

## Fatal Occupational Injuries to Members of the Resident Military, 1992-2003

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*Fatal work injuries among members of the military stationed in the United States accounted for 2 percent of all fatal work injuries in the Nation over the period from 1992 to 2003. Compared with other fatally injured workers, those in the resident military were more likely to be male, young, and non-Hispanic white, and they were more likely to be fatally injured in aircraft incidents and suicides.*

From 1992 to 2003, 1,285 members of the resident military (members of the armed forces currently stationed in the United States) were killed while at work. (The 1,285 figure excludes the fatalities resulting from the September 11th terrorist attacks.) The resident military fatalities accounted for 2 percent of all fatal work injuries that occurred over the 12-year period. The annual figures of fatal occupational injuries incurred by members of the resident military ranged from 170 fatalities in 1992 to a series low of 62 in 2003. Members of the resident military tended to be fatally injured in certain events--such as aircraft incidents and suicides--much more frequently than did workers in general. These data are from the BLS [Census of Fatal Occupational Injuries \(CFOI\)](#).<sup>1</sup>

To be included in the BLS Census of Fatal Occupational Injuries (CFOI), the fatal work injury must occur in the United States,<sup>2</sup> and the decedent must be considered to be in work status<sup>3</sup> at the time of the event. Fatal work injuries incurred by members of the armed forces that occur outside of the United States are considered out of CFOI's scope.

### Demographic Characteristics Of The Decedents

Over the 1992-2003 period, more than 96 percent of fatally injured members of the resident military<sup>4</sup> were men. (See table 1.) Among all fatally injured workers, 92 percent were men. In addition, male members of the resident military are more likely to be fatally injured while working than their percentage of the resident military suggests. Although 85 percent of the resident military as a whole consisted of men in 2003, they accounted for 97 percent of the work-related fatalities in the resident military that year.

Members of the resident military who were killed at work tended to be younger than fatally injured workers in general. While 74 percent of the members of the resident military who incurred a fatal work injury were under age 35, only 32 percent of all fatally injured workers were under age 35. This trend is also indicative of the age distribution in employment for both groups. While 77 percent of the members of the resident military were aged 16 to 34 in 2003, only 36 percent of all workers were in that age group.<sup>5</sup>

Most of the fatally injured members of the resident military were non-Hispanic whites. Approximately 77 percent of military workplace fatalities were incurred by a non-Hispanic white member of the resident military. For all workplace fatalities, 73 percent of the decedents were non-Hispanic whites. In the resident military, 11 percent of the decedents were black, 7 percent were Hispanic, and 3 percent were Asian, Native Hawaiian or Pacific Islander. Among the active-duty military employment in the United States in 2003 in which the race or ethnic origin was known, non-Hispanic white members constituted 67 percent of the active-duty military, black members constituted 19 percent, Hispanic members constituted 9 percent, and Asian, Native Hawaiian or Pacific Islander members constituted 4 percent.

### Event Or Exposure

Most members of the resident military who suffered an occupational fatality were killed in a transportation incident (70 percent). Of these 898 transportation incidents, almost two-thirds were aircraft incidents. Another one-fifth of the transportation incidents were highway incidents--most prominently, jackknifed or overturned vehicles that were not involved in a collision.

A little less than 12 percent of the occupational fatalities incurred by members of the resident military over the 1992-2003 period were due to assaults and violent acts. Of the 148 assaults and violent acts, 73 percent were suicides<sup>6</sup> and 26 percent were homicides. While suicides accounted for 8 percent of all workplace fatalities among members of the resident military from 1992 to 2003, suicides accounted for only 4 percent of all workplace fatalities during that period. Other notable events for fatally injured members of the resident military included being struck by a flying object<sup>7</sup> (3 percent of all workplace fatalities among members of the resident military), falls to a lower level (2 percent), fires and explosions (2 percent), and drowning or submersion (2 percent).

