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Census of Fatal Occupational Injuries and Illnesses

Illinois, 2009

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FATAL OCCUPATIONAL INJURIES – 2009

Major Findings for the State of Illinois

- There were 158 injury-related occupational fatalities recorded in 2009 in the state of Illinois. This is a decrease from the previous year's total of 193 deaths. The majority of these fatalities were wage and salaried workers (75.3 percent) and males (92.4 percent).
- The industries with the greatest percentage of injury-related fatalities in 2009 were construction (17.1 percent), transportation and warehousing (14.6 percent); manufacturing (11.4 percent), and agriculture, forestry, fishing and hunting (8.9 percent).
- The occupations with the greatest percentage of injury-related fatalities were transportation and material moving occupations (23.4 percent), construction and extraction occupations (19.6 percent), management occupations (19.0 percent), and installation, maintenance and repair occupations (6.3 percent).
- For all industries, transportation incidents were the leading cause of death (29.1 percent), followed by assaults and violent acts (22.8 percent), contact with objects and equipment (20.3 percent), falls (16.5 percent), and exposure to harmful substances and environments (10.1 percent).
- Assaults and violent acts were the leading cause of fatalities in the following industries: other services, except public administration (87.5 percent), retail trade (70.0 percent), and accommodation and food service (60.0 percent). Contact with objects and equipment was the leading cause of fatalities for

wholesale trade (50.0 percent), administrative and support and waste management and remediation services (44.4 percent), and manufacturing (38.9 percent).

- Forty of the state's 102 counties recorded at least one injury-related fatality in 2009. Thirty-eight of the counties recorded between one and three deaths, while only two recorded four or more deaths. Cook County, the state's most populous county, tallied 55 fatalities, accounting for 34.8 percent of the state total.

INTRODUCTION

As a participating partner since 1993, the Illinois Department of Public Health, Division of Epidemiologic Studies, has been implementing the Census of Fatal Occupational Injuries (CFOI), partially supported by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). The purpose of the Illinois CFOI is to monitor, with verification, all fatal work injuries by collecting information on the circumstances of each fatality and on the characteristics of each decedent. This report presents data collected by Illinois's CFOI for calendar year 2009.

METHODS

Fatal Occupational Injuries

Data were obtained from multiple source documents. These documents included coroner and medical examiner reports, death certificates, National Transportation Safety Board reports, news media reports, Mine Safety and Health Administration

reports, motor vehicle accident reports, Occupational Safety and Health Administration (OSHA) reports, police reports, workers' compensation reports, and any other source that may substantiate a case.

In 2009, Illinois used 511 source documents to substantiate the 158 injury-related occupational fatalities contained in the system (Table 1). Of the various types of documents, death certificates substantiated 100.0 percent of the cases followed by news media reports (81.6 percent), *OSHA 36* reports (39.2 percent), *OSHA 01* reports (38.6 percent), and *OSHA 170* reports (31.0 percent) (Table 1).

For verification purposes, CFOI requires at least two sources be used. These sources are matched using the decedent's name, place of employment, time and date of fatality, and any other identifiers that may help establish a case and prevent duplication. In a few cases, verification is performed using one document source and a follow-up questionnaire to an informant or employer. Fatalities identified from only one source document are reviewed by BLS, in consultation with the state, to determine if the information is sufficient to warrant entry into the census. If a fatality does not meet BLS requirements, it is considered out-of-scope and is not entered into the system.

The definition of an in-scope case differs for injury-related fatalities and illness-related fatalities. For injury-related fatalities, the incident must have occurred in Illinois, the death must have occurred during the calendar year 2009, and must be work-related according to CFOI criteria. For illness-related fatalities, the death must have occurred in Illinois, must have occurred in 2009 and either the illness causing the fatality must be

work-related according to CFOI criteria or the illness causing the fatality must have occurred while the decedent was at work.

To meet CFOI criteria, an event or exposure resulting in a fatality via injury or illness must have occurred on the employer's premises while the person was there to work, off the employer's premises while the person was working, or the event or exposure causing the fatality was related to the person's work or status as an employee. Work is defined as duties, activities, or tasks that produce a product or result; that are done in exchange for money, goods, services, profit, or benefit; and that are legal activities in the United States.

