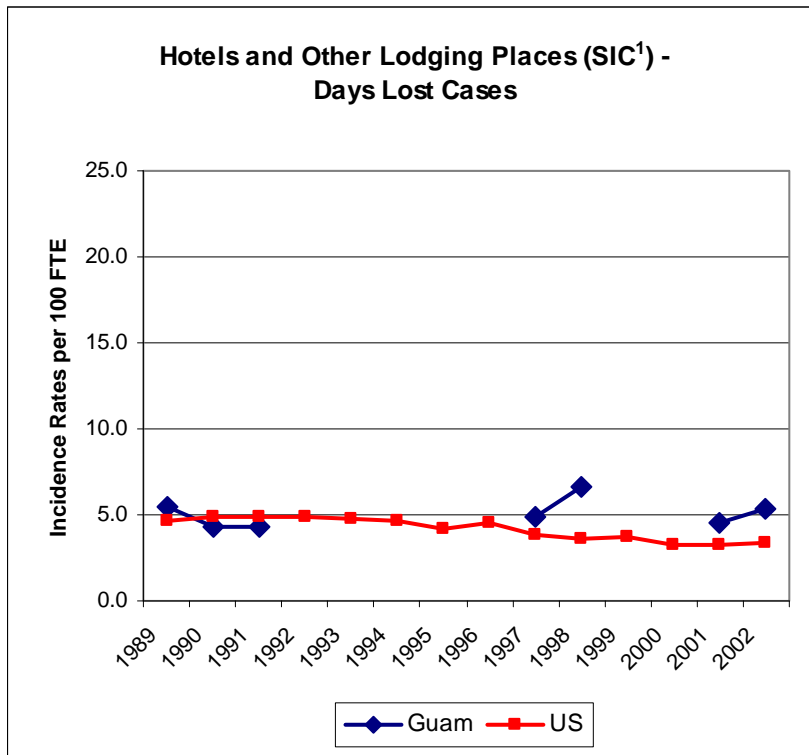
11.4    10.8    9.9    9.5    10.9  
 6.7    5.8    6.1    5.8    5.6

-    4.9    6.6    -    -    4.5    5.4  
 4.5    3.8    3.6    3.7    3.3    3.3    3.4

5.6    5.7    5.0    4.6    5.6  
 3.6    3.1    3.3    3.1    2.9

6.3    6.6    6.2    5.4    5.7    5.8    4.8    4.4    5.1    5.1    5.6    5.3

**Note:** Dash indicates data do not meet publication guidelines.



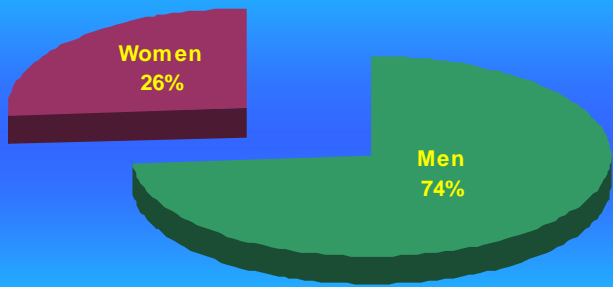


# Private Industry Demographic Summary Charts 2007

Number of nonfatal occupational injuries and illnesses involving days away from work by selected worker and case characteristics and industry

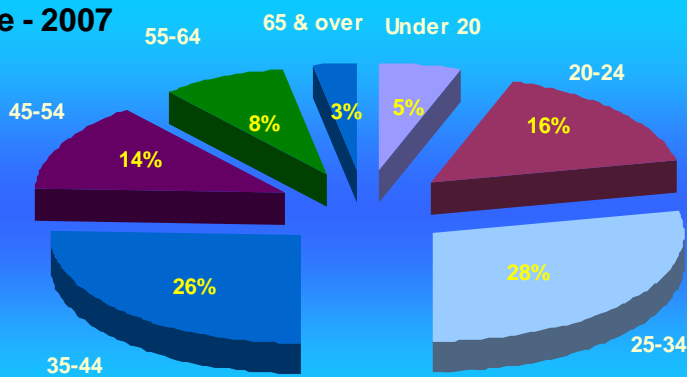
- ◆ Sex
- ◆ Age
- ◆ Occupation
- ◆ Length of Service with Employer
- ◆ Race or ethnic origin
- ◆ Number of days away from work
- ◆ Nature of Injury, Illness
- ◆ Part of Body Affected
- ◆ Source of Injury, Illness
- ◆ Event or Exposure
- ◆ Day of Week
- ◆ Time of Day
- ◆ Hours worked

### Sex - 2007



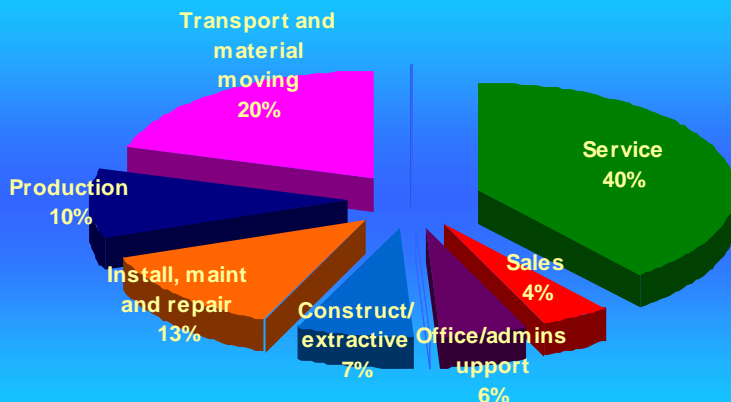
Sex - 2007	Number	%
Men	540	74.0
Women	190	26.0
<b>TOTAL</b>	<b>730</b>	<b>100.0</b>