### Location

Approximately 22 percent of the fatal work injuries incurred by members of the resident military occurred in California. (See table 2.) Slightly less than 10 percent of all fatal work injuries occurred in California. Other States with a large number of fatal work injuries among members of the resident military include North Carolina (11 percent of all workplace fatalities among members of the resident military, compared with 3 percent of all workplace fatalities), Texas (6 percent, compared with 8 percent), Virginia (6 percent, compared with 3 percent), and Georgia (6 percent, compared with 4 percent). Not surprisingly, there is a large military presence in each of these States. Military bases in California were the duty station for 12 percent of the resident armed forces in 2003; 11 percent were stationed in Texas, 9 percent in North Carolina, 9 percent in Virginia, and 6 percent in Georgia.<sup>8</sup>

### Fatality Rates

The fatality rate<sup>9</sup> for members of the resident military usually exceeds the fatality rate for all workers by a sizable margin. For example, the fatality rate for the resident military in 1998 was 7.2 per 100,000 workers, while the fatality rate for all workers in that year was 4.5 per 100,000 workers. This year is fairly representative of the relationship of the fatality rates during each year of the study period. The fatality rate for members of the resident military has ranged from 11 in 1995 to 5.2 in 2003.<sup>10</sup> The fatality rate for all workers was 5 in the early- to mid-1990s and was 4.0 in 2003. (See table 3.)

### Aircraft Incidents

While aircraft incidents were responsible for only 5 percent of workplace fatalities to all workers, they were responsible for 46 percent of all workplace fatalities among members of the resident military. Fatal aircraft incidents involving members of the resident military peaked in 1992 (92 fatalities) and hit a series low in 1999 (25). Approximately 63 percent of these fatalities occurred in the first half of the 12-year study period, and the remainder occurred between 1998 and 2003.

Of these 588 incidents, the primary vehicle in 45 percent of the cases was a powered rotary wing aircraft, most commonly a helicopter,<sup>11</sup> and 44 percent of the cases had a powered fixed wing aircraft, most commonly a jet, as the primary vehicle. In 57 percent of the cases in which the decedent was performing an aviation-specific activity,<sup>12</sup> the decedent was riding in the aircraft, while in 38 percent of the cases the decedent was flying or operating the aircraft. In addition, 5 percent of the fatalities occurred when a decedent was boarding or alighting a vehicle at the time of the fatal incident. Aircraft incidents involving members of the resident military were most likely to occur in California (17 percent of all aircraft incidents among members of the resident military) and in North Carolina (15 percent).

### Multiple-fatality Incidents

Fatally injured members of the resident military were frequently killed in incidents that resulted in the death of more than one worker. In a recent analysis using BLS data to examine multiple-fatality incidents in the United States from 1995 to 1999, authors Dino Drudi and Mark Zak write, "Multiple-fatality incidents are common in the military. The 56 multiple-fatality incidents involving military personnel account for 223 fatalities, constituting 5 percent of multiple-fatality incidents and 8 percent of associated fatalities. Military occupations account for just under 1 percent of employment and just under 2 percent of overall work fatalities."<sup>13</sup> The 223 military fatalities that resulted from multiple-fatality incidents from 1995 to 1999 represented 42 percent of all military fatalities during that period. Drudi and Zak note that during that period 10 percent of all fatal occupational injuries occurred in an incident that took the life of two or more workers.<sup>14</sup> They also found that 87 percent

(194) of the fatal work injuries incurred by members of the resident military that resulted from multiple-fatality incidents involved an aircraft.

In the terrorist attacks of September 11, 2001, 54 members of the resident military were killed while at work, with all of the fatalities occurring in Virginia.<sup>15</sup> Although 74 percent of all members of the resident military who incurred a fatal occupational injury over the 1992-2003 period were under the age of 35, only 41 percent of the members of the resident military who incurred a fatal occupational injury as a result of the September 11th attacks were under the age of 35.