In the case of a decedent being stricken by a heart attack, the fatality is captured in the registry and classified as an illness. Because there are many factors that contribute to a heart attack, often making it difficult to establish a clear relationship, heart attacks are covered separately in this report.

RESULTS

Fatal Occupational Injuries

When documenting the issue of fatal occupational injuries, CFOI collects data on both the demographics of the decedent and the circumstances surrounding the incident. In 2009, there were 158 fatal occupational injuries, down from the 2008 census (Figure 1). Several factors may have impacted the reduction in fatalities such as higher unemployment in construction, transportation, and manufacturing which are the three industries most represented in CFOI data. Another factor that may have affected

the lower CFOI count is the change in Illinois to an electronic death certificate reporting system. Other states have noticed that as they change to electronic death certificates there is a drop in the number of CFOI cases identified, but the cause for this is unknown. Finally, a reduction in the number of linked cases (when two or more individuals are killed in a single incident) also may have impacted the fatality numbers. Illinois typically has four or five linked cases per year; in 2009 there were no linked cases.

Of the total injury-related fatalities in 2009, 119 (75.3 percent) occurred among wage and salaried workers and 146 (92.4 percent) occurred among men (Table 2). The majority of the fatalities occurred among workers 45 to 54 years of age (23.4 percent) followed closely by those 35 to 44 years of age (21.5 percent) (Table 2). With respect to race, the majority of fatalities occurred among whites, non-Hispanic (78.5 percent), followed by blacks, non-Hispanic (7.6 percent) (Table 2). With respect to ethnicity, 10.1 percent of those fatally injured were of Hispanic origin (Table 2).

The construction industry incurred the most injury-related fatalities with 27 (17.1 percent of the total), followed by transportation and warehousing (14.6 percent), manufacturing (11.4 percent), and agriculture, forestry, fishing and hunting (8.9 percent) (Table 3).

The occupations suffering the most injury-related fatalities were transportation and material moving occupations with 37 (23.4 percent of the total), followed by construction and extraction occupations with 31 (19.6 percent), management occupations with 30 (19.0 percent), and installation, maintenance, and repair occupations with 10 (6.3 percent). Also of note were sales and related occupations with

nine fatalities (5.7 percent), and building and ground cleaning and maintenance occupations with eight (5.1 percent) (Table 4). Prior to 2003, farm owners were not classified as managers. This change in definition is the reason management occupations are recording more fatalities compared to previous years.

The event or exposure leading to the injury-related fatality is another important variable in describing work-related deaths. In 2009, the category of transportation incidents was the leading cause of all injury-related occupational fatalities with 46 (29.1 percent), followed by assaults and violent acts with 36 (22.8 percent), contact with objects and equipment with 32 (20.3 percent), falls with 26 (16.5 percent), and finally, exposure to harmful substances or environments with 16 (10.1 percent) (Table 5).

When cross tabulating the event or exposure that caused the injury-related fatality with the industry sector in which the fatality occurred, certain industries are shown to be more susceptible to certain events. Within industry sectors, transportation incidents were the leading cause of death for transportation and warehousing (52.2 percent), and for agriculture, forestry, fishing and hunting (50.0 percent). Violent acts and assaults were the leading event for deaths in other services, except public administration (87.5 percent), retail trade (70.0 percent), and accommodation and food service (60.0 percent). Contact with objects and equipment was the leading cause for the wholesale trade (50.0 percent), and administrative and support and waste management and remediation services (44.4 percent). Falls were the leading cause in the manufacturing industry (38.9 percent) (Table 6).

Fatal Occupational Illnesses

Prior to 2008, CFOI collected information on illness-related occupational fatalities through a manual review of death certificates. Staff reviewed every death certificate from the Department's Division of Vital Records looking for specific combinations of cause of death or underlying cause of death and occupations or industries. When the cause of death and occupation or industry was consistent with known exposure to cancer-causing or other adverse health effect agents (as determined through scientific publications), CFOI staff ascertained the death to be caused by the occupational exposure and included it in the census (e.g., a decedent with an occupation of coal miner and an industry of coal mine with a cause of death listed as coal workers pneumoconiosis would be included). These occupational illnesses were not substantiated by secondary source documents.