### Age - 2007



Age - 2007	Number	%
Under 20	40	5.4
20-24	120	16.2
25-34	210	28.4
35-44	190	25.7
45-54	100	13.5
55-64	60	8.1
65 & Over	20	2.7
<b>TOTAL</b>	<b>740</b>	<b>100.0</b>

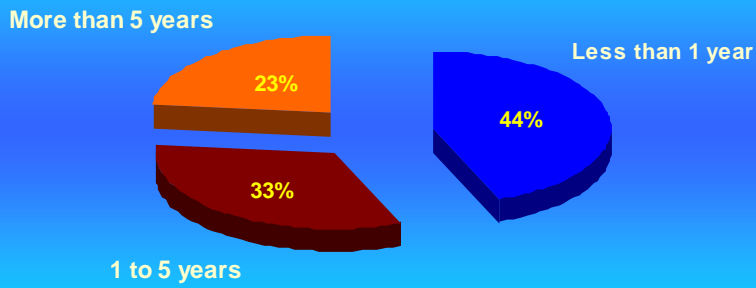
### Occupation - 2007



Occupation - 2007	Number	%
Management, business, financial	-	-
Professional and related	-	-
Service	270	39.1
Sales and related	30	4.3
Office and administrative support	40	5.8
Farming, fishing and forestry	-	-
Construction and extractive	50	7.2
Installation, maintenance and repair	90	13.0
Production	70	10.1
Transportation and material moving	140	20.3
Military Specific	-	-
<b>TOTAL</b>	<b>690</b>	<b>100.0</b>

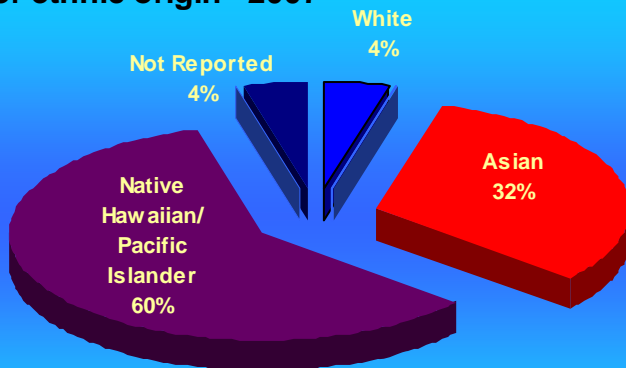


### Length of service with employer - 2007



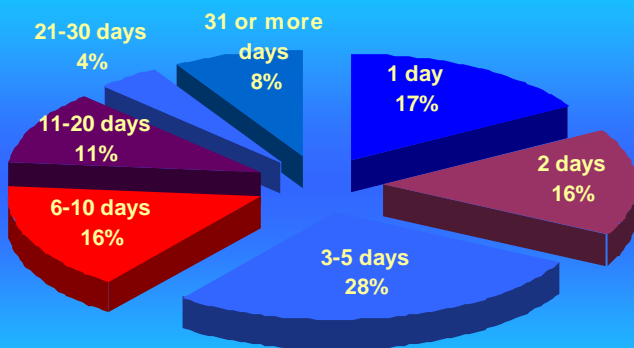
Length of service with employer - 2007	Number	%
Less than 1 year	320	43.8
1 to 5 years	240	32.9
More than 5 years	170	23.3
<b>TOTAL</b>	<b>730</b>	<b>100.0</b>

### Race or ethnic origin - 2007



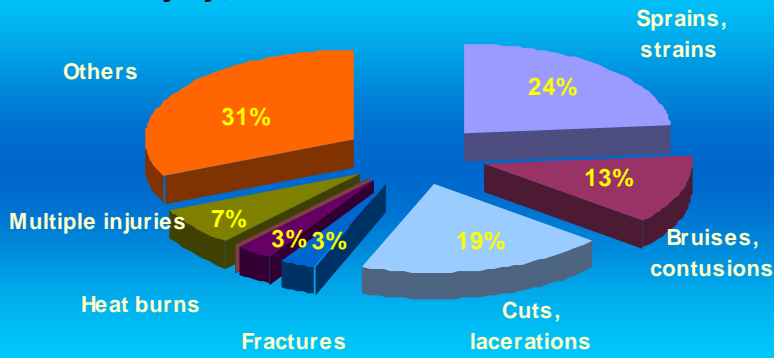
Race or ethnic origin - 2007	Number	%
White	30	4.2
African American	-	-
Hispanic/Latino	-	-
Asian	230	31.9
Native Hawaiian/Pacific Islander	430	59.7
American Indian/Alaska Native	-	-
Other	-	-
Multi-Race	-	-
Not Reported	30	4.2
<b>TOTAL</b>	<b>720</b>	<b>100.0</b>

### Number of days away from work - 2007



Number of days away from work - 2007	Number	%
1 day	120	16.4
2 days	120	16.4
3-5 days	200	27.4
6-10 days	120	16.4
11-20 days	80	11.0
21-30 days	30	4.1
31 or more days	60	8.2
<b>Median days away from work</b>	<b>4</b>	

