

D2.3

Title: Making Alaska's Fishing Industry Safer: Applied Epidemiology and Engineering

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The majority of fatal injuries in Alaskan commercial fishing industry are caused by vessel loss and man overboard incidents. The Alaska Trauma Registry (ATR), a database of hospitalized nonfatal injuries, allows us to identify causes and other details for nonfatal injuries in this industry. This paper will cover how injury surveillance information from ATR has led to the specific engineering recommendations to prevent injuries in this industry.

ATR collects information on all patients, in all 24 hospitals in Alaska, who have been injured/hospitalized for more than 24 hours. Over 150 data elements are collected for each case in ATR. Examples collected include cause of injury, nature of injury, body region injured, severity, and a comprehensive injury description text field.

ATR has information for 648 hospitalized nonfatal injuries in commercial fishing industry from 1991 through 1999. Machinery was the cause for most injuries (205), followed by falls (163), struck by an object (100). For nature of injury, the most common type were fractured bone (309), open wound (77), and burns (32). Body region most commonly injured includes upper extremities (203), lower extremities (189), and head (96). A review of narrative field for machinery identified crab pot launcher, crane, and bait chopper as the cause of most machinery injuries.

Surveillance information from ATR has assisted in identifying and prioritizing causes for nonfatal injuries in this industry. Collaboration between NIOSH, U.S. Coast Guard, safety engineers, and the fishing industry has taken place to identify specific injury prevention measures for the injuries identified. These engineering interventions include increasing visibility on deck, guides to help control the crab pot in rough seas, easy to fabricate bait chopper guards, and rail height and seawall recommendations. These recommendations have been published in a handbook for fishermen to use in modifying their vessels.

D2.4

Title: Fatality Assessment and Control Evaluation in Alaska

Author: Hull-Jilly DMC

Study Objective: To describe demographics and causal factors of fatal traumatic injuries among workers in Alaska and potential prevention strategies and interventions for workers facing similar risks.

Methods: Data from the Alaska Fatality Assessment and Control Evaluation (AK-FACE) database (1992-2001) and Alaska Occupational Injuries database plus Alaska Vital Statistics death certificates were reviewed and analyzed. Data elements included are incident type, occupation, industry, ICD 9-CM E-codes, narratives, notification source, and post-investigation recommendations.

Results: During 1990 through 2001, 702 work-related deaths were identified. Since August 1992, 570 deaths were recorded in the AK-FACE database. The overall rate of work-related deaths in Alaska is declining. Often, jobs were in acutely perilous environments, on frigid waters and in steep or mountainous terrain. Eighty percent (454/570) of fatally injured workers were white males, the majority between the ages of 25 and 44 years. The leading five occupations were fishers/hunters/trappers (156/570), aviators (98/570), military personnel (46/570), marine crewmen (35/570) and helpers/laborers (28/570). Of the 420 fatal work-related incidents identified, 80% involved one victim. Approximately two-thirds of non-aviation, non-commercial fishing work-related deaths occurred in sparsely populated, remote sites. Significant prevention strategies developed by the AK-FACE program have included redistribution of "Flyer's Rights" wallet-size safety card, timber cutter safety video, and