In 2008, the Division of Vital Records implemented an electronic death certificate registration system and phased out the use of paper death certificates. The electronic death registration system did not have the capability of extracting the occupation/industry/cause of death combinations. The Division of Epidemiologic Studies requested read-only access to the database to determine if it was feasible to ascertain fatal occupational illnesses by manual review of the electronic file or for a program that could be used to determine specific combinations of cause of death and occupation/industry. The Division of Vital Records was unable to grant either request but did provide limited access to the system for death certificate review when an occupational fatality had already been identified.

Because of the implementation of the electronic death registration system, CFOI staff was only able to collect information on heart attacks that occurred while the decedent was at work that were identified through source documents other than the death certificate (Table 8). No other illness-related occupational fatalities were collected. Some advantages to the electronic death certificate registration system are that individuals can be identified even without the name if certain facts are known. Also, the Division of Vital Records is able to run a search that will identify all death certificates that had the "Injury at work" box checked "yes," leaving the task of identifying the false positives, to match against what has been found using other sources. The limitation to the electronic death registration system is CFOI staff cannot count the number of individuals who have died from diseases that are known to be prevalent among certain occupations or industries.

TABLES and FIGURES

Table 1. Distribution of Injury Source Documents by Type, Illinois, 2009

Source Document	Number	Percentage of Total Documents	Percentage of Total Fatalities
Total	511		
Death certificate	161	31.5	100.0
News media report	129	25.2	81.6
<i>OSHA 36</i> ²	62	12.1	39.2
<i>OSHA 01</i> ³	61	11.9	38.6
<i>OSHA 170</i> ⁴	49	9.6	31.0
Other ⁵	25	4.9	15.8
State workers' compensation	15	2.9	9.5
Transfer from other states	5	<1.0	3.2
MSHA report	2	<1.0	1.3
Coroner's/M.E.'s report	1	<1.0	<1.0
NTSB report	1	<1.0	<1.0

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

¹Includes death certificates for cases determined to be out of scope

²*OSHA 36* is a pre-inspection form used to record data pertaining to fatality/catastrophe that occurs in an establishment under OSHA's or a state OSHA's jurisdiction. It is completed at the time the event is initially reported to OSHA. Its purpose is to provide OSHA with enough information on the event to determine whether to investigate.

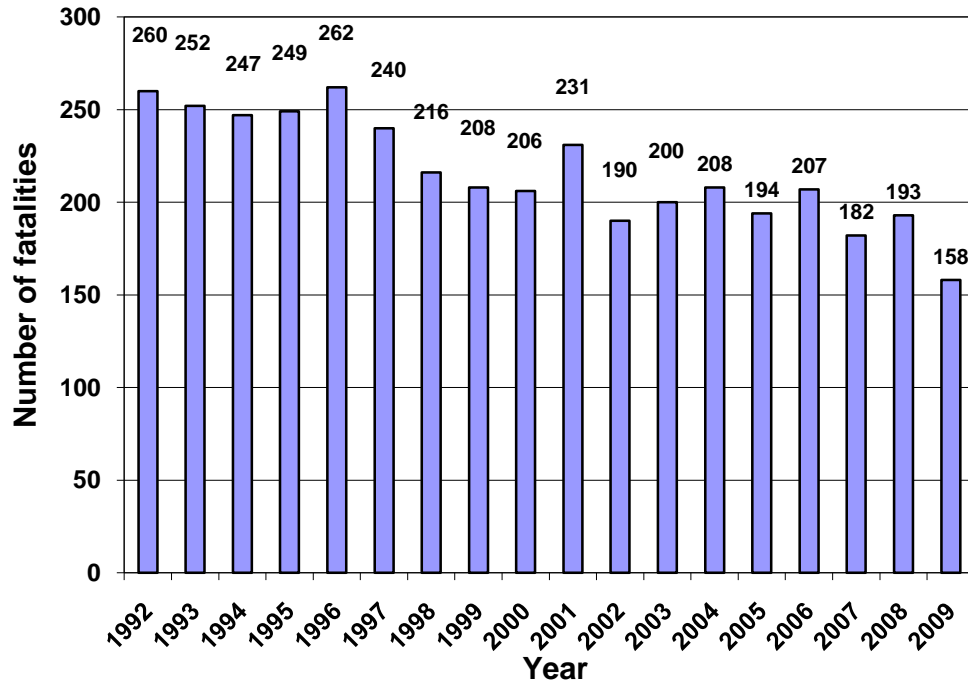
³*OSHA 01* is used to record data related to the inspection of a workplace. It also is used to record whether an anticipatory warrant/subpoena was served, denial of entry information, and information on cases that are terminated before becoming inspections.