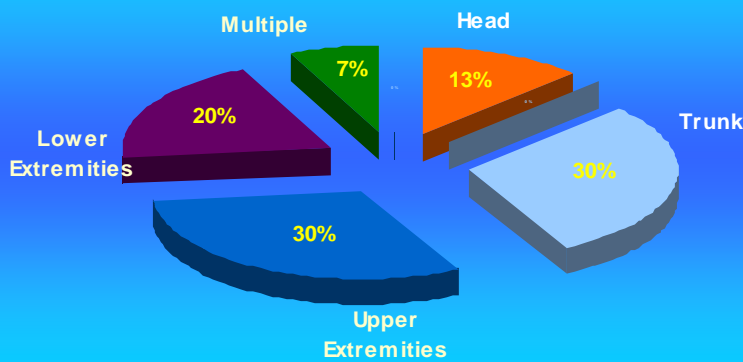
### Nature of Injury, Illness - 2007



### Nature of Injury, Illness - 2007

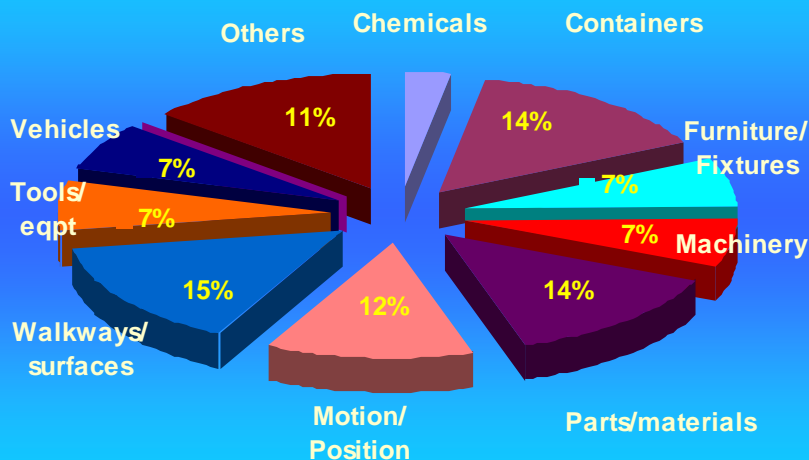
Nature of Injury, Illness - 2007	Number	%
Sprains, strains	170	23.6
Bruises, contusions	90	12.5
Cuts, lacerations	140	19.4
Fractures	20	2.8
Heat burns	20	2.8
Carpal tunnel syndrome	-	-
Tendonitis	-	-
Chemical burns	-	-
Amputations	-	-
Multiple injuries	50	6.9
Others	230	31.9
<b>TOTAL</b>	<b>720</b>	<b>100.0</b>

### Part of body affected - 2007



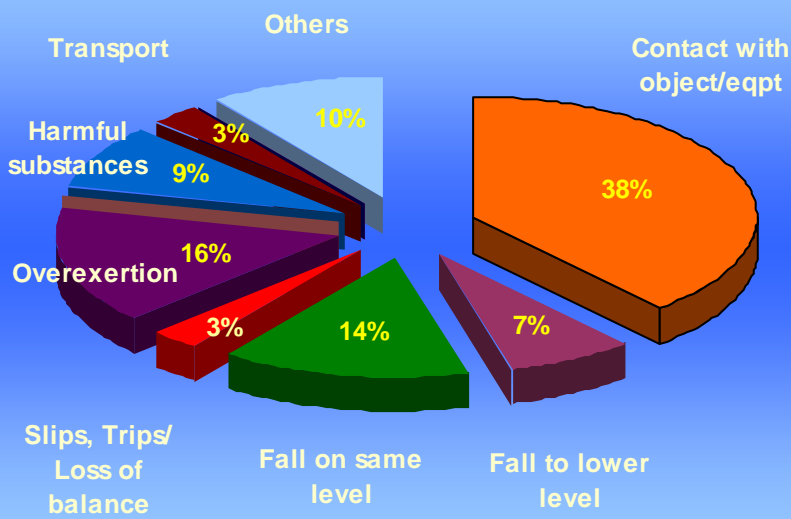
Part of body affected - 2007	Number	%
Head	90	12.7
Neck	-	-
Trunk	210	29.6
Upper Extremities	220	31.0
Lower Extremities	140	19.7
Multiple	50	7.0
All Other	-	-
<b>TOTAL</b>	<b>710</b>	<b>100.0</b>

### Source of injury - 2007



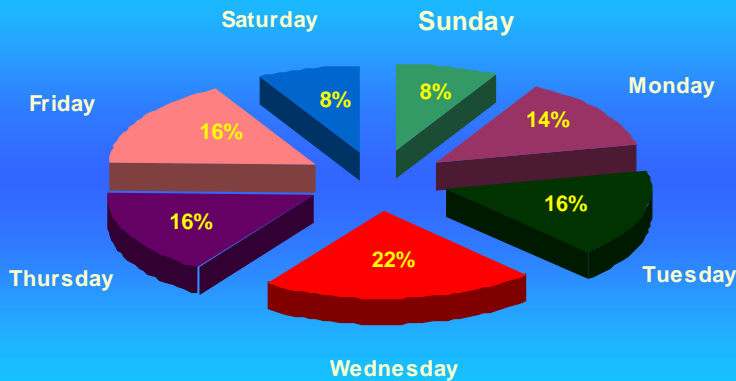
Source of injury - 2007	Number	%
Chemicals and chemical products	20	2.7
Containers	110	15.1
Furniture and fixtures	50	6.8
Machinery	50	6.8
Parts and materials	100	13.7
Worker motion and position	90	12.3
Floors, walk ways, ground surfaces	110	15.1
Tools, instruments, and equipment	50	6.8
Vehicles	50	6.8
Health care patient	-	-
Others	100	13.7
<b>TOTAL</b>	<b>730</b>	<b>100.0</b>

