Session: D2.0
Title: Alaska's Model Program for Surveillance and Prevention of Occupational Injuries
Category: Special Session
Organized by George Conway, National Institute for Occupational Safety and Health
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D2.1 Alaska's Model Program for Surveillance and Prevention of Occupational Injury Deaths—Conway GA, Lincoln JM, Husberg BJ, Manwaring JC, Klatt ML, Thomas TK

Background: The National Institute for Occupational Safety and Health (NIOSH) established its Alaska field station in Anchorage, Alaska in 1991 after identifying Alaska as the highest-risk state for U.S. traumatic worker fatalities. Since then, we have established comprehensive occupational injury surveillance in Alaska, and formed and facilitated interagency working groups (of state and federal agencies) to address major factors leading to occupational death and injury in the state.

Methods: Establishment of a surveillance system, obtaining information via data-sharing with jurisdictional agencies and from direct on-site investigation of incidents. Collaboration with state and regional government agencies, industry, workers, and non-governmental organizations to develop interventions. Translation of complex scientific manuscripts to "worker-friendly" texts for workplace dissemination.

Results: Since 1991, Alaska has experienced a 50 percent overall decline in work-related deaths by 1999, including a substantial decline in commercial fishing deaths, and a very sharp decline in helicopter logging-related deaths. These efforts have lead to major national and international government-industry collaborative efforts in improving safety in helicopter lift operations, and a concomitant improvement in fishing industry mortality in workers fishing Alaskan seas.

Conclusions: Using surveillance data as information for action, these collaborative efforts have contributed to reducing mortality in Alaska's high occupational fatality rate. This has been most clearly demonstrated in the rapidly expanding helicopter logging industry. The application of surveillance data has also played an important supportive role in the substantial progress made in reducing the mortality rate in Alaska's commercial fishing industry (historically Alaska's (and America's) most dangerous industry, and largest killer of Alaskan workers). Results suggest that extending such a regional approach to other parts of the country, and application of these strategies to the entire spectrum of occupational injury and disease hazards could have a broad impact toward reducing occupational injuries.

D2.2 Preventing Fatalities and Severe Non-fatal Injuries in Alaska's Commercial Fishing Industry—Lincoln JM, Husberg BJ, Conway GA

Purpose: Fatalities and non-fatal injuries have been inordinately common in Alaska's commercial fishing industry. Over 90% of these deaths were due to drowning, following vessel capsizings/sinkings and 60% of the non-fatal injuries resulted from being entangled, struck or crushed by fishing equipment. The purpose of our study was to examine the effectiveness of the current safety measures in reducing the high fatality and non-fatal injury rate of Alaska's commercial fishermen.

Method: Alaska Occupational Injury Surveillance System and Alaska Trauma Registry data were used to examine fishing fatalities and injuries. Demographic, risk factor, and incident data were compiled and analyzed for trend.

Results: During 1991-1999, there was a significant ($p<0.001$) decrease in Alaskan commercial fishing deaths. Although drownings from vessel-related events during the crab fisheries haven't decreased as much as in other fisheries, significant progress ($p<0.001$) has been made in saving lives of fishermen involved in vessel-related events. Specific measures tailored to prevent drowning in vessel capsizings and sinkings have been very successful so far. However, these events continue to occur, placing fishermen at substantial risk. Additional efforts toward vessel stability, hull integrity, and avoidance of harsh weather conditions must be made to reduce the frequency of vessel events. From 1992-1997 there were 536 severe injuries (437/100,000/year) and there has been no significant downward trend of the most severe injuries (AIS >3). Injuries included fractures (257[50%]), open wound (64[12%]), burns (28[5%]), amputations (27[5%]), and contusions (27[5%]); 60% resulted from being entangled, struck or crushed by fishing equipment and 25% from falls. The nature of these fatalities and injuries reflect that modern fishing vessels are complex industrial environments posing multiple hazards. Measures are urgently needed to prevent and mitigate falls overboard and on deck, and improve equipment handling and machinery guarding.

D2.3 Pilot Inexperience May Increase the Hazards in Alaska, 1990-1998—Bensyl DM, Manwaring JC, Conway GA

Background: Vast mountain ranges and glacial ice impede road transportation in Alaska, making aircraft essential for providing goods and services. Professional pilots in Alaska have substantially increased risk for dying while working: over a 30-year career, they have an 11% chance of dying while working, compared to 2.5% for US pilots and 0.4% for non-pilot workers. To reduce this rate, determining factors underlying injury crashes is necessary.

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ABSTRACTS

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