⁴*OSHA 170* is used to record a summary of the results of investigations of all events involving fatalities, catastrophes, amputations, hospitalizations of two or more days, significant publicity, or property damage.

NOTE: Numbers and percentages may not add to totals due to exclusion of categories that do not meet publication criteria.

⁵Includes, but is not limited to motor vehicle accident reports, the Coroners' Case Fatality form, the Illinois Police and Fire Motorcycle Association Memorial Web page, the Mine Safety and Health Administration Fatal Investigation Report, and the Officer Down Memorial Page Inc.

Figure 1. Number of Fatal Occupational Injuries, Illinois, 1992-2009



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

Table 2. Distribution of Fatal Occupational Injuries by Selected Socio-Demographic Characteristics, Illinois, 2009

	Number	Percentage
Total	158	100.0
Employee Status		
Wage and salary workers	119	75.3
Self-employed ¹	39	24.7
Gender		
Male	146	92.4
Female	12	7.6
Age		
<20	0	0.0
20-24	8	5.1
25-34	20	12.7
35-44	34	21.5
45-54	37	23.4
55-64	29	18.4
65 years and older	28	17.7
Race		
White	124	78.5
Black	12	7.6
Hispanic Origin		
Hispanic ²	16	10.1
Non-Hispanic	142	89.9

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

¹Includes paid and unpaid family workers and may include owners of incorporated businesses or members of partnerships.

²Persons identified as Hispanic may be of any race.

NOTE: Numbers and percentages may not add to totals due to exclusion of categories that do not meet publication criteria. (Categories with less than three cases do not meet publication criteria.)

Table 3. Distribution of Fatal Occupational Injuries by Industry¹, Illinois, 2009

	Number	Percentage
Total	158	100.0
Construction	27	17.1
Specialty trade contractors	21	13.3
Heavy and civil engineering construction	4	2.5
Transportation and warehousing	23	14.6
Truck transportation	11	7.0
Support activities for transportation	5	3.2
Transit and ground passenger transportation	3	1.9
Couriers and messengers	3	1.9
Manufacturing	18	11.4
Nonmetallic mineral product manufacturing	3	1.9
Machinery manufacturing	3	1.9
Agriculture, forestry, fishing and hunting	14	8.9
Crop production	14	8.9
Retail trade	10	6.3
Motor vehicle and parts dealers	5	3.2
Administrative and support and waste management and remediation services	9	5.7
Administrative and support services	6	3.8
Waste management and remediation services	3	1.9
Wholesale trade	8	5.1
Merchant wholesalers, durable goods	5	3.2
Merchant wholesalers, nondurable goods	3	1.9
Other services, except public administration	8	5.1
Religious, grantmaking, civic, professional, and similar organizations	4	2.5
Accommodation and food services	5	3.2
Food services and drinking places	4	2.5
Real estate and rental and leasing	4	2.5
Real estate	4	2.5
Educational services	4	2.5
Health care and social assistance	4	2.5
Ambulatory health care services	3	1.9
Professional, scientific, and technical services	3	1.9
Mining	3	1.9
Public administration	3	1.9

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

¹North American Industry Classification System, 2002 edition.

NOTE: Numbers and percentages may not add to totals due to exclusion of categories that do not meet publication criteria. (Categories with less than three cases do not meet publication criteria.)

Table 4. Distribution of Fatal Occupational Injuries by Occupation¹, Illinois, 2009

	Number	Percentage
Total	158	100.0
Transportation and material moving occupations	37	23.4
Driver/sales workers and truck drivers	17	10.8
Laborers and material movers, hand	13	8.2
Taxi drivers and chauffeurs	4	2.5
Construction and extraction occupations	31	19.6
Construction laborers	11	7.0
Carpenters	3	1.9
First-line supervisors/managers of construction trades and extraction workers	3	1.9
Management occupations	30	19.0
Agricultural managers	13	8.2
Miscellaneous managers	5	3.2
Property, real estate, and community association managers	4	2.5
Installation, maintenance, and repair occupations	10	6.3
Industrial machinery installation, repair and maintenance workers	4	2.5
Sales and related occupations	9	5.7
First-line supervisors/managers, sales workers	5	3.2
Building and ground cleaning and maintenance occupations	8	5.1
Building cleaning workers	3	1.9
Grounds maintenance worker	3	1.9
Production occupations	7	4.4
Protective service occupations	6	3.8
Security guards and gaming surveillance officers	3	1.9
Architecture and engineering occupations	4	2.5
Personal care and service occupations	3	1.9
Office and administrative support occupations	3	1.9

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

¹Standard Occupational Classification Manual, 2000 edition.

