Occupational Injury and Illness

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A report on safety in Alaska's workplaces

A total of 15,500 nonfatal injuries and illnesses occurred in the workplace in Alaska's private sector in 2001. This is an injury and illness rate of 8.5 cases per 100 full-time equivalent workers. Injuries were responsible for 14,600 (94 percent) of the cases, and the remaining 900 (6 percent) involved illnesses.

Of the total, 7,500 (48 percent) were lost workday cases, that is, they required recuperation away from work or restricted duties at work, or both. The remaining 8,000 (52 percent) estimated injuries and illnesses did not involve lost workdays.

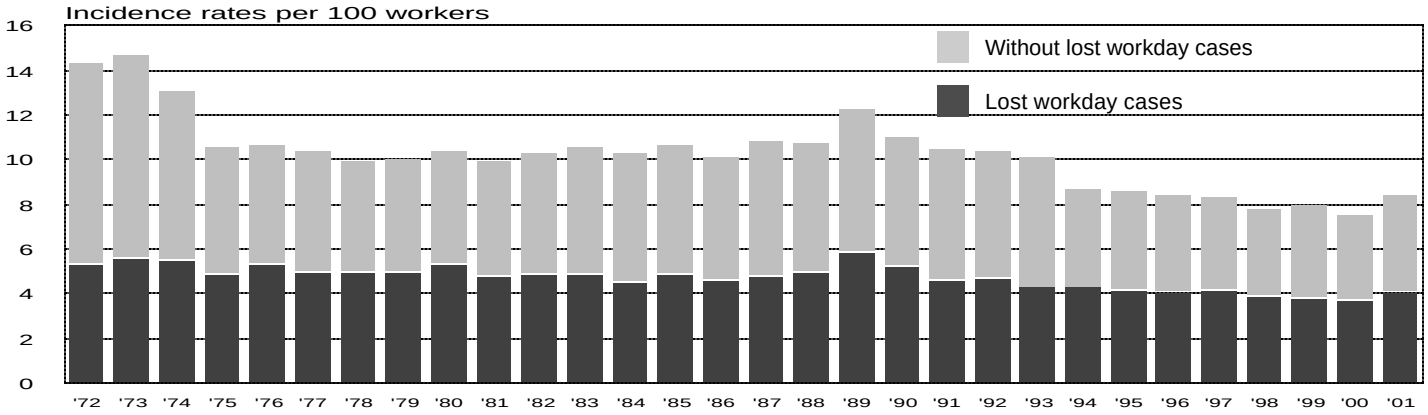
Nationally, about 5.2 million nonfatal injuries and illnesses occurred in the private sector workplace in 2001. The incident rate across all industries nationally was 5.7 cases per 100 full-time equivalent workers.

An occupational injury can be the result of a cut, fracture, sprain, amputation, etc., which results from a work accident, or from exposure from a single, or instantaneous, event in the work environment. An illness is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by prolonged exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases that may be caused by inhalation, absorption, ingestion, or direct contact.

Historical look at state injury and illness rates

Alaska's injury and illness rates dropped abruptly soon after the passage of the Occupational Safety and Health Act (OSHA) of 1972. The 1970s was also the decade the Trans-Alaska Pipeline was constructed. After a high of 14.7 of recordable injury and illness cases per 100 workers in 1973, the rate dropped to about 10 cases from 1975-1988. In 1989 the Exxon Valdez grounded and spilled 257,000 barrels of oil in Prince William Sound. The massive cleanup response appears to

1 Occupational Injury and Illness Rates
Alaska private sector 1972-2001



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

have directly increased the rate of injuries and illnesses following the spill. Rates remained above 10 incidents per 100 workers through 1993. The drop in 1994 to the current average of about 8 cases per 100 workers was largely due to decreasing injury and illness rates in the construction and service industries, which have maintained lower incident rates since. (See Exhibit 1.)

In 2001 Alaska's private sector injury and illness rate rose to 8.5 per 100 workers, up from a record low of 7.6 in 2000. The rate was fairly steady at about 8.5 cases per 100 workers from 1994 to 1997, and 8 cases or fewer from 1998 to 2000.

The national private sector injury and illness rate of 5.7 cases per 100 workers in 2001 was a historic low. Since 1992, the national injury and illness rate has steadily declined while Alaska's has tracked relatively flat. Alaska's public sector, that includes local and state government, showed little change over the past six years. (See Exhibit 2.) Federal government injury and illness statistics were not collected in this study.

All recordable injuries and illnesses, whether with or without lost workdays, entail one or more of the following criteria: medical treatment beyond first aid, loss of consciousness, days away from work, restricted work activity or job transfer. Injuries and illnesses are also recordable if work-related and deemed "significant," as defined by the Occupational Safety and Health Administration, the federal agency created to prevent work-related injuries, illnesses, and deaths.

Injuries and illnesses are costly to Alaska employers

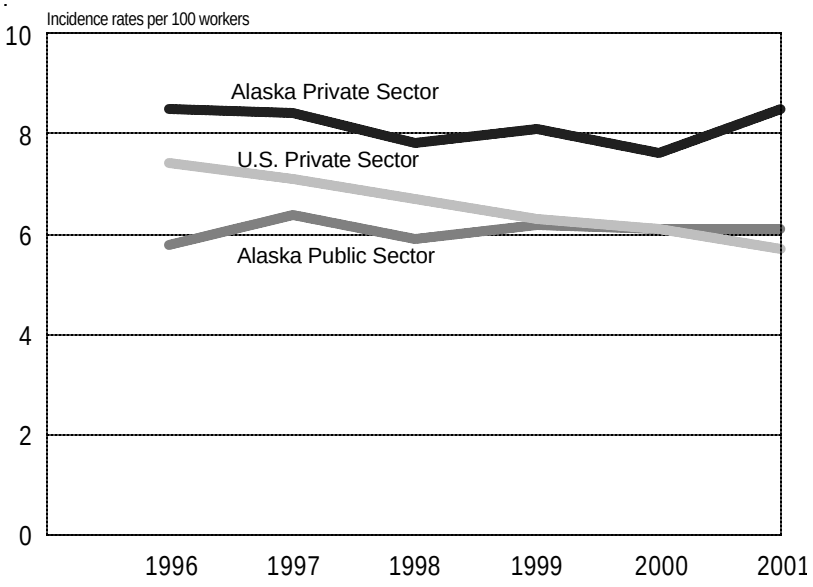
Workplace safety is an important issue for employers. In a competitive economy, it costs a great deal of money to attract and retain a skilled employee. It is costly for the employee to miss work due to a preventable illness or injury. If a worker is injured on the job a worker's compensation claim will be filed against the employer.

During the 2001 calendar year, a total of $192.7 million was paid in workers' compensation benefits. This includes payments for medical, disability, and rehabilitation costs. This is an increase of 16.4 percent over 2000's total of $165.6 million, and compares to $149.2 million in 1999, $140.5 million in 1998, and $144.7 million in 1997. (See Exhibit 3.)

Financing for workers' compensation programs comes from employers. The premiums paid by employers are based on their industry classification and the occupational classifications of their workers. Most large employers are also "experience rated," which results in higher or lower premiums for employers whose past experience demonstrates that their workers are at greater or lesser risk of occupational injuries or disease than are workers for similar employers in the same industry.

Alaska and U.S. Incidence Rates 2

Occupational injuries and illnesses 1996-2001



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section and U.S. Dept. of Labor, Bureau of Labor Statistics

Injury and illness rates vary by industry

Injury and illness rates are typically analyzed by the industry in which they occurred. For this survey, the Standard Industrial Classification, better known as the SIC, was used to report incidence rates. (See Exhibit 4.) The SIC provides several broad industry divisions, as well as subdivision levels, in which work activity occurs. The major SIC industries in this analysis are Mining; Construction; Manufacturing; Transportation, Communication & Utilities; Wholesale & Retail trade; Finance, Insurance, & Real Estate; and Services.