Fatal work injuries among members of the resident military accounted for 2 percent of all fatal work injuries in the United States from 1992 to 2003. Compared with all fatally injured workers, fatally injured members of the resident military were more likely to be male, young, and non-Hispanic white. Also, members of the resident military were more likely to be fatally injured in aircraft incidents and suicides than were fatally injured workers in general. Finally, fatally injured members of the resident military were often killed in multiple-fatality incidents and faced a higher fatality rate than workers in general.

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## Notes

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**1** For more information on the BLS Census of Fatal Occupational Injuries (CFOI), visit their website at <http://www.bls.gov/iif/oshcfoi1.htm>.

**2** This definition includes a provision for cases that occur in the territorial waters of the United States.

**3** A work relationship exists if an event or exposure results in fatal injury or illness to a person under the following conditions: (1) ON the *employer's premises* and the person was there to *work*; or (2) OFF the *employer's premises* and the person was there to *work*, or the event or exposure was related to the person's work status as an employee. The *employer's premises* include buildings, grounds, parking lots, and other facilities and property used in the conduct of business. *Work* is defined as legal duties, activities, or tasks that produce a product as a result; and that are done in exchange for money, goods, services, profit, or benefit.

**4** For the purposes of CFOI, fatally injured members of the resident military, regardless of occupation, are deemed to have been employed in "military occupations." For example, a fatally injured member of the resident military who was a pilot would be shown in CFOI as having died while working in a military occupation, not as a pilot.

**5** Employment for all workers was taken from the Current Population Survey (CPS) and the U.S. Department of Defense. Since the CPS covers only workers aged 16 years and over, this comparison was done for the 16- to 34-year age group rather than for those under age 35.

**6** For more information on workplace suicides, see Stephen M. Pegula, "An Analysis of Workplace Suicides, 1992-2001," *Compensation and Working Conditions Online*, January 2004; on the Internet at <http://www.bls.gov/opub/cwc/sh20040126ar01p1.htm>.

**7** Most of these fatalities are accidental gunshot wounds. For more information on occupational fatalities involving accidental gunshot wounds, see Stephen M. Pegula, "Fatal Occupational Injuries from Accidental Gunshot Wounds, 1993-2002," *Compensation and Working Conditions Online*, September 2004; on the Internet at <http://www.bls.gov/opub/cwc/sh20040903ar01p1.htm>.

**8** For more data on military personnel by State in 2003, see "Atlas/Data Abstract for the United States and Selected Areas (L03): Fiscal Year 2003: All States and US Total" (U.S. Department of Defense, Directorate for Information Operations and Reports, Statistical Information Analysis Division); on the Internet at [http://web1.whs.osd.mil/mmid/L03/fy03/ATLAS\\_2003.pdf](http://web1.whs.osd.mil/mmid/L03/fy03/ATLAS_2003.pdf).

**9** The fatality rate is the number of fatal work injuries per 100,000 workers employed. It is calculated using this equation: fatality rate = (N/W) x 100,000, where N is the number of fatal work injuries and W is the number of workers employed. Fatality rates are calculated by CFOI for those aged 16 years and older. Employment data are taken from the Current Population Survey (CPS) and the U.S. Department of Defense.

**10** Rates in this section are CFOI published rates. From 1992 to 1995, CFOI published only whole number fatality rate data. From 1996 to the present, CFOI has published fatality rate data to one decimal place. These published rates were calculated using preliminary CFOI data.

**11** For more information on helicopter-related workplace fatalities, see Stephen M. Pegula, "Fatal Occupational Injuries Involving Helicopters, 1995-2002," *Compensation and Working Conditions Online*, October 2004; on the Internet at <http://www.bls.gov/opub/cwc/sh20041022ar01p1.htm>.