NOTE: Numbers and percentages may not add to totals due to exclusion of categories that do not meet publication criteria. (Categories with less than three cases do not meet publication criteria.)

Table 5. Distribution of Fatal Occupational Injuries by Event or Exposure¹, Illinois, 2009

	Number	Percentage
Transportation incidents	46	29.1
Highway accidents	17	10.8
Pedestrian struck by vehicle, mobile equipment	14	8.9
Non-highway accident, except rail, air and water	11	7.0
Assaults and violent acts	36	22.8
Assaults and violent acts by persons	20	12.7
Self-inflicted injury	16	10.1
Contact with objects and equipment	32	20.3
Struck by object or equipment	22	13.9
Caught in or compressed by equipment or objects	8	5.1
Falls	26	16.5
Fall on same level	8	5.1
Fall to lower level	18	11.4
<i>Fall from ladder</i>	5	3.2
<i>Fall from scaffold, staging</i>	4	2.5
<i>Fall from roof</i>	3	1.9
Exposure to harmful substances or environments	16	10.1
Oxygen deficiency	8	5.1
Exposure to caustic, noxious or allergenic substances	5	3.2
Contact with electric current	3	1.9
TOTAL	158	100.0

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

¹Based on the 1992 BLS Occupational Injury and Illness Classification Structures

NOTE: Numbers and percentages may not add to totals due to exclusion of categories that do not meet publication criteria. (Categories with less than three cases do not meet publication criteria.)

Industry	Event or Exposure												
	Total fatalities	Transportation		Violent acts and assaults		Contact with objects and equipment		Falls		Exposure to harmful substances		Fires and explosions	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Transportation and warehousing	23	12	52.2	3	13.0	5	21.7	--	--	--	--	--	--
Agriculture, forestry, fishing and hunting	14	7	50.0	--	--	4	28.6	--	--	--	--	--	--
Construction	27	5	18.5	4	14.8	6	22.2	7	25.9	5	18.5	--	--
Manufacturing	18	3	16.7	--	--	7	38.9	7	38.9	--	--	--	--
Retail trade	10	--	--	7	70.0	--	--	--	--	--	--	--	--
Other services, except public administration	8	--	--	7	87.5	--	--	--	--	--	--	--	--
Wholesale trade	8	3	37.5	--	--	4	50.0	--	--	--	--	--	--
Administrative and support and waste management and remediation services	9	--	--	--	--	4	44.4	--	--	--	--	--	--
Accommodation and food service	5	--	--	3	60.0	--	--	--	--	--	--	--	--
Public administration	3	--	--	--	--	--	--	--	--	--	--	--	--
Total	125	30	24.0	24	19.2	30	24.0	14	11.2	5	4.0	--	--

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

NOTE: Numbers and percentages may not add to totals due to exclusion of categories that do not meet publication criteria. (Categories with less than three cases do not meet publication criteria.)

Dashes indicate categories with less than three cases.

Table 7. Number of Fatal Occupational Injuries by County, Illinois, 2009

County	Number
Bureau	3
Champaign	3
Cook	55
DuPage	15
Grundy	3
Madison	3
McLean	3
Pike	3
Winnebago	3

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

NOTE: Counties recording two or fewer fatalities do not meet publication criteria.

Table 8. Number of Fatal Heart Attacks by Industry and Occupation, Illinois, 2009		
Industry	Number	Percentage
Government	9	33.3
Transportation and public utilities	6	22.2
Services	6	22.2
Retail trade and wholesale trade	3	11.1
Total	27	88.9
Occupation		
Operators, fabricators and laborers	10	37.0
Managerial and professional	7	25.9
Services	6	22.2
Technical, sales and administrative support	3	11.1
Total	27	96.3

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with the Illinois Department of Public Health.

NOTE: Numbers and percentages may not add to totals due to exclusion of categories that do not meet publication criteria. (Categories with less than three cases do not meet publication criteria).