Mining showed the lowest injury and illness rate of all major industries in Alaska in 2001. In fact, mining, which includes oil and gas extraction, was the only major Alaska industrial sector that had an injury and illness rate below that of the national average. Stringent safety policies in Alaska's metal mining and oil extraction industries appear to have helped create a lower incidence rate in the state. Oil companies actively promote safety programs and provide safety training opportunities for their workers. Nationally, mining injury/illness rates have declined the last few years, but remain higher than Alaska's.

Manufacturing and construction

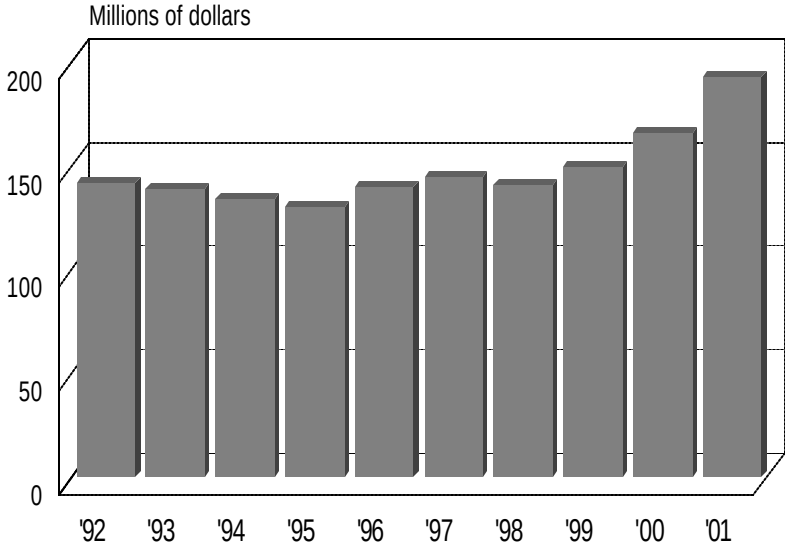
Injury and illness incidence rates in manufacturing, at 17.7 per 100 workers in Alaska, were twice as high as nationwide, a fact related to the nature of Alaska's manufacturing sector, which is composed largely of seafood and wood processing. The risks to employees in these industries are greater than in typical manufacturing sectors in the lower 48, where controlled environments and assembly lines are the norm.

In Alaska's seafood processing and wood processing industries, many worker tasks involve extensive manual labor. Employees work long hours and routinely handle sharp objects such as knives and machines with cutting edges. Work areas are often wet and slippery, sometimes cold, and frequently noisy.

Construction had the second highest incidence rate of injuries and illnesses with 12.5 cases per 100 workers in 2001 in Alaska. This rate was up from 11.1 in 2000, a reversal of the recent five-year trend of declining rates in construction. The increase in 2001 was mainly distributed across general building contractors and special trade contractors, with heavy construction and residential building the only subsectors that saw a rate decline since 1996. Alaska's incidence rate for construction remains above the national average of 7.9 cases per 100 workers for 2001. While the state's heavy construction injury and illness rates are close to the national rate, incidence rates in general building and special trade contractors raise the industry's overall rate to above the national level.

Alaska's 2001 incidence rate in transportation, communication and utilities was 10.7 per 100 workers. This compared with a national rate of 6.9 cases. Although the state rate was up slightly from the previous few years, the industry's overall injury and illness rate has remained relatively unchanged since 1996. At the sub-industry level, Alaska's

3 Workers' Compensation
Total Alaska payments 1992–2001



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section and Division of Workers Compensation

scheduled air transportation rate is slightly higher than the equivalent national rate. Nonscheduled air transportation shows a greater disparity between state and national injury and illness rates. Alaska's injury and illness rates in trucking and water transportation were twice the national rates.

Wholesale and retail trade injury and illness rates rose to 8.2 in 2001 after reaching a low of 7.1 cases per 100 workers in 2000. This increase was largely due to increases in department stores and eating and drinking places. While department stores have remained relatively unchanged since 1996, eating and drinking places have displayed an upward trend in rates during that period. Wholesale trade has actually had a declining injury and illness rate since 1996, but these declines were more than offset by increases in the retail sector. The national rate of 5.6 for wholesale and retail trade reflects several consecutive years of rate declines. Both injury and illness rates for wholesale and retail at the national level remain substantially lower than Alaska's. Trade had the highest number of injury and illness incidents in Alaska, with approximately 3,900 total cases.

Finance, insurance, & real estate did not see a big change in 2001, but injury and illness rates have decreased slightly since 1996. Holding and other investment office rates decreased slightly, but this was partially offset by small rate increases in real estate firms. Alaska's rate of 4.0 injuries and illnesses per 100 workers is more than twice the national average of 1.8 cases for finance, insurance, and real estate firms. Real estate firms in particular, have a much higher rate in Alaska than the rest of the nation.

Services, with the most employment of all the major industries, showed an increase from its low of 5.0 cases per 100 workers in 1998 to 6.6 in 2001. Still, the 2001 rate is only slightly above the 1996 figure of 6.3. The majority of the increase is due to higher injury and illness rates in hotels and other lodging places. The national average for services was 4.6, but the relatively high employment numbers in hotels and other lodging places may account for Alaska's higher rates. Hotels and other lodging places have historically had higher injury and illness rates than other forms of services.

Incidence Rates[1] by Industry 4

Occupational injury and illness

Alaska and U.S.

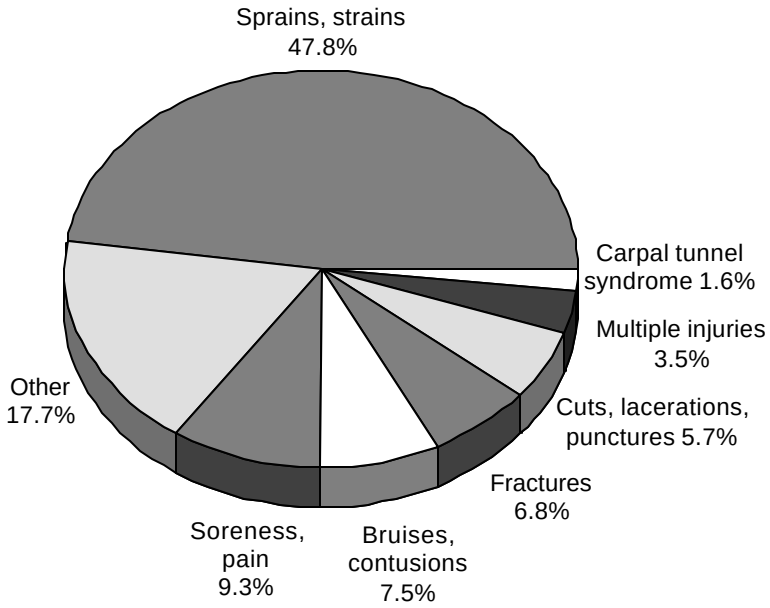
	Alaska						U.S.
Industry	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2001**
Private Industry[2]	8.5	8.4	7.8	8.1	7.6	8.5	5.7
Mining[3]	5.8	4.2	3.2	4.3	3.8	2.7	4.0
Metal mining	5.8	4.9	3.9	3.3	4.3	3.7	4.2
Oil and gas extraction	5.8	4.1	3.2	4.4	3.8	2.6	3.3
Construction	11.9	11.5	11.8	11.0	11.1	12.5	7.9
Manufacturing	16.4	18.8	17.7	15.3	14.8	17.7	8.1
Lumber and wood products	24.9	21.0	16.9	19.5	26.9	21.0	10.6
Food and kindred products	17.3	21.7	21.4	17.4	14.7	19.3	10.9
Canned and cured seafood	*	15.3	13.4	15.7	17.5	13.5	*
Fresh or frozen prepared fish	18.1	24.0	23.9	17.8	14.3	21.6	10.4
Transportation, comm & utilities	10.3	10.2	9.8	9.3	9.5	10.7	6.9
Trucking and warehousing	15.6	13.9	13.6	15.9	17.8	16.3	8.4
Water transportation	13.9	10.7	12.4	9.2	12.1	14.6	6.0
Air transportation, scheduled	16.2	16.3	16.9	14.3	15.8	15.5	14.4
Air transportation, nonscheduled	*	*	*	3.4	6.2	6.9	4.2
Communications	3.2	4.8	3.3	5.3	3.0	5.0	2.9
Wholesale and retail trade	7.6	8.1	7.6	8.0	7.1	8.2	5.6
Wholesale trade	8.4	8.4	7.4	9.3	7.0	7.4	5.3
Retail trade	7.4	8.0	7.6	7.7	7.1	8.4	5.7
General merchandise stores	10.1	9.6	8.8	8.5	7.8	9.6	7.8
Food stores	9.5	10.8	10.6	8.2	9.7	8.9	7.5
Eating and drinking places	5.0	6.8	6.6	7.6	5.5	7.4	5.3
Finance, insurance, and real estate	4.5	3.4	4.0	3.7	3.9	4.0	1.8
Services	6.3	5.5	5.0	6.6	6.0	6.6	4.6
Hotels and other lodging places	8.2	7.7	7.4	9.5	8.1	9.5	7.2
Health services	9.5	7.0	7.8	8.6	*	7.8	7.2