**12** An aviation-specific worker activity code was available in 533, or 91 percent, of the 588 cases.

13 Dino Drudi and Mark Zak, "Work-related multiple-fatality incidents," *Monthly Labor Review*, October 2004, p. 35; on the Internet at <http://www.bls.gov/opub/mlr/2004/10/art2full.pdf>.

14 *Ibid.* p. 20.

15 For more information on fatal occupational injuries that resulted from the September 11th terrorist attacks, see the news release *National Census of Fatal Occupational Injuries in 2001*, USDL 02-541 (U.S. Department of Labor), September 25, 2002; available on the Internet at <http://www.bls.gov/iif/oshwc/cfoi/cfnr0008.pdf>.

**Table 1. Fatal Occupational Injuries to Members of the Resident Military, 1992–2003**

Characteristics	Fatalities
<b>Total</b>	1,285
Sex	
<b>Men</b>	1,234
<b>Women</b>	51
Age	
<b>18 to 19 years</b>	97
<b>20 to 24 years</b>	378
<b>25 to 34 years</b>	479
<b>35 to 44 years</b>	225
<b>45 to 54 years</b>	63
<b>55 to 64 years</b>	30
<b>65 and over</b>	9
Race or ethnic origin (1)	
<b>White</b>	985
<b>Black or African American</b>	138
<b>Hispanic or Latino</b>	96
<b>Asian, Native Hawaiian or Pacific Islander</b>	35
Event or Exposure	
<b>Transportation incidents</b>	898
<b>Highway</b>	186
<b>Collision between vehicles, mobile equipment</b>	65
<b>Noncollision</b>	91
<b>Jack-knifed or overturned -- no collision</b>	81
<b>Nonhighway</b>	60
<b>Noncollision accident</b>	49
<b>Overtuned</b>	42
<b>Aircraft</b>	588
<b>Worker struck by vehicle or mobile equipment</b>	34

Footnotes:

(1) In this study, the racial categories "White" and "Black or African American" do not include persons from the ethnic category "Hispanic or Latino." Hispanic or Latino persons may identify themselves racially as white, black, or another race category.

NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Totals for major categories may include subcategories not shown separately.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries

Characteristics	Fatalities
Water vehicle	18
Assaults and violent acts	148
Homicides	39
Suicide, self-inflicted injury	108
Contact with objects or equipment	96
Struck by object	74
Struck by flying object	39
Struck by discharged object or substance	35
Falls	39
Fall to lower level	25
Exposure to harmful substances or environments	73
Contact with electric current	17
Oxygen deficiency	23
Drowning, submersion	22
Fires and explosions	23
Explosions	21
Footnotes: (1) In this study, the racial categories "White" and "Black or African American" do not include persons from the ethnic category "Hispanic or Latino." Hispanic or Latino persons may identify themselves racially as white, black, or another race category.	
NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Totals for major categories may include subcategories not shown separately.	
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries	

**Table 2. Fatal Occupational Injuries to Members of the Resident Military by State, 1992–2003**

State	Fatalities
California	289
North Carolina	144
Texas	78
Virginia	78
Georgia	74
Florida	52
Alaska	49
Arizona	41
Kentucky	39
Colorado	34
NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks.	
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries	

**Table 3. Fatality Rates<sup>(1)</sup> of Members of the Resident Military and of All Workers, 1992–2003**

Year	Fatality rate for members of the resident military <sup>(2)</sup>	Fatality rate for all workers
1992	10	5
1993	8	5
1994	8	5
1995	11	5
1996	9.5	4.8
1997	7.5	4.7
1998	7.2	4.5
1999	6.8	4.5
2000	7.4	4.3
2001	9.3	4.3
2002	7.0	4.0
2003	5.2	4.0

Footnotes:

(1) The fatality rate is the number of fatal work injuries per 100,000 workers employed. Employment data are taken from the Current Population Survey (CPS) and the U.S. Department of Defense.

(2) All fatality rates are CFOI published rates. CFOI published only whole number rates prior to 1996.

NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries