10. Occupational Safety & Health

Goal:
Reduce the number of work-related injuries and deaths in Alaska.

Health Goal for the Year 2010: To reduce the number of work related injuries and deaths in Alaska.					
	Indicator	**Alaska Data Source**	**U.S. Baseline**	**Alaska Baseline**	**Alaska Target Year 2010**
1	Reduce deaths from work related injuries (per 100,000 workers).	DHSS, DPH, Epidemiology	4.5 (1998) USDOL/BLS	13 (1999) 17 (2000)	15% reduction
1a	Construction workers	NIOSH	14.6 (1998)	15 (1999)	15% reduction
1b	Transportation workers	NIOSH	11.8 (1998)	49 (1999)	15% reduction
1c	Occupational pilots	NIOSH	N/A	430 (1999)	15% reduction
1d	Commercial fishers	NIOSH	N/A	40 (1999)	15% reduction
1e	Loggers	NIOSH	20 (1998)	176 (1999)	15% reduction
2	Reduce annual nonfatal work-related injuries requiring hospitalization (per 1,000 workers).	NIOSH/AK Trauma Registry		1.1 (1998)	15% reduction
2a	Construction workers	NIOSH/AK Trauma Registry		6.8 (1999)	15% reduction
2b	Transportation workers	NIOSH/AK Trauma Registry		2.3 (1999)	15% reduction
2c	Commercial fishers	NIOSH/AK Trauma Registry		3.3 (1999)	15% reduction
2d	Loggers	NIOSH/AK Trauma Registry		25.5 (1999)	15% reduction
2e	Seafood processing	NIOSH/AK Trauma Registry		Developmental[1]	15% reduction
3	Reduce the rate of nonfatal lost workday injuries and illnesses (per 100 workers per year).[2]	DOL	3.1 (1998) USDOL/BLS	3.9 (1998)	15% reduction
3a	Construction workers	DOL	4 (1998) USDOL/BLS	6.1 (1998)	15% reduction
3b	Logging	DOL	5.5 (1998) USDOL/BLS	10.8 (1998)	15% reduction
3c	Fresh/frozen fish processing	DOL	8.2 (1998) USDOL/BLS	13.5 (1998)	15% reduction
3d	Transportation and public utilities	DOL	4.3 (1998) USDOL/BLS	6 (1998)	15% reduction
4	Reduce musculoskeletal and repetitive motion injuries per 10,000 workers.				
4a	Repetitive motion	DOL	7.4 (1998) USDOL/BLS	17.9 (1998)	15% reduction
4b	Carpel tunnel syndrome	DOL	3 (1999) USDOL/BLS	5.5 (1998)	15% reduction

Health Goal for the Year 2010: To reduce the number of work related injuries and deaths in Alaska.					
	Indicator	**Alaska Data Source**	**U.S. Baseline**	**Alaska Baseline**	**Alaska Target Year 2010**
5	Reduce occupational exposure to bloodborne pathogens among emergency medical and health care workers.	DHSS		Developmental	15% reduction
6	Increase the number of certified occupational safety and health professionals.	UAA/ASSE		Developmental	50% increase

[1]A special study on seafood processing is being undertaken to develop an accurate baseline (2001)
[2] U.S. data provided by Alaska DOL to be comparable to Alaska statistics.
DHSS - Alaska Department of Health and Social Services
DPH - Alaska Division of Public Health
NIOSH - National Institute of Occupational Safety and Health
DOL - Alaska Department of Labor
USDOL/BLS - United States Department of Labor, Bureau of Labor Statistics
UAA - University of Alaska, Anchorage
ASSE - American Society of Safety Engineers

Overview

Work-related injuries and illnesses are those incurred by people engaged in work-related activities while on or off the worksite. These include injuries and illnesses that occur during apprenticeships, vocational training, working in family businesses, and even volunteer work as fire fighters or emergency medical services providers.

A retrospective view of Alaska's economic challenges since statehood in 1959 reveals periods of boom, recession, and re-growth in several industries and service sectors.[1] Often jobs are in acutely perilous environments (e.g., frigid waters) or on treacherous terrain (e.g., steep, mountainous). In the 1990s the labor force in Alaska continued to grow, particularly in the construction, air transportation, communication, and retail sales industries.[2]

Alaska's rate of traumatic occupational injuries remains much higher than the United States rate. Traumatic work-related injuries in Alaska are, in part, a function of the distribution of workers in hazardous industries and high-risk environments. Nonfatal work-related injuries, with at least one day lost from work, occur at greater rates in construction, logging, fish processing, and transportation.[3] Falls, machinery, and being struck by an object caused the majority of the injuries.[4] Occupations with the greatest risk of fatal work-related injuries include commercial fishing, commercial aviation, and logging.[3]

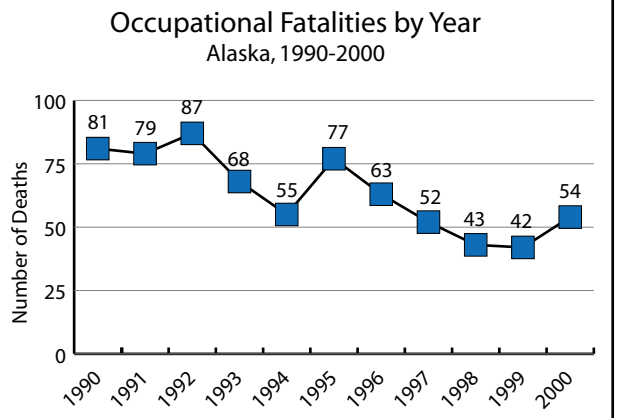
Fatal and nonfatal injury data indicate that employment in certain industries, particularly commercial aviation, commercial fishing, construction, and logging, significantly increases the risk of injury to Alaskan workers. Premature loss of life, lifetime health care for severely injured workers, increased economic costs (hospitalization and other health care costs, workers compensation, etc.), loss of worker productivity, declines in workplace efficiency, and increased psychosocial stress are further results of the high rate of worker injury and death in Alaska. Psychological trauma, social disruption, unemployment, reduced family income, and reduced quality of life are also consequences of these injuries.

Although much progress has been made to reduce occupation related fatalities, Alaska still has the highest worker death rate in the nation. In 1998 and 1999, the annual fatality rate for Alaskan workers was approximately 3 times the national average during the 1990s.

Issues and Current Trends

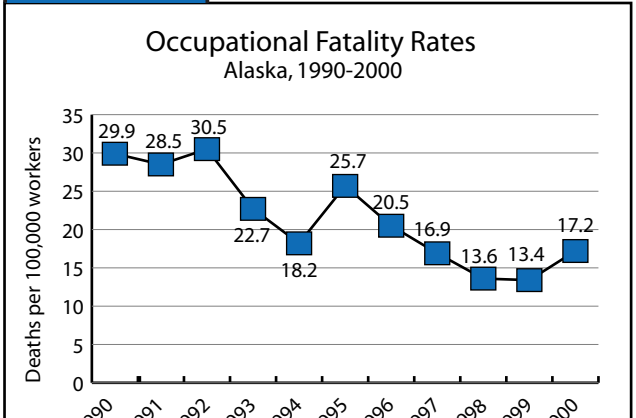
Specific data on Alaska occupational fatalities is collected by the National Institute for Occupational Safety and Health (NIOSH), Alaska Department of Health and Social, Section of Epidemiology, Occupational Injury Prevention Program and Alaska Department of Labor and Workforce Development (AKDOL). The Alaska Fatality Assessment and Control Evaluation (FACE) project, administered by the Occupational Injury Prevention Program, indicates 701 workers died as a result of work-related injuries from 1990 through 2000 in Alaska (Figure 10-1).[5] An average annual rate of about 22 traumatic work-related deaths per 100,000 workers was found.