[1] Injury and illness cases per 100 full-time workers
[2] Totals include data for industries not shown separately.
[3] Data from Mine Safety and Health Administration, U.S. Department of Labor.
* Not publishable

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section and U.S. Department of Labor, Bureau of Labor Statistics

5 Days Away from Work Cases
By nature of injury or illness

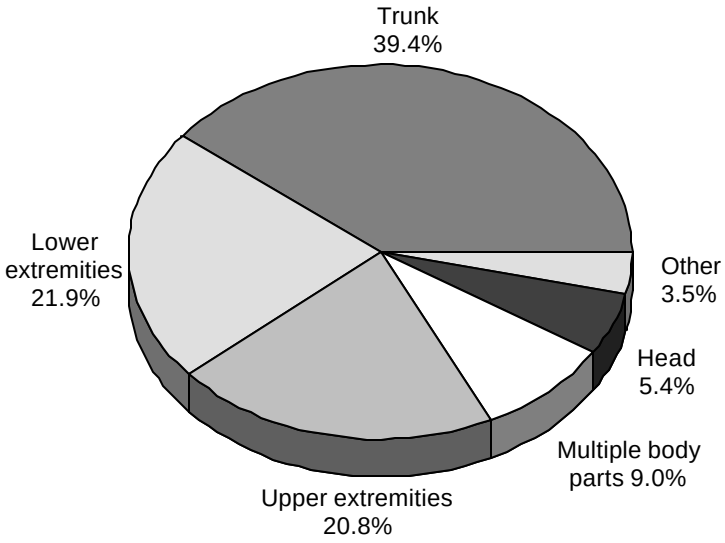
Alaska private sector 2001



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section and U.S. Department of Labor, Bureau of Labor Statistics

6 Days Away from Work Cases
By part of the body affected

Alaska private sector 2001



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section and U.S. Department of Labor, Bureau of Labor Statistics

Studying injuries and illnesses in different ways

To learn more about workplace injuries and illnesses, the OSH survey uses four main characteristics to study an injury or illness case that results in days away from work, restricted duties at work, or both. These are

1) nature of injury or illness;
2) part of body affected;
3) event or exposure; and
4) source of injury or illness.

The nature identifies the physical characteristics of an injury or illness. A strained muscle or punctured skin are examples of the nature of an injury. Carpal tunnel syndrome would be the nature of an illness. Sprains, strains, and tears were the most common nature identified, accounting for 47.8 percent of all injuries and illnesses. This type of injury was most prominent in the services and retail divisions, although manufacturing and construction also had substantial numbers. (See Exhibit 5). The next highest nature was soreness and pain, representing 9.3 percent of the total natures. Sprains, strains, and tears resulted in an average of five days away from work, while soreness and pain had an average of six days away from work.

The part of body identifies the location of the most serious area of injury. Injuries can occur to a part of the body such as a finger, toe, or wrist. In some instances, more than one part of the body is affected. The trunk, or main part of the body, was the most frequently affected by injury, with over 67 percent of all trunk injuries involving the back. (See Exhibit 6). The second most commonly affected body area was the lower extremities, including feet, knees, and legs. The upper extremities, hands, elbows, and arms, followed.

The event or exposure is coded to describe what happened. Did the victim fall down or did a moving object strike him? These questions would be answered by the event characteristics. The most frequently occurring injury and illness event

for 2001 was overexertion, followed by contact with objects and equipment, and third, falls. (See Exhibit 7.) Overexertion involves activities such as lifting, pulling or pushing, throwing, and carrying objects. These injuries are most common in the retail, transportation, and manufacturing sectors. Injuries where contact with objects and equipment were listed as the event most often occurred when victims were struck by falling, flying, or swinging objects or by being caught in, or compressed by, equipment. Most falls involved injury from falling onto the surface that had been supporting the worker. An example is a worker stumbling and falling to the floor when carrying a box or crate. In a smaller number of falls the victim landed on a lower level, such as a carpenter falling off a ladder onto the ground.

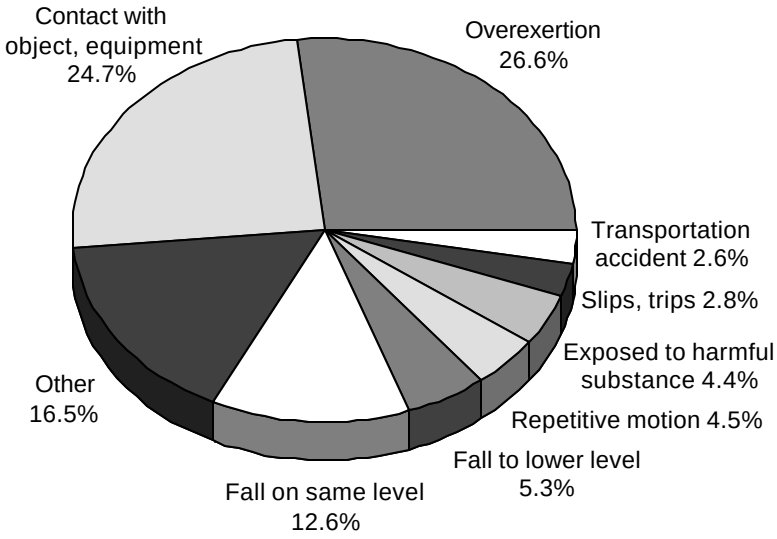
Finally, the source of an injury or illness is the object or substance that directly harmed the worker. If a forklift struck a worker and caused the injury, then the forklift would be listed as the source of the injury. The most numerous source of injuries in 2001 involved floors, walkways and ground surfaces, representing 19.2 percent of all sources, which reflects the relatively high number of falls. (See Exhibit 8). The second highest source of injury was containers; more than 1,000 of the 6,378 total cases cited containers as the source that directly caused the injury. These, for example, can be found in air cargo and seafood processing operations. There were also a high number of cases where the injured worker was actually the source of the injury. This most often occurs when the actual position or motion of the injured worker causes the injury, such as in cases where reaching, twisting, slipping, or walking is involved. The injured worker was cited as the source in 15.4 percent of the cases. Carpal tunnel syndrome, which is considered an illness for purposes of the survey, would also be counted in this category.

Occupations at risk

The occupation with the highest number of injuries and illnesses in 2001 for Alaska involving days away from work was hand packers and packagers at 623 incidents. The vast majority of these

Days Away from Work Cases 7
By event or exposure

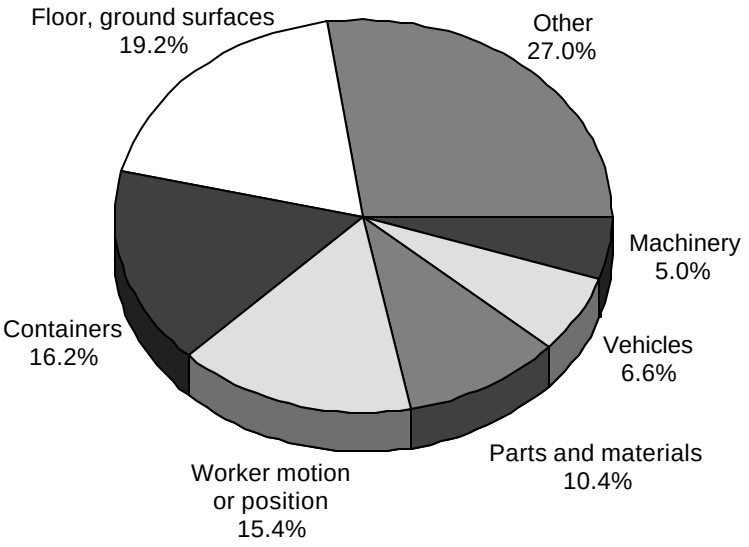
Alaska private sector 2001



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section and U.S. Department of Labor, Bureau of Labor Statistics

Days Away from Work Cases 8
By source of injury or illness

Alaska private sector 2001



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section and U.S. Department of Labor, Bureau of Labor Statistics

9 Worker Characteristics, Occupational Injuries and Illnesses
Involving days away from work[1]
Alaska private industry 2001

		Goods producing				Service producing				
	Private industry[2]	Ag forestry and fishing[2]	Mining[3]	Const.	Mfg.	Trans comm and utilities[4]	Whole-sale trade	Retail trade	Finance insurance and real estate	Services
Total	6,378	44	88	787	993	1,181	283	1,303	140	1,559
Sex:										
Men	4,382	38	84	752	873	921	246	690	88	691
Women	1,962	6	—	35	120	240	38	612	52	854
Age:										
14 to 15	—	—	—	—	—	—	—	—	—	—
16 to 19	215	—	—	40	31	36	10	57	—	33
20 to 24	773	6	6	65	152	234	32	170	—	105
25 to 34	1,514	6	17	227	303	266	82	268	20	324
35 to 44	1,884	16	23	255	309	266	70	388	64	493
45 to 54	1,399	9	30	140	167	261	67	277	28	421
55 to 64	484	—	12	55	25	106	19	125	14	126
65 and over	96	—	—	6	6	12	—	17	6	44
Occupation:										
Managerial and professional	469	12	—	8	20	22	20	65	21	301
Technical, sales, admin support	1,294	—	—	9	24	462	53	515	42	184
Service	1,011	13	—	—	7	66	8	277	7	633
Farming, forestry, and fishing	103	17	—	—	61	5	—	9	—	—
Precision production, craft, repair	1,192	—	52	511	82	202	33	77	53	181
Operators, fabricators, laborers	2,295	—	33	259	800	424	163	360	16	241
Length of service with employer:										
Less than 3 months	1,302	7	9	172	530	91	39	199	30	226
3 to 11 months	1,301	11	22	209	205	155	62	367	25	246
1 to 5 years	1,758	6	23	185	149	267	109	377	38	604
More than 5 years	1,037	11	17	107	94	222	67	245	36	240
Not reported	980	10	18	115	15	446	7	115	10	244
Race or ethnic origin:										
White, non-Hispanic	3,070	13	41	519	465	385	169	627	68	785
Black, non-Hispanic	224	—	—	10	60	28	9	52	—	63
Hispanic	215	—	—	7	101	11	—	34	—	53
Asian or Pacific Islander	248	—	—	—	54	26	6	64	5	89
American Indian or Alaska Native	302	—	—	46	52	24	8	49	26	97
Not reported	2,318	32	46	201	262	707	88	477	33	473

[1] Days-away-from-work cases include those which result in days away from work or restricted work activity.
[2] Excludes farms with fewer than 11 employees.
[3] Data conforming to OSHA definitions for mining operators in coal, metal and nonmetal provided to BLS by the Mine Safety and Health Administration, U.S. Dept. of Labor. Mining contractors are excluded from the coal, metal and nonmetal mining industries. Data include oil and gas extraction.
[4] Data conforming to OSHA definitions for employers in railroad transportation are provided to BLS by the Federal Railroad Administration, U.S. Dept of Transportation.
--Dashes indicate data that are not available. Because of rounding and exclusion of nonclassifiable responses, data may may not sum to totals.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section, and U.S. Department of Labor, Bureau of Labor Statistics

incidents, 612 of the 623 cases, were in manufacturing. Truck drivers had the second highest count, with 387 injuries and illnesses, followed by carpenters with 294. However, the average days away from work for hand packers and packagers was four, while truck drivers lost an average of 10 days away from work. This would indicate that injuries to truck drivers were generally more severe. Carpenter injuries and illnesses were slightly more severe than truck drivers, with an average of 11 days away from work. Nationally, truck drivers had the highest number of lost work day injuries and illnesses, followed by nursing aides and non-construction laborers.

Who are Alaska's injured workers?

A look at the demographic data for cases with days away from work reveals which segments of the population are most affected by workplace injuries and illnesses. While men comprise 60 percent of Alaska's workforce, they were injured more than women at a ratio of more than 2-to-1, with the highest numbers occurring in the manufacturing, construction, and transportation industries. In mining, all 84 injuries and illnesses where gender was reported were men. The only private industry sector where women had a higher number of injuries and illnesses was services. In services, it was estimated that 854 women had days away from work compared to 691 men. In general, however, most industries had far more male incidents than female. (See Exhibit 9.)

The 35-44 age group had the most days away from work cases. Next was the 25-34 age group. The 45-54 age bracket followed. Together, these three groups accounted for more than 75 percent of all days away from work cases.

Of race and ethnicity groups reported, the White, non-Hispanic category accounted for about three-of-four injury and illness cases that involved days away from work. Black, non-Hispanic workers accounted for an additional six percent as did Asian or Pacific Islander and American Indian or Alaska Native. Hispanic worker injuries and illnesses accounted for five percent of the total reported.

Length of service statistics may indicate the importance of job training and job familiarity. Nearly 70 percent of days away from work involved workers with less than five years of service with an employer. Of that group, 60 percent of the days away from work involved workers employed for less than one year.

Additional workplace injury and illness information is available. Interested individuals are encouraged to contact the Research and Analysis Section of the Alaska Department of Labor and Workforce Development.

Information in this article is derived from the Annual Survey of Occupational Injuries and Illnesses, conducted cooperatively by the Alaska Department of Labor and Workforce Development, Research and Analysis Section, and the U.S. Department of Labor, Bureau of Labor Statistics. The survey provides information annually on the number and frequency of nonfatal injuries and illnesses occurring in the workplace. The survey also collects information on the case characteristics and demographics for the more serious incidents. The data are used to help develop safety and health standards, to control work hazards, and to allocate resources for inspection, training, and consultation activities.