

Number of occupational deaths remained essentially unchanged in 1981

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Bureau of Labor Statistics survey results show that the number of work-related deaths in private-sector establishments employing 11 or more workers, was 4,370 in 1981, compared with 4,400 in 1980 (table 1).¹ The corresponding fatality rate was essentially the same—7.6 per 100,000 full-time workers in 1981 and 7.7 in 1980. (Overall the number of employees on the job and the hours they worked changed only slightly between 1980 and 1981.)

Employers participating in the Annual Survey of Occupational Injuries and Illnesses were asked to supply specific information about all deaths caused by hazards in the work environment, that is, the object or event most closely associated with the circumstances of the fatality. Estimates of the percentage of fatalities by cause represent the 2-year average for the 1980 and 1981 surveys. Percentages were calculated for the 2 years combined rather than for each year separately as large sampling errors at the industry division level preclude precise comparisons based on year-to-year changes.

The 4,370 fatalities represent all deaths reported resulting from a job-related injury or illness in 1981, regardless of the length of time between the injury and death or the length of illness resulting in death. Of these, about 460 were related to illness.

The percentage of fatalities in wholesale and retail trade increased from 13 percent of the total in 1980 to 17 percent in 1981. The construction industry accounted for 18 percent of fatalities, which continued to be more than three times the industry's share of employment (5 percent), and the mining industry had 11 percent of the fatalities—about six times its share of employment (2 percent). Manufacturing continued to have the largest number of fatalities among the industry divisions, but the percentage of the total dropped from 25 in 1980 to 23 in 1981.

Analysis by cause

Four major causes of death were over-the-road motor vehicles, falls, heart attacks, and industrial vehicles or equipment, accounting for more than 60 percent of all cases (table 2).

Accidents with over-the-road motor vehicles caused about 30 percent of the deaths, about one-third occurring in transportation and public utilities industries, which had only 7 percent of total employment (table 3).

Falls contributed to about 11 percent of the deaths. About half occurred in the construction industry, which had only 5 percent of total employment.

Heart attacks, which were about 11 percent of the total, occurred at a slightly higher frequency in the construction and transportation and public utilities industries when compared with employment percentages.

Accidents involving industrial vehicles or equipment caused about 10 percent of the fatal cases; nearly one-third occurred in construction. About one-sixth of these fatalities occurred in the oil and gas extraction industry, which is unusually high, because this industry had less than 1 percent of total employment.

About 6 percent of the deaths were by electrocutions; nearly one-third occurred in construction. About three-fifths of the gunshot fatalities took place in wholesale and retail trade, an industry with 24 percent of total private-sector employment. One-fifth of the deaths from aircraft crashes were in the oil and gas extraction sector of the mining industry.

Manufacturing, which had 31 percent of employment, incurred 56 percent of total deaths caused by fire, 83 percent of deaths caused by plant machinery operation, 46 percent of deaths caused by explosions, and 57 percent of deaths caused by gas inhalation.

Analysis by industry

Agriculture, forestry, and fishing. Nearly half of all deaths in this industry were caused by over-the-road motor vehicles (23 percent) and industrial types of vehicles or equipment (25 percent). Heart attacks were the cause of death in 14 percent of the cases and electrocutions in 12 percent.

Mining—oil and gas extraction only. Accidents with over-the-road motor vehicles and equipment combined accounted for nearly 3 of every 5 deaths in this segment of the mining industry. Falls and aircraft crashes each contributed 9 percent of the fatalities.

Construction. As in previous years, falls were the major cause of death in the construction industry, accounting for 29 percent of all cases. Accidents involving over-the-road motor vehicles caused 15 percent of all fatalities and industrial vehicles or equipment caused 16 percent. Ten percent of all cases were due to electrocution.

Manufacturing. Accidents attributable to over-the-road motor vehicles were the major cause of death in this industry accounting for 1 of every 5 cases. Heart attacks, industrial vehicles or equipment, falls, and plant machinery operations accounted for 40 percent of all cases.