Figure 10-1



Source: Alaska FACE Program, NIOSH Alaska Field Station

Figure 10-2

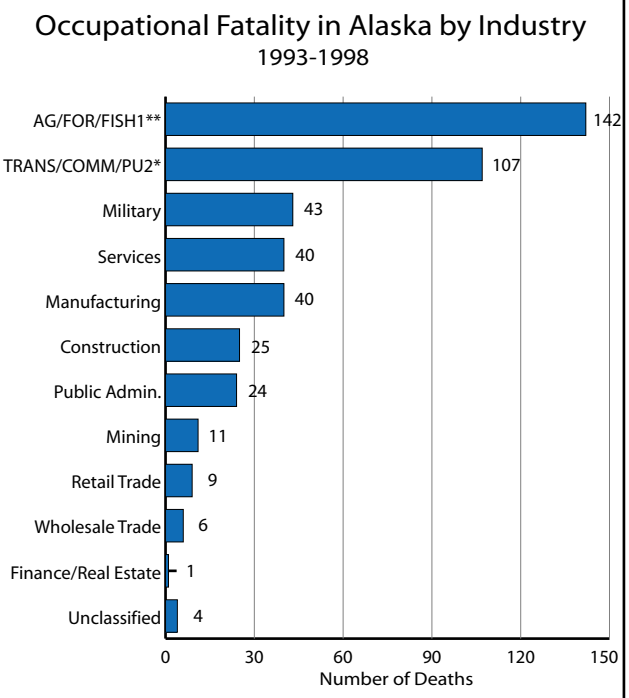


Source: Alaska FACE Program, NIOSH Alaska Field Station

Average crude fatality rates were calculated as the number of deaths among workers (including compensated volunteers and military personnel) for each year divided by the number of employed workers plus the estimated military personnel in Alaska. Rates have declined 43 percent from 30 per 100,000 workers in 1990 to 17 per 100,000 workers in 2000 (Figure 10-2).

Surveillance activities conducted by the Section of Epidemiology and NIOSH have improved case ascertainment since 1991, allowing for a more complete accounting of worker deaths in Alaska. The industries with the highest percent of fatalities are agriculture, forestry or logging, commercial fishing, and commercial aviation (Figure 10-3).

Figure 10-3



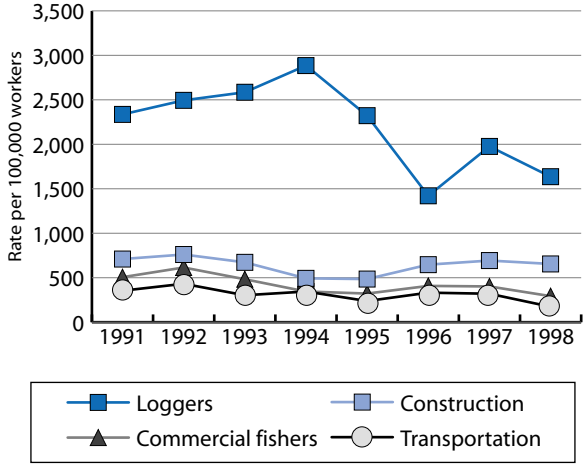
**Transporation, communication, public utilities (includes commercial aviation)*
***Agriculture, forestry, fisheries*
Source: Alaska FACE Program

Alaska has experienced an overall downward trend in occupational fatalities since 1990 (from 82 fatalities in 1990 to 42 fatalities in 1999), but occupational aviation and commercial fishing fatalities continue to be a problem. During the 5-year period of 1990-94, there were a total of 367 occupational fatalities. 37 percent (137) were due to drowning, primarily among commercial fishermen and 28 percent (103) were due to aviation crashes. During the 5-year period of 1995-99, there were a total of 277 occupational fatalities; 32 percent (89) were due to aviation crashes, and 29 percent (79) were due to drowning, primarily among commercial fishermen.[6]

Both fatal and nonfatal injuries have significant impact on Alaskans. Information from the Alaska Department of Labor indicates an Alaska private sector worker lost workday injury and illness rate of 3.4 per 100 workers. These injuries caused an estimated 9,850 lost workdays in the Alaska private employment sector.

In 1991, with the assistance of NIOSH, the Alaska Department of Health and Social Services began gathering detailed information for nonfatal work-related injuries using the Alaska Trauma Registry. The Trauma Registry is a population-based database that collects information from all 23 hospitals in Alaska. Data from the period of 1991-1998 indicated the highest numbers of reported work-related injuries by industry were in construction, commercial fishing, logging, and seafood processing (Figure 10-4). Logging, however, had the highest incidence rate of over 16 work-related injuries per 1,000 logging industry workers in 1998.[7]

Figure 10-4



Source: NIOSH/Alaska Trauma Registry

Hospitalization for injuries has an enormous impact on workers and employers in Alaska, indicating suffering, lost work, and disability. According to the United States Department of Labor, Bureau of Labor

Statistics, 6.1 million injuries and illnesses were reported in private industry workplaces during 1997.[8] From 1991 through 1997, 29,924 hospitalized injuries were reported to the Alaska Trauma Registry, of which 11 percent were work-related.

Nonfatal injuries that occur on the job may not only require immediate medical care but may also involve extensive recuperation and permanent disability. The Alaska Department of Labor and Workforce Development reported 3.9 nonfatal lost workday injuries and illnesses per 100 workers in 1998. The Survey of Occupational Injuries and Illnesses is a joint federal and state program in which employer reports are collected from private industry establishments.

Musculoskeletal disorders of any cause are among the most prevalent medical problems, affecting 7 percent of the population and accounting for 14 percent of physician visits and 19 percent of hospital stays. Work-related musculoskeletal disorders develop when a major part of a worker's job involves reaching, bending over, lifting heavy objects, using continuous force, working with vibrating equipment, and doing repetitive motions. These injuries affect muscles, nerves, tendons, ligaments, joints, or spinal discs. The Bureau of Labor Statistics (BLS) reported 62 percent (308,000) of all illness cases in 1995 were due to disorders associated with repeated trauma.

This figure does not include back injuries. BLS also reported that the number of cases of repeated trauma has increased significantly, from 23,800 cases in 1972 to 332,000 cases in 1994 —a 14- fold increase.[9]

OSHA estimates that 5.6 million workers in the health care industry and related occupations are at risk of occupational exposure to bloodborne pathogens.[10] One in seven medical professionals has experienced a needlestick injury. Needlestick injuries are a serious concern for emergency medical and health care workers in the United States, because they pose the risk of occupational transmission of pathogens, such as HIV, hepatitis B, and hepatitis C.

Current Strategies and Resources

While Alaska's harsh environment will not change, efforts to reduce occupational injuries have led to better training, greater employer and worker awareness, and improved technology. Federal, state, municipal, and non-governmental agencies in Alaska have developed strong working relationships in the areas of surveillance, investigation, and prioritization of occupational safety and health initiatives. The four occupational safety and health recommendations from *Healthy Alaskans 2000* have effectively influenced the responses to past, present, and emerging occupational injury problems.

A multiple source traumatic occupational fatality surveillance system was established in 1992 by the Section of Epidemiology and administered within the Occupational Injury Prevention Program. It administers the state-based Fatality Assessment and Control Evaluation (FACE) program under a cooperative agreement with National Institute for Occupational Safety and Health (NIOSH). The program collects detailed information on selected incidents and disseminates prevention recommendations. The surveillance system has maintained continuous communication with key reporting agencies including the Alaska Department of Labor and Workforce Development, Alaska Department of Public Safety, Federal Aviation Administration, National Transportation Safety Board, United States Coast Guard, and Occupational Safety and Health Administration.

Data Issues and Needs

Reduction of work-related injuries, illnesses, and deaths will require focused efforts to more fully identify and prioritize problems (injury surveillance), quantify and prioritize risk factors (analytic injury research), identify existing strategies or develop new strategies to prevent occupational injuries (prevention and control), implement the most effective injury control measures (communication, dissemination, and technology transfer), and monitor the results of intervention efforts (evaluation). This approach will require the cooperation of many groups and agencies to provide the needed educational and outreach efforts, engineering controls, and enforcement of workplace safety regulations.