### Event or exposure - 2007



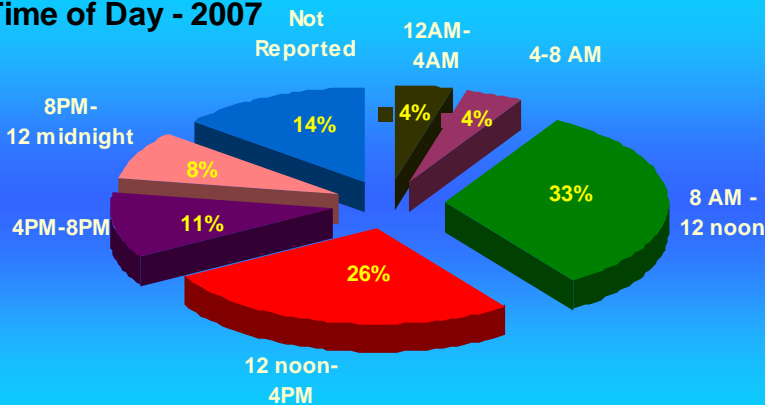
Event or exposure - 2007	Number	%
Contact with object and equipment	270	38.6
Fall to lower level	50	7.1
Fall on same level	100	14.3
Slips, trips, loss of balance - without fall	20	2.9
Overexertion	110	15.7
Repetitive motion	-	-
Exposure to harmful substances	60	8.6
Transportation accidents	20	2.9
Fires and explosions	-	-
Assaults and violent acts by person	-	-
Others	70	10.0
<b>TOTAL</b>	<b>700</b>	<b>100.0</b>

### Day of week - 2007



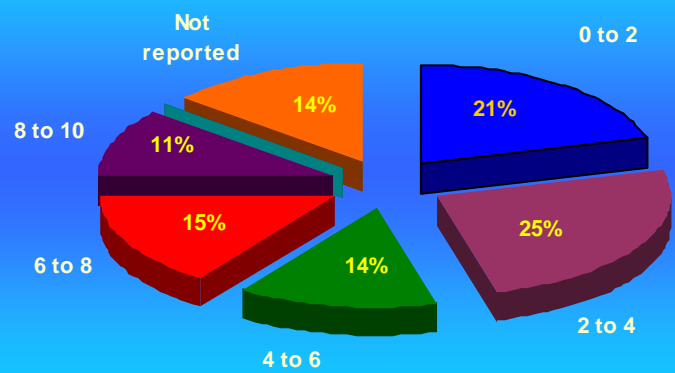
Day of week - 2007	Number	%
Sunday	60	8.1
Monday	100	13.5
Tuesday	120	16.2
Wednesday	160	21.6
Thursday	120	16.2
Friday	120	16.2
Saturday	60	8.1
<b>TOTAL</b>	<b>740</b>	<b>100.0</b>

### Time of Day - 2007



Time of Day - 2007	Number	%
12:01 A.M. to 4:00 A.M.	30	4.2
4:01 A.M. to 8:00 A.M.	30	4.2
8:01 A.M. to 12:00 noon	230	31.9
12:01 P.M. to 4:00 P.M.	190	26.4
4:01 P.M. to 8:00 P.M.	80	11.1
8:01 P.M. to 12:00 midnight	60	8.3
Not reported	100	13.9
<b>TOTAL</b>	<b>720</b>	<b>100.0</b>

## Hours worked - 2007



Hours worked - 2007	Number	%
Less than 2 hours	150	20.8
2 hours to less than 4 hours	180	25.0
4 hours to less than 6 hours	100	13.9
6 hours to less than 8 hours	110	15.3
8 hours to less than 10 hours	80	11.1
10 hours to less than 12 hours	-	-
12 hours and more	-	-
Not reported	100	13.9
<b>TOTAL</b>	<b>720</b>	<b>100.0</b>

# Technical Notes

## Technical Notes

The Bureau of Labor Statistics (BLS) reports the number and frequency of work-related injuries and illnesses in private industry each year. BLS also provides case and demographic characteristics data on cases that involve one or more days away from work. The data, which come from the BLS Survey of Occupational Injuries and Illnesses, identify the industrial, occupational, and worker groups having relatively high risks of job-related injury and illness. Such data provide the means to focus attention on the severity of incidents and how they occurred.

