Hudson, Diana
National Institute of Occupational Safety and Health, USA
Cold-related Injuries in Alaska, 1991-1999
Co-authors: Conway, George; Ekman, Robert; Hunt, Angela

Problem
Alaska is the largest and northernmost of the United States, comprising 20% of the total landmass of the US. Average seasonal snowfall is 176.5 cm (69.5 inches) for Anchorage and 178 cm (70.1 inches) for Fairbanks, but it can reach as high as 833 cm (328 inches) in Valdez.
While comparison non-fatal data is not reliably available for the U.S., as a whole, Comparison of cold-related mortality data in Alaska with the rest of the United States demonstrated that people within Alaska were at higher risk for such deaths. The data for 1991-98 revealed an average cold-related death rate for this nine-year period of .21 per 100,000 US (excluding Alaska) residents. In contrast, the Alaska-specific average cold-related death rate
for this period was 1.9 per 100,000 Alaska residents, an average rate that was nine times higher than the rest of the U.S.

Objectives
The year-round potential for cold-related injuries has resulted in the formulation of a research question: Are the patterns associated with cold-related injuries to workers in Alaska different than those that occur to people whose injuries occurred outside of work place settings?

Method or Approach
To determine the patterns associated with cold-related injuries in these groups, we analyzed records of all nonfatal injuries requiring hospitalizations of over 24 hours contained within the Alaska Trauma Registry (ATR) for 1991-1999. This database is unique in that it contains longitudinal state-wide, population-based data. Denominator data for worker and other populations was obtained from the State of Alaska Department of Labor and the U.S. Census Bureau.

Results
A comparison of work-related and non-work-related nonfatal cold-related injuries in Alaska demonstrated few differences between these two groups. For both populations, the most common mechanism for injury was frostbite of exposed extremities. The factors associated with work-related injuries did not vary significantly from those associated with the non-work-related injuries, with the exception that some of the work-related injury frequencies varied significantly with race/ethnicity. African-American males serving in the U.S. Armed Forces in Alaska had higher injury rates ($x2=38.55$, $p<0.0001$) for cold-related injuries when compared to all other workers within the Occupational Group. These injuries often occurred during training and/or field exercises. Within the non-work-related injury population, drug and alcohol involvement was much more likely to occur, vs. the work-related injury population ($x2= 41.68$, $p<0.0001$).

Conlusion
The reduction of risk factors for non-fatal injuries in both of these populations should target the prevention of frostbite. For at-risk workers, especially for those spending much of their worktime outdoors and/or in the military, such approaches could involve improved training on managing cold exposure, self-assessment of distal and/or exposed body parts for early signs of cold injury, greater attention to warm clothing and footwear, and more stringent supervision while workers are outdoors. Because of the complex social factors surrounding drug and/or alcohol use and the resultant impaired judgment, successful interventions in that milieu should include the use of any available community services to remove at-risk persons from cold weather environments before injuries occur.

Hugi, Martin
Swiss Council for Accident Prevention (bfu), Switzerland
"bfu's national fall prevention campaign": Adaptations in the home

Problem
Adults are frequently carried away by "irresponsible" actions, no matter how widely experienced and no matter how dire the warnings. There are men who light firewood with methylated spirits. There are women who climb onto an office chair with castors to hang curtains. There are senior citizens who wear worn-out slippers when climbing badly lit or unlit stairs, just to save a little on electricity. Let us be honest, we all know that such actions are dangerous - but, sometimes, the urgency of the moment takes over and we give in to what is most convenient or to save additional outlay. In addition, particular circumstances play a role in facilitating accidents. These include, for example:

- being distracted
- forgetfulness
- tiredness/overstrain
- ignorance
- shortage of time
- untidiness
- technical faults/defects

Objectives
Accident statistics show that most accidents are attributable to human error. The primary objective must therefore be to exclude this main cause as far as possible. The spontaneous reaction is frequently to introduce measures such as education, training, regulations, warning signs or, quite simply, to appeal to healthy common sense. These measures are basically correct but should not be given prominence. Practice has shown that the human factor is a fairly unreliable element with only a short span of influence in a safety system.

Cold-related Injuries in Alaska, 1991-1999

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Co-Author(s) Hunt, Angela
Conway, George
Ekman, Robert

Problem under study

Alaska is the largest and northernmost of the United States, comprising 20% of the total landmass of the US. Average seasonal snowfall is 176.5 cm (69.5 inches) for Anchorage and 178 cm (70.1 inches) for Fairbanks, but it can reach as high as 833 cm (328 inches) in Valdez. While comparison non-fatal data is not reliably available for the U.S., as a whole, Comparison of cold-related mortality data in Alaska with the rest of the United States demonstrated that people within Alaska were at higher risk for such deaths. The data for 1991-98 revealed an average cold-related death rate for this nine-year period of .21 per 100,000 US (excluding Alaska) residents. In contrast, the Alaska-specific average cold-related death rate for this period was 1.9 per 100,000 Alaska residents, an average rate that was nine times higher than the rest of the U.S.

Objectives

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Methodology

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Conclusion

The reduction of risk factors for non-fatal injuries in both of these populations should target the prevention of frostbite. For at-risk workers, especially for those spending much of their worktime outdoors and/or in the military, such approaches could involve improved training on managing cold exposure, self-assessment of distal and/or exposed body parts for early signs of cold injury, greater attention to warm clothing and footwear, and more stringent supervision while workers are outdoors. Because of the complex social factors surrounding drug and/or alcohol use and the resultant impaired judgment, successful interventions in that milieu should include the use of any available community services to remove at-risk persons from cold weather environments before injuries occur.

Posterwalk

The number corresponds to the number of the poster board.

Road Safety
Child Safety
Violence Prevention
Work Safety and Health
Trauma, Disaster, Civil Protection, Terrorism
Sports, Leisure Safety
Suicide Prevention
Elder Safety
Home & Institutional Safety
Product Safety
Cross-Sectoral

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All posters remain hanging until 10:00 the following day.

Data Collection, Surveillance, Epidemiology

600 Amirzadeh, Farid
A survey of accidents incidence rate and their causes in workers of Shiraz factories
School of Health, Iran

601 Bényi, Mária
Occupational injuries among agricultural workers in Hungary 1997–2001
National Centre for Public Health, Hungary

602 Blank, Vera Lúcia Guimarães
Fatal occupational injuries from three information sources in Santa Catarina: What can we learn about these data?
Department of Public Health, Health Science Centre, Federal University of Santa, Brazil

603 Conway, George
Scientific worker and licensed professional deaths in Alaska, 1990–2002
CDC/NIOSH Alaska Field Station, USA

604 Ergor, Alp
Occupational risks of primary health care workers: first step for prevention
Dokuz Eylul Univ. School of Medicine, Dept. of Public Health, Turkey

605 Gousopoulos, Stavros
Reduction of accidents: a new strategy
University of Thace, Greece

606 Guanche, Humberto
Risk factors for traffic accident in professional drivers
Joaquin Albarran Hospital, Cuba

607 Hojo, Tetsuo
Analysis of human factors for safety management
Monotsukuri Institute of Technologists, Japan

608 Hudson, Diana
Cold-related injuries in Alaska, 1991–1999
National Institute of Occupational Safety and Health, USA

609 Jenkins, Lynn
Trends in workplace homicide, USA, 1993–2002
NIOSH, Division of Safety Research, USA

610 Jongkol, Pornsiri
Evaluation of discomfort related to a Tadauk pod pruning task
Suranaree University of Technology, Thailand

611 Jongkol, Pornsiri
Evaluation of work strains in lawn mowing task
Suranaree University of Technology, Thailand

612 Katsakiori, Panagiota
Modelling occupational injury mortality in Greece, 1995–2000
University of Patras, Greece

613 Kivimäki, Tuuli
Electrical accidents
Tampere University of Technology, Institute of Occupational Safety Engineering, Finland