Foremost is the identification and collection of existing data. However, information about injuries, illnesses, and hazards pertaining to Alaska based industries is scattered. Workers' compensation data linked by injury and employer is needed. Limited or absent surveillance data and lack of analysis mute details of industry safety and health issues. While descriptive information is obtainable from enforcement agencies where federal and state statutes requires em-

ployers to maintain a log and summary of all recordable occupational injuries and illnesses for each worksite, this information may not be available in a usable format (e.g., electronic) for data analysis.

There is scientific merit for occupational injury surveillance using existing information to target in-depth industry studies to detail such traumatic injuries as blunt force trauma, amputation, laceration, and punctures and prevention mechanism currently in-place at the workplace. Discussions with federal, state, private, and community based stakeholders support the proposal to respond to the need for a more comprehensive surveillance model. By pooling resources to expand and refine injury surveillance, more details about occupational injury occurrence and trends will be available, leading to a proactive approach to occupational safety and health issues. Identification, accumulation, and analysis of new and existing data from state labor, public health, insurance, and other injury data sources will improve the quality and scope of information available for occupational injury studies, prevention prioritization, and targeted intervention.

Related Focus Areas

A variety of objectives in other *Healthy Alaskans* chapters are linked to objectives in *Occupational Safety and Health*.

- *Vision and Hearing*
- *Injury Prevention*
- *Respiratory Diseases*
- *Immunization and Infectious Diseases*
- *Arthritis and Osteoporosis*
- *Disability*

Reducing motor vehicle crashes and increasing helmet and seatbelt use, indicators in *Injury Prevention,* will reduce deaths and injuries while on the job. Reducing the number of occupational eye injuries and increasing the use of protection devices to prevent noise-induced hearing loss are indicators in the *Vision and Hearing* chapter. Occupational exposures to blood may infect workers with Hepatitis B, Hepatitis C, or HIV, indicators in *Immunization and Infectious Diseases and STD/HIV*. Occupational asthma is a significant risk for health care workers and seafood processors. Many disabilities such as osteoarthritis are caused by occupational injuries.

Endnotes

[1]Alaska Department of Labor. Alaska Economic Trends. December 1999.
[2]Alaska Department of Labor and Workforce Development. Alaska Economic Trends. April 2000.
[3] Alaska Department of Health and Social Services. Division of Public Health. Health Status in Alaska: 2000 Edition. December 1998.
[4]Husberg, B.J. et al. Surveillance for nonfatal work-related injuries in Alaska, 1991-1995. Am. J. Ind. Med. 1998; 34:49-498.
[6] Choromanski, D.M. Occupational Fatalities in Alaska – 1999. State of Alaska Epidemiology Bulletin, No. 16, September 22, 2000.
[5] Thomas, T. et al. Controlled flights into terrain accidents among commuter and air taxi operators in Alaska. Aviation, and Env Med. Nov. 2000; Vol 7(1), No. 11.
[8] National Institute for Occupational Safety and Health, Alaska Field Station. Unpublished data (1991-1998).
[6] U.S. Department of Labor, Bureau of Labor Statistics. Lost-Worktime Injuries and Illnesses: Characteristics and Resulting Time Away From Work, 1997.
[7] National Institute for Occupational Safety and Health. NIOSH Facts -Work-related musculoskeletal disorders, May 1997.
[8] U.S. Department of Labor, Occupational Safety and Health Administration. Occupational Exposure to Bloodborne Pathogens. 1996 (Revised) Online. Internet. December 2000.

References and Sources

Alaska

DHSS: Section of Epidemiology Occupational Injury Prevention Program	www.epi.hss.state.ak.us/programs/injury/injury.shtml
DOL: Labor Standards and Safety	www.labor.state.ak.us/lss/oshhome.htm
NIOSH: Commercial Fishing Fatalities in Alaska	www.cdc.gov/niosh/fishphs.html

National

National Institute for Occupational Safety and Health	www.cdc.gov/niosh/homepage.html
Occupational Safety & Health Administration	www.osha.gov/