Transportation and public utilities. Over half of all cases were attributable to accidents involving over-the-road

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Table 1. Occupational injury and illness fatalities and employment for employers with 11 employees or more by industry, 1980 and 1981

Industry division	Annual average employment ¹				Fatalities			
	1980		1981		1980		1981	
	Number (thousands)	Percent	Number (thousands)	Percent	Number	Percent	Number	Percent
Private sector	62,263	100	62,981	100	4,400	100	4,370	100
Agriculture, forestry, and fishing	806	1	845	1	140	3	130	3
Mining	949	2	1,047	2	460	10	500	11
Construction	3,103	5	2,982	5	830	19	800	18
Manufacturing	19,616	32	19,507	31	1,080	25	990	23
Transportation and public utilities	4,667	7	4,677	7	810	18	750	17
Wholesale and retail trade	15,293	24	15,475	24	580	13	730	17
Finance, insurance, and real estate	4,071	7	4,183	7	150	3	120	3
Services	13,758	22	14,265	23	350	8	350	8

¹ Annual average employment for nonagricultural industries is based on the employment and earnings survey conducted by BLS, in cooperation with State agencies. The employment estimate for the services division is adjusted to exclude the nonfarm portion of agricultural services and nonclassifiable establishments. Employment estimates have been adjusted based on County Business Patterns to exclude establishments with fewer than 11 employees. Annual average employment for the agriculture, forestry, and fishing division is a com-

posite of data from State unemployment insurance programs and an average quarterly estimate of hired farmworkers engaged in agricultural production from the Department of Agriculture. The estimate is adjusted to exclude employment on farms with fewer than 11 employees.

NOTE: Because of rounding, components may not add to totals.

motor vehicles. Heart attacks and electrocutions contributed 9 percent each.

Wholesale and retail trade. The major cause of death in this industry was accidents involving over-the-road motor vehicles (33 percent). Gunshot injuries (mainly as a result of robberies) and heart attacks each contributed 16 percent of the fatalities.

Finance, insurance, and real estate. Nearly three of every 4 cases in this industry involved either over-the-road motor vehicle accidents (49 percent) or heart attacks (24 percent).

Services. Accidents involving over-the-road motor vehicles were the cause of 37 percent of all fatalities in this industry and heart attacks were the cause of 15 percent. Twelve percent of all cases were caused by objects or events not specified in the table. These come under "all other" causes and include, for example, contact with toxic substances, drowning, and freezing or extreme cold.

Background of survey

The Annual Survey of Occupational Injuries and Illnesses is a Federal and State program in which reports are received and processed by State agencies par-

Table 2. Distribution by industry division: causes of fatalities resulting from occupational injury and illness in units with 11 employees or more, private sector, 1980 and 1981¹

[In percent]

Cause ²	Total ³	Agriculture, forestry, and fishing	Mining -- oil and gas extraction only	Construction	Manufacturing	Transportation and public utilities ⁴	Wholesale and retail trade	Finance, insurance, and real estate	Services
Total	100	100	100	100	100	100	100	100	100
Over-the-road motor vehicles	30	23	29	15	21	55	33	49	37
Falls	11	5	9	29	10	5	4	3	9
Heart attacks	11	14	4	7	10	9	16	24	15
Industrial vehicles or equipment	10	25	29	16	10	4	2	(⁵)	8
Struck by objects other than vehicles or equipment	7	1	5	8	8	3	12	0	1
Electrocutions	6	12	6	10	6	9	2	0	3
Gunshots	4	4	0	(⁵)	2	2	16	(⁵)	5
Aircraft crashes	3	4	9	2	2	3	1	5	4
Caught in, under, or between objects other than vehicles or equipment	3	1	1	4	3	(⁵)	6	16	1
Fires	3	3	3	1	6	3	1	2	2
Plant machinery operations	3	1	(⁵)	(⁵)	10	(⁵)	1	0	1
Explosions	2	1	1	3	4	2	1	0	(⁵)
Gas inhalations	2	1	(⁵)	1	4	1	1	0	1
All other	4	5	4	3	4	4	3	(⁵)	12

¹ It is impossible to estimate year-to-year changes precisely because at the industry division level sampling errors are large. Therefore, the results are for both years rather than a comparison between them.