### Occupational Injury and Illness Classification System (OIICS)

The Occupational Injury and Illness Classification System (OIICS) was developed by the BLS to provide a consistent set of procedures for recording the characteristics associated with workplace injuries, illnesses, and fatalities. The circumstances of each case are classified based on the BLS OIICS manual. The SOII uses four case characteristics to describe each incident that led to an injury or illness that involved one or more days away from work (see illustrative example below), while the CFOI also captures a fifth characteristic (secondary source) to describe a fatal workplace injury. These characteristics include:

Nature – the physical characteristics of the disabling injury or illness, such as cuts/lacerations, fractures, sprains/strains, or electrocution;

Part of body affected – the part of body directly linked to the nature of injury or illness cited, such as finger, arm, back, or body systems;

Event or exposure – the manner in which the injury or illness was produced or inflicted, such as caught in running equipment; slips, trips, or falls; overexertion; or contact with electric current;

Source – the object, substance, exposure, or bodily motion that directly produced or inflicted the disabling condition, such as machinery, ground, patient, or electrical wiring;

Secondary source – identifies the object, substance, or person that generated the source of injury or illness or that contributed to the event or exposure, such as ice or water.

### Race and Ethnicity Standards

Both the Census of Fatal Occupational Injuries (CFOI) program and the Survey of Occupational Injuries and Illnesses (SOII) Case and Demographics (C&D) program were implemented in 1992 following

recommendations of a National Academies of Science review highlighting the need to capture detailed case and worker characteristics of fatal and nonfatal workplace incidents, respectively. At their inception, each of these programs used separate methods to categorize the race or ethnicity of injured or ill workers. The C&D program categorized Hispanics separately, while the CFOI categorized Hispanics by race (i.e., black or white) and also provided a total count of Hispanics. The remaining race and ethnicity categories for both programs included:

- White
- Black
- Asian or Pacific Islander
- American Indian or Native Alaskan

In 1999, the CFOI amended race categories to no longer count Hispanics within their race but solely on their ethnicity. Additional changes were also incorporated to race and ethnicity categories including: Asian became a separate category. Native Hawaiian was combined with Pacific Islander to form a new category. A “Multi-race” category was added. To provide consistency among fatal and nonfatal data, the C&D program incorporated in 2002 the same race categories used by the CFOI. The classification of workers by race and ethnicity for the CFOI and the SOII is based on the 1997 Standards for Federal Data on Race and Ethnicity as defined by the Office of Management and Budget. One result of this revision is that individuals may be categorized in more than one race or ethnic group. Race and ethnicity is the only data element whose reporting is not mandatory in the SOII. This resulted in 32 percent of the cases involving days away from work for which race and ethnicity were not reported in the 2006 SOII.

### Survey of Occupational Injuries and Illnesses

#### SOII Definitions

The following definitions of nonfatal occupational injuries and illnesses used in the SOII are the same as those established in the Occupational Safety and Health Administration’s (OSHA) recordkeeping guidelines, effective January 1, 2002 and used by employers to keep logs of such incidents throughout the survey (calendar) year. (See Technical References for citations of instructional materials useful in understanding the types of cases recorded under current recordkeeping guidelines.) Recording criteria. Nonfatal recordable work-place injuries and illnesses are those that result in any one or more of

## Technical Notes

the following:

- Loss of consciousness
- Days away from work
- Restricted work activity or job transfer
- Medical treatment beyond first aid

In addition to these four criteria, employers must also record any significant work-related injuries or illnesses that are diagnosed by a physician or other licensed health care professional or other instances that meet additional criteria discussed below. Significant work-related injuries or illnesses include cancers, chronic irreversible diseases, fractured or cracked bones (including teeth), or punctured eardrums. Additional cases that must be recorded as work-place injuries or illnesses include:

- Any needlestick injury or cut from a sharp object that is contaminated with another person's blood or other potentially infectious material,
- Any case requiring an employee to be medically removed under the requirements of an OSHA health standard,
- Tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis,
- An employee's hearing test (audiogram) reveals 1) that the employee has experienced a Standard Threshold Shift (STS) in hearing in one or both ears (averaged at 2kHz, 3kHz, and 4kHz) and 2) the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2kHz, 3kHz, and 4kHz) in the same ear(s) as the STS.

Additional details regarding record ability of nonfatal work-related injuries and illnesses can be found in The OSHA Recordkeeping Handbook.

*Injuries and illnesses.* The distinction between occupational injury and occupational illness was eliminated from OSHA recordkeeping guidelines with revisions implemented in 2002. The OSHA guidelines now define an injury or illness as an abnormal condition or disorder.

Occupational injury is any injury such as a cut, fracture, sprain, amputation, etc., which results from a work-related event or from a single instantaneous exposure in the work environment.

Occupational illness is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion, or direct contact.

*Case types.* Days-away-from-work, job transfer, or restriction (DART) cases are those which involve days away from work (beyond the day of injury or onset of illness), or days of job transfer or restricted work activity, or both.

Days-away-from-work cases are those which result in days away from work (beyond the day of injury or onset of illness). These cases may also include days of job transfer or restricted work activity in addition to days away from work. For example, an employee suffers a work-related injury resulting in 5 days away from work. Upon returning to work, the employee was unable for an additional 3 days to perform normal duties associated with the job (i.e., the employee was on restricted work activity). In this example, the case would be recorded as a days-away-from-work case with 5 days away from work and 3 days of restricted work activity.

Job transfer or restriction cases are those which result only in job transfer or restricted work activity. This occurs when, as the result of a work-related injury or illness, an employer or health care professional keeps, or recommends keeping, an employee from doing the routine functions of his or her job or from working the full workday that the employee would have been scheduled to work before the injury or illness occurred. This may include instances where:

- an employee is assigned to another job on a temporary basis; or
- an employee works at a permanent job less than full-time; or
- an employee works at a permanently assigned job but is unable to perform all duties normally connected with it.

Other recordable cases are those which are recordable injuries or illnesses under OSHA recordkeeping guidelines, but which do not result in any days away from work, nor job transfer or restriction, beyond the day of the injury or onset of illness. For example, "John" cut his finger on machinery during his Wednesday afternoon workshift. The injury required medical attention, for which "John" received sutures at the local emergency room. "John" was able to return to his normally scheduled workday on the following day (Thursday) and performed his

## Technical Notes

typical work duties without any restrictions.

*Case characteristics.* The following case characteristics are used in the SOII to profile injuries and illnesses involving days away from work from four different perspectives.

- Nature of injury or illness
- Part of body affected
- Source of injury or illness
- Event or exposure

*Worker demographics.* In addition to the aforementioned case characteristics, several worker demographics are used in the SOII to profile injuries and illnesses for cases involving days away from work. Worker demographics coded from information supplied by the employer, supplemented at times by employer descriptions (narratives) of how the incident occurred include:

- Occupation
- Age and age groups
- Race or ethnic origin
- Sex
- Length of service
- Day of week and time of day
- Hours on the job

### SOII Measures

The number and incidence rate of nonfatal workplace injuries and illnesses are reported nationwide by industry (NAICS) for the following types of cases:

- Total recordable cases
- Days-away-from-work, job transfer, or restriction cases
- Days-away-from-work cases
- Days of job transfer or restriction cases
- Other recordable cases.

Days-away-from-work cases, which may also involve job transfer or restricted workdays, are a subset of days away from work, job transfer, or restriction (DART) cases. For cases involving days away from

work, the SOII presents:

- Case counts and percent distributions by occupation
- Time of event
- Hours worked before the incident
- Day of the week of the incident
- Worker demographic characteristics
- Case characteristics—nature, part of body, source, and event or exposure—defined in the SOII Definitions section.

The SOII also includes two measures of severity for days-away-from-work cases:

- Median number of lost workdays
- Number and percent distribution by their duration

These severity measures are presented nationwide by industry, by occupation, by the four aforementioned case characteristics (nature, part, source, and event), and for select worker characteristics (including gender, age group, length of service, and race or ethnic origin).

The median number of workdays lost and a number and percent distribution of days-away-from-work cases by their duration (see below) are provided for cases involving days away from work. The median number of days away from work provides the middle observation of the number of days missed associated with the particular characteristic that is being measured (i.e., half of the cases involved more days away from work and half of the cases involved fewer days away from work than the median.). The percent distribution measures are presented nationwide, by industry, and for the aforementioned case characteristics and worker demographics for cases involving:

- 1 day away from work
- 2 days away from work
- 3-5 days away from work
- 6-10 days away from work
- 11-20 days away from work
- 21-30 days away from work
- 31 or more days away from work



## Technical Notes

In addition to injury and illness counts, the SOII also reports on the frequency (incidence rate) of such cases. Incidence rates permit comparison among industries and establishments of varying sizes. They express various measures of injuries and illnesses in terms of a constant reflecting exposure hours in the work environment—for example, 200,000 employee hours or the equivalent of 100 full-time employees working for 1 year—thus allowing for a common statistical base regardless of the number of employees. In this way, a firm with 5 cases recorded for 70 employees can compare its injury and illness experience to that of an entire industry with 12,000 cases for 150,000 employees.

Incidence rates also are useful in evaluating the safety performance of a particular industry over time or in comparing State-to-State variations in an industry's safety record. Such comparisons are possible using the total recordable case incidence rate or the incidence rate for days-away-from-work, job transfer, or restriction cases, or other recordable cases (i.e., those that do not result in days away from work). Incidence rates are available for injuries and illnesses combined by the aforementioned case types and for total recordable cases of injuries only. For illnesses, incidence rates are available for total illness cases and separately for the five illness categories defined in the SOII Definitions section. Incidence rates for injury and illness cases involving days away from work also are available for the various categories of the four case characteristics studied; for example, the incidence rates associated with carpal tunnel syndrome, back cases, injuries inflicted by health care patients, or disabling falls to a lower level.

Beginning with survey year 2006, incidence rates are also available for selected worker demographics, including age groups, gender, detailed occupation, and occupation groups for national estimates and by age group, gender, and occupation group for State estimates. (See section on State Participation in the SOII for description of availability of State estimates.) These demographic rates for both national and State estimates are available cross-tabulated by the aforementioned case characteristics—nature, part, source, and event.

### Scope of the SOII

The sample of workplaces selected by the BLS for participation in the Survey of Occupational Injuries and Illnesses consists of approximately 230,000 private industry establishments each year. SOII data are solicited from employers having 11 employees or more in agricultural production, and from all employers in all other industries (except public administration).

Data for employees covered by other Federal safety and health legislation are provided by the Mine Safety and Health Administration of the U.S. Department of Labor and the Federal Railroad Administration of the U.S. Department of Transportation. Although State and local government agencies currently are not surveyed for national estimates, several States have legislation which enables them to collect these data for which State-level estimates are tabulated.

Self-employed persons are not considered to be employees under the 1970 act and private households (NAICS 814), the United States Postal Service (NAICS 491), and Federal Government workers are out-of-scope for the SOII and are excluded from possibility of selection.

### State Participation in the SOII

Federal grants covering a portion of the operating cost permit States to develop estimates of occupational injuries and illnesses and to collect the data from which the BLS produces national results. Data for States which do not have operational grants are collected directly by the BLS for national estimates. The participating State agencies collect and process the data from which State and national estimates are tabulated using standardized procedures and systems established by the BLS to insure uniformity and consistency among the States. To further insure comparability and reliability of SOII estimates, the BLS designs and identifies the survey sample for each State and, through its regional offices, validates the SOII results, and provides technical assistance to the State agencies on a continuing basis.

State participation in the SOII may vary by year. In 2006, nonfatal workplace injuries and illnesses estimates for private industry were tabulated separately for 43 States (including the District of Columbia) that participate in the SOII program. Estimates of injuries and illnesses to State and local government workers were available for 26 of these States. The level of industry detail for which State estimates are tabulated varies widely and is based on the needs determined by each State office. Additionally, estimates are tabulated for three U.S. territories—Guam, Puerto Rico, and the Virgin Islands—but data from these territories are not included in the tabulation of national estimates. There were eight States which did not participate in the SOII in 2006 for which estimates are not available separately. Estimates for the 46 participating States and U.S. territories for the 2006 survey year and can be accessed electronically at <http://www.bls.gov/iif/oshstate.htm>.

## Technical Notes

### SOII Sample Design

A two-stage process is used to select a sample from which estimates are generated for the Survey of Occupational Injuries and Illnesses (SOII). The first stage involves the selection from a frame including all in-scope establishments that will be required to participate in the SOII (i.e., sample units). The second stage is the selection of sample cases involving days away from work from the establishments that have been selected. All cases involving days away from work are collected from most establishments. However, as a way to reduce respondent burden, establishments that are predicted to have a large number of cases are instructed to provide only a subsample of their cases by reporting only those cases that occurred in specified months, rather than all cases that occurred during the survey year.

Because the SOII is a Federal-State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State or territory. The sample is selected to represent all private industries in the States and territories. The sample size for the SOII is dependent upon the:

- characteristics for which estimates are needed
- industries for which estimates are desired
- characteristics of the population being sampled
- target reliability of the estimates, and
- survey design employed.

One criterion of the SOII design is defining target estimation industries (TEIs). A TEI is a North American Industry Classification System (NAICS) industry or group of industries for which a State wishes to produce an estimate. For example, a State may select to target estimates for NAICS 622 (Hospitals). This TEI would include establishments in NAICS 622110 (General medical and surgical hospitals), NAICS 622210 (Psychiatric and substance abuse hospitals), and NAICS 622310 (Specialty hospitals, except psychiatric and substance abuse). TEIs are defined by each State based on the industries for which estimates are desired. A sampling cell is defined by State, ownership, TEI, and size class for which an estimate will be tabulated. Size classes are based on an establishment's average annual employment, as defined below:

- Size class 1 = establishments with 1-10 employees

- Size class 2 = establishments with 11-49 employees
- Size class 3 = establishments with 50-249 employees
- Size class 4 = establishments with 250-999 employees
- Size class 5 = establishments with 1,000 or more employees

In the SOII, the variability of the incidence rate for Total Recordable Cases (TRC) of injuries and illnesses is used as the primary variable for determining allocation of the sample, since there is a high correlation between these cases and other important characteristics of the data being estimated. Historical State TRC rates are used to calculate the variance which is used in the optimal sample allocation procedure.

The optimal allocation procedure distributes the sample to the industries in a manner intended to minimize the variance of the total number of recordable cases in the universe or, alternatively, the incidence rate of recordable cases in the universe. In strata with higher variability of the data, a larger sampling rate is allocated.

Another criterion of the survey design is to apply optimal sample sizes. Sample selection sometimes occurs with certainty among sampling cells where it is necessary to select all frame units in the cell in order to meet minimum sampling requirements or to ensure that an adequate number of units are sampled to produce accurate and reliable estimates for the cell.

Once sampling is complete and all necessary reviews and adjustments have been made, sampling weights are calculated for units selected in each sampling cell. A maximum weight threshold is applied to sample units. Sampling weights are calculated by dividing the number of frame units in the sampling cell by the number of sample units in the cell as follows:

$$\text{SampleWeight} = N_U/n_s$$

where:

$N_U$  = the number of frame units available for selection in the sampling cell

$n_s$  = the number of units sampled

For example, if there are 100 frame units in a sampling cell from which 10 units are selected for the sample, then the weight assigned to each of the

## Technical Notes

sample units would be 100 divided by 10, or 10.00.

### SOII Data Collection

Collection methods for the SOII have evolved significantly in recent years in response to BLS goals to collect data more efficiently and to provide more timely and accurate data to its users. Use of new technology—namely the Internet and other electronic resources as alternative means for responding to the SOII—has aided in the reduction of data collection and processing times. The end result has been more timely publication of SOII estimates. Options that are available to employers to meet their requirement to respond to the SOII include:

- Internet
- Email form
- Fax form
- Telephone
- Mail

Establishments selected to participate in the SOII are pre-notified by the BLS in writing in advance of the year for which they will be required to provide data. This prenotification process ensures that even those establishments not normally required to maintain injury and illness logs will do so for the survey year.

### SOII Estimation Procedures

Nonfatal workplace injury and illness data collected for the SOII are used to tabulate estimates for two separate data series—summary (industry-level) estimates and more detailed case and demographic estimates for cases that involved days away from work. Part of the estimation process involves weighting sample units and cases to represent all units on the frame from which the sample was selected.

### Reliability of SOII Estimates

Estimates from the Survey of Occupational Injuries and Illnesses are based on a scientifically selected probability sample, rather than a census of the entire population. (See section on SOII Sample Design.) Sampling methodology makes it possible to collect data from a sample from which inferences can be made regarding the characteristics of the population from which the sample was selected. These sample-based estimates may differ from the results obtained from a census of the population. The sample used for the SOII was one of many possible samples, each of

which could have produced different estimates. The variation in the sample estimates across all possible samples that could have been drawn is measured by the relative standard error (RSE), which is used to calculate a "confidence interval" around a sample estimate.

The 95-percent confidence interval is the interval centered on the sample estimate and includes all values within 1.96 times the estimate's standard error. If several different samples were selected and used to estimate a population value (e.g., injury and illness incidence rates), the 95-percent confidence interval would include the true population value approximately 95 percent of the time.

All estimates derived from a sample survey are subject to sampling and nonsampling errors. Sampling errors occur because observations are made on a sample, not on the entire population. Percent relative standard errors, which are a measure of the sampling error in the estimates, are calculated as part of the SOII estimation process.

Nonsampling errors in the estimates can be attributed to many sources, e.g., inability to obtain information about all cases in the sample, mistakes in recording or coding the data, definitional difficulties, and so forth. Although not measured, nonsampling errors will always occur when statistics are gathered. To minimize the nonsampling errors in the estimates, the completed survey forms are systematically edited and apparent inconsistencies are verified with the employer.

### Publication Guidelines for SOII Estimates

Nonfatal occupational injury and illness estimates were published for more than 1,200 NAICS industries (including aggregates) in 2006. Data for the Survey of Occupational Injuries and Illnesses (SOII) are collected under a strict pledge of confidentiality that these data will be used solely for statistical purposes and will not be disclosed for other purposes. The number of publishable industries may vary from year to year, depending on the number of industries that fail to meet publication guidelines. Industry estimates may not be published if one of the following situations exists:

- Publication might disclose confidential information.
- The relative standard error of the estimate for days away from work, job transfer, or restriction cases for the industry exceeds a specified limit.
- The benchmark factor for the industry falls outside an acceptable range.

## Technical Notes

Data for an unpublished industry are included in the total for the aggregate industry level of which it is a part. Also, selected estimates are suppressed within publishable industries if the relative standard error for the estimate exceeds a specified limit.

For case and demographic characteristics, estimates are rounded to the nearest tenth and are suppressed if one of the following situations occurred:

- The number of cases is fewer than 15.
- The number of cases is 15 or greater and the relative standard error for the estimate exceeds a specified limit.

### Uses and Limitations of SOII Estimates

National and State policymakers use SOII estimates as an indicator of the magnitude of and trends in occupational safety and health problems. The Occupational Safety and Health Administration (OSHA) uses the statistics to help measure the effectiveness of its enforcement and outreach programs in reducing work-related injuries and illnesses. Both labor and management use SOII estimates in evaluating safety programs. Other users include insurance carriers involved in workers' compensation, industrial hygienists, manufacturers of safety equipment, researchers, and others concerned with job safety and health.

Many factors can influence counts and rates of injuries and illnesses in a given year. These include not only the year's injury and illness experience but also employers' understanding of which cases are work-related under current OSHA recordkeeping guidelines. The number of injuries and illnesses reported in a given year also can be affected by changes in the level of economic activity, working conditions and work practices, worker experience and training, and the number of hours worked.

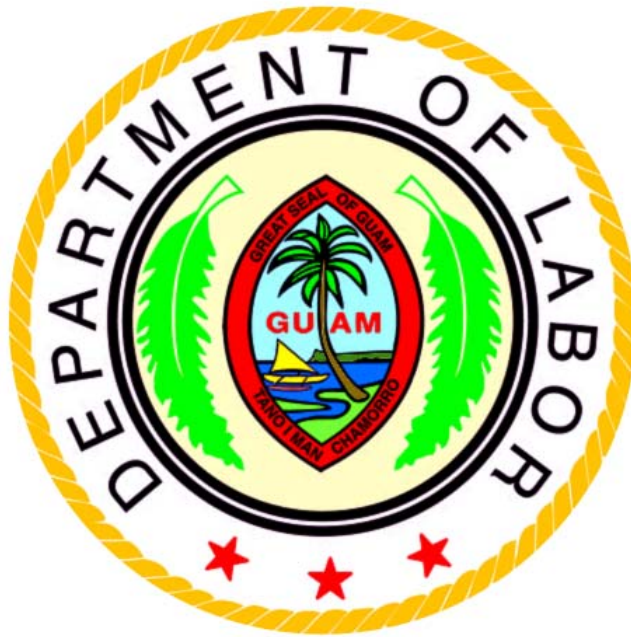
Each year, the SOII measures the number of new work-related illness cases which are recognized, diagnosed, and reported. But some conditions, such as long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported and are believed to be understated in the SOII. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (e.g., contact dermatitis or carpal tunnel syndrome).

SOII estimates published by the BLS are in the public domain and, with appropriate credit, may be used without explicit permission from the BLS.









*For more information, contact:*

**Department of Labor**  
414 W Soledad Ave  
4th Floor, GCIC Building  
Hagåtña, Guam 96910  
Tel: (671) 475-7053/62  
Fax: (671) 475-7060

**Website:** [www.guamdol.net](http://www.guamdol.net)