Results
Drinking alcohol before driving was strongly associated with injury crashes after controlling for known confounders; self reported drinking of 2 or more 12g alcoholic drinks in the preceding six hours compared with none: OR 7.9 (3.4-18); blood alcohol concentration (BAC) 3-50 mg/100ml compared with <3 mg/100ml: OR 3.2 (95% CI 1.1-10.1); BAC > 50mg/100ml compared with <3 mg/100ml: OR 23 (95% CI 9-56). The proportion of serious car crash injuries attributable to alcohol in this population was approximately 30%. Nearly two-thirds of the alcohol-related injury burden was attributable to drivers with a BAC in excess of 150mg/100ml, and 15% to drivers with 50mg/100ml or less.

Conlusion
Most of the burden of alcohol-related crash injury is attributable to drivers with BAC <50 mg/100ml or BAC >150 mg/100ml, for whom the reduction of the legal limit to 80 or 50 mg/100ml is of limited relevance. These data support strategies focusing on drivers with very high BAC, and educating the public about the increase in risk associated with BAC below the legal limit.

Conway, George
CDC/NIOSH Alaska Field Station, USA
Risk factors for air transportation safety among air carrier operators and pilots in Alaska: A major survey and case-control analysis
Co-authors: Bensyl, Diana; Berman, Matthew; Hill, Alexandra; Manwaring, Jan; Martin, Stephanie; Moran, Katherine

Problem
A disproportionate number of all U.S. aircraft crashes occur in Alaska. Aviation crashes are now the leading cause of occupational fatalities in Alaska.

Objectives
To study pilot and company practices and attitudes in order to design policy options that would reduce aviation fatalities.

Method or Approach
Air carrier managers and active commercial pilots were surveyed for demographics, pilot flight hours (total, aircraft type, and instrument hours), Alaska flying experience, attitudes about safety, flying practices, and other salient risk factors. We also conducted a case-control analysis comparing responses to accident statistics, grouping large operators and their pilots into a case group and a control group based on estimated fatal accident rates during the period 1990-2000.

Results
Respondents generally agreed that improved weather sensing, via video cameras, weather reporting by and consultation with trained weather observers, improved decision-making policies and skills, and regional hazards training would be effective ways to prevent crashes. When asked whether a pilot's job is more dangerous than other jobs, among pilots working for large operations, 9% said much safer, 8% slightly safer, 31% as safe, 44% slightly more dangerous, and 7% much more dangerous. Pilots for small operators were even more optimistic: 8% much safer, 13% slightly safer, 52% as safe, 21% slightly more dangerous, and 6% much more dangerous. Case-control comparisons: the 14 operators with elevated fatal accident rates (cases) flew more hours, were less likely to consider pilot fatigue a problem, and were more likely to say that on-time delivery of mail was very important to their financial success than the other 66 large operators (controls). Although few differences appeared among operator responses of the cases and controls, differences in responses from their pilots reveal significant differences in operations: no pilot respondents employed by high risk firms were female; pilots flying for high risk firms have one-third fewer years of flying experience and about half as many instrument hours. On the other hand, these high-risk pilots worked significantly more hours in the past 12 months than other pilots, suggesting that they are flying more hours in their current jobs than other pilots. There were major differences in working conditions between pilots of high risk fatal crash cases and pilots of control firms, case pilots working 13 hours per day and 81 hours per week, one hour per day and 10 hours per week more than controls. Nearly 90 percent of case pilots reported that they never flew when so fatigued that they wanted to decline the flight (corroborating the finding that their operators did not view pilot fatigue as a scheduling problem), compared to 64 percent of pilot controls.

Conlusion
Operator-pilot comparisons suggest that financial pressures and incentives on operators may influence their views on what measures would be effective in preventing crashes. The case-control analysis revealed differences between high-risk and other operators and pilots which may be amenable to interventions, including changes in practice and training. Pilot's perception that their own risk for fatal injury while working is low to moderate is not consistent with reality. The relative risks for this occupation are quite high: for 1990-1999, aviation crashes in Alaska caused 106 civilian occupational pilot deaths, equivalent to 410/100,000 pilots/year (a 12% cumulative risk for a commercial pilot in Alaska being killed in an aircraft crash over a 30-year career), approximately 100 times the mortality rate for all U.S. The pilot fatality rate in Alaska is nearly five times the rate for all U.S. pilots (80/100,000/year).

Conway, George
CDC/NIOSH Alaska Field Station, USA
Scientific worker and licensed professional deaths in Alaska, 1990-2002
Co-authors: Moran, Katherine

Problem
Working in Alaska poses numerous hazards. Between 1990-2002, 797 Alaskans died while working. Several studies conducted over the past decade have identified commercial fishermen and pilots as the highest-risk occupations in the state.

However, not all decedents work in such high-risk industries. After the 2002 drowning death of a member of a scientific survey team in Prince William Sound, we undertook a modest study to examine the hazards of traumatic death that scientific and professional workers experience in Alaska.

Objectives
To understand and prevent fatal injuries in scientific and licensed professional workers

Method or Approach
For the purpose of this study, we defined a 'scientific worker' as a person who is working in Alaska as physical or life scientist, scientific technician, or data analyst. We defined a 'licensed professional' as any person whose occupation requires licensing either by state or federal agencies or one who is registered with the Alaska Department of Fish and Game as a Hunting and/or Fishing Guide. We excluded commercial pilots, fishermen, and miners from this study: although they also require occupational licensing, these Alaskan workers have been the subjects of previously published studies. Deaths were included in this study if a person died while working as a scientific or professional worker at the time of his/her death. The following data were compiled using the Alaska Occupational Injury Surveillance System.

Results
Between the years 1990 and 2002, there were 78 work-related events that resulted in 93 scientific/professional worker deaths (including 3 suicides). Fish, game, and mountaineering guides accounted for 28 (30.1%) of the worker deaths, followed by biologists, who accounted for 11 (11.8%). In addition to these scientific/professional worker deaths, a total of 39 non-scientific/professional workers were also killed as a result of these events (those fatalities included 13 pilots, 5 passengers, 5 miners, 7 hunters, 3 deckhands, 2 vessel skippers, 2 climbers, 1 repairperson, and 1 secretary. Aircraft crashes (most of which occurred in single-engine aircraft, most commonly by flying into terrain in poor visibility conditions) accounted for 43 (46.2%) of all scientific/professional worker deaths, followed by drowning, both vessel-related and non-vessel related, which resulted in 13 (14%) fatalities, and falls, which accounted for 9 (9.7%) fatalities. There were 9 homicides, 7 of which resulted from assaults on cab drivers. One seismologist was fatally mauled by a bear.

Conlusion
Scientific and professional workers in Alaska experienced a substantial number of fatalities from traumatic injury. Nearly half of these deaths occurred in aircraft crashes. Recommendations: Avoiding flying into limited visibility conditions, refraining from pressuring charter or air taxi pilots to fly into marginal conditions, and exercising caution during fish and wildlife spotting (to avoid mid-air collisions and 'moose stalls') might improve one's chances of surviving such trips. Workers should consider enplaning only aircraft with shoulder harness restraint systems and should wear the harness during all phases of flight. Those workers who will be flying in helicopters, or flying in fixed-wing aircraft in rough conditions, should consider wearing crash helmets at all times that the vehicle is in motion and/or airborne. All workers should wear flotation devices when wading or operating or riding in boats and marine vessels. All workers who will be climbing should obtain and use adequate equipment and assure that they are trained in proper climbing and rescue techniques

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Corcoran, Paul
National Suicide Research Foundation, Ireland
Findings from the national monitoring of hospital-treated parasuicide in Ireland
Co-authors: Perry, Ivan J; Williamson, Eileen

Problem
Parasuicide/deliberate self-harm

Objectives
To establish the extent of the problem of hospital-treated parasuicide in Ireland

Method or Approach
The National Parasuicide Registry Ireland is a national system of population monitoring for the occurrence of parasuicide that presents to acute hospitals. The definition of parasuicide used in the data collection system of the Registry is that developed by the WHO/Euro Multicentre Study Working Group. The definition includes acts involving varying levels of suicidal intent including definite suicide attempts and acts where the individual had little or no intention of dying. A minimal dataset has been developed to determine the extent of parasuicide, the circumstances relating to both the act and the individual and to examine trends by area. In 2002, parasuicide data were collected from 38 of the 41 acute hospitals in the country. Parasuicide data were also collected from all 16 Irish prisons and places of detention.