² Cause is defined as the object or event associated with the fatality.

³ Excludes coal, metal and nonmetal mining, and railroads, for which data are not available.

⁴ Excludes railroads.

⁵ Less than 1 percent.

NOTE: Because of rounding, percentages may not add to 100.

Table 3. Distribution by cause: fatalities resulting from occupational injury and illness in units with 11 employees or more, private sector, by industry division, 1980 and 1981¹

[In percent]

Cause ²	Total ³	Agriculture, forestry, and fishing	Mining — oil and gas extraction only	Construction	Manufacturing	Transportation and public utilities ⁴	Wholesale and retail trade	Finance, insurance, and real estate	Services
Over-the-road motor vehicles	100	3	6	10	18	32	17	5	10
Falls	100	2	5	50	24	7	5	1	7
Heart attacks	100	5	2	13	25	14	23	7	11
Industrial vehicles or equipment	100	9	17	31	26	6	4	(⁵)	7
Struck by objects other than vehicles or equipment	100	1	5	24	33	8	28	0	1
Electrocutions	100	7	6	31	24	25	5	0	3
Gunshots	100	4	0	(⁵)	11	10	63	(⁵)	11
Aircraft crashes	100	5	20	11	23	20	6	5	11
Caught in, under, or between objects other than vehicles or equipment	100	2	2	24	24	4	26	15	4
Fires	100	4	6	6	56	14	6	2	5
Plant machinery operations	100	2	1	3	83	2	6	0	3
Explosions	100	2	2	27	46	15	7	0	2
Gas inhalation	100	3	1	15	57	10	10	0	4
All other	100	4	6	12	27	15	12	(⁵)	24

¹ It is impossible to estimate year-to-year changes precisely because at the industry division level sampling errors are large. Therefore, the results are for both years rather than a comparison between them.

² Cause is defined as the object or event associated with the fatality.

³ Excludes coal, metal and nonmetal mining, and railroads, for which data are not available.

⁴ Excludes railroads.

⁵ Less than 1 percent.

Note: Because of rounding, percentages may not add to 100.

ticipating with BLS. The occupational fatality data reported are based on the records which employers maintain under the Occupational Safety and Health Act of 1970. Excluded from coverage under the act are working conditions which are covered by other Federal safety and health laws.

The survey covers units in private industries. Excluded are the self-employed; farmers with fewer than 11 employees; private households; and employees in Federal, State, and local government agencies. In a separate reporting system, agencies of the Federal Government are filing reports comparable with those of private industry with the Secretary of Labor.

The 1981 survey, to which response was mandatory, involved a sample of 220,000 units with 11 or more employees. Estimates based on a sample may differ from figures that would have been obtained had a complete

census of establishments been possible using the same schedules and procedures. Relative standard errors are calculated for the estimates generated from the Annual Survey of Occupational Injuries and Illnesses and are made available to the public. □

FOOTNOTE

¹ Since 1977, the fatality data have been published only for units with 11 employees or more because the reductions of the survey samples affected primarily employers with fewer than 11 employees. The reductions were in response to presidential directives on reducing the paperwork burden of employers selected to participate in statistical surveys. Data for occupational fatalities in coal, metal and nonmetal mining, and railroads were provided by the Mine Safety and Health Administration of the U.S. Department of Labor and by the Federal Railroad Administration of the U.S. Department of Transportation; however, data were not provided on the objects or events which resulted in on-the-job deaths for these industrial activities.

See "Occupational deaths declined in 1980, BLS survey finds," *Monthly Labor Review*, January 1982, pp. 49-52.