Results
Based on the near complete coverage of acute hospitals, we estimate that there were approximately 10,500 presentations to hospital due to deliberate self-harm/parasuicide involving approximately 8,400 individuals in 2002. The Irish person-based age-standardised rate of parasuicide was 202 per 100,000. There is some evidence that parasuicide is an increasing problem in Ireland. Repeated acts of self-harm represent a significant problem. One in five of all parasuicide presentations in 2002 were due to repeat acts. Rates among women are approximately 40% higher than among men - 237 and 167 per 100,000, respectively. Rates are particularly high in the young with currently 90% of all presentations to hospital as a result of deliberate self-harm involving individuals aged under 50 years. The peak rates for women are in 15-19 year-olds (626 per 100,000) while the peak male rates are in 20-24 year-olds (407 per 100,000). Rates of parasuicide in the larger urban centres generally exceed those observed in rural areas. In the data presented, it is clear that parasuicide is an urban problem in a broader sense as there are also high rates recorded for the Irish population living in smaller urban centres/districts. Taking a drug overdose was the commonest method of self-harm, representing 77% of all acts registered in 2002. While it is common for several drugs to be taken in the same act, minor tranquillizers, paracetamol and anti-depressants were involved in 42%, 30% and 23% of deliberate overdoses, respectively. Self-cutting was the second commonest method of self-harm, used as the

Scientific worker and licensed professional deaths in Alaska, 1990-2002

Author Conway, George
CDC/NIOSH Alaska Field Station, USA
Co-Author(s) Moran, Katherine

Problem under study

Working in Alaska poses numerous hazards. Between 1990-2002, 797 Alaskans died while working. Several studies conducted over the past decade have identified commercial fishermen and pilots as the highest-risk occupations in the state. However, not all decedents work in such high-risk industries. After the 2002 drowning death of a member of a scientific survey team in Prince William Sound, we undertook a modest study to examine the hazards of traumatic death that scientific and professional workers experience in Alaska.

Objectives

To understand and prevent fatal injuries in scientific and licensed professional workers

Methodology

For the purpose of this study, we defined a 'scientific worker' as a person who is working in Alaska as physical or life scientist, scientific technician, or data analyst. We defined a 'licensed professional' as any person whose occupation requires licensing either by state or federal agencies or one who is registered with the Alaska Department of Fish and Game as a Hunting and/or Fishing Guide. We excluded commercial pilots, fishermen, and miners from this study: although they also require occupational licensing, these Alaskan workers have been the subjects of previously published studies. Deaths were included in this study if a person died while working as a scientific or professional worker at the time of his/her death. The following data were compiled using the Alaska Occupational Injury Surveillance System.

Results

Between the years 1990 and 2002, there were 78 work-related events that resulted in 93 scientific/professional worker deaths (including 3 suicides). Fish, game, and mountaineering guides accounted for 28 (30.1%) of the worker deaths, followed by biologists, who accounted for 11 (11.8%). In addition to these scientific/professional worker deaths, a total of 39 non-scientific/professional workers were also killed as a result of these events (those fatalities included 13 pilots, 5 passengers, 5 miners, 7 hunters, 3 deckhands, 2 vessel skippers, 2 climbers, 1 repairperson, and 1 secretary. Aircraft crashes (most of which occurred in single-engine aircraft, most commonly by flying into terrain in poor visibility conditions) accounted for 43 (46.2%) of all scientific/professional worker deaths, followed by drowning, both vessel-related and non-vessel related, which resulted in 13 (14%) fatalities, and falls, which accounted for 9 (9.7%) fatalities. There were 9 homicides, 7 of which resulted from assaults on cab drivers. One seismologist was fatally mauled by a bear.

Conclusion

Scientific and professional workers in Alaska experienced a substantial number of fatalities from traumatic injury. Nearly half of these deaths occurred in aircraft crashes. Recommendations: Avoiding flying into limited visibility conditions, refraining from pressuring charter or air taxi pilots to fly into marginal conditions, and exercising caution during fish and wildlife spotting (to avoid mid-air collisions and 'moose stalls') might improve one's chances of surviving such trips. Workers should consider enplaning only aircraft with shoulder harness restraint systems and should wear the harness during all phases of flight. Those workers who will be flying in helicopters, or flying in fixed-wing aircraft in rough conditions, should consider wearing crash helmets at all times that the vehicle is in motion and/or airborne. All workers should wear flotation devices when wading or operating or riding in boats and marine vessels. All workers who will be climbing should obtain and use adequate equipment and assure that they are trained in proper climbing and rescue techniques

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.

Tuesday, June 8th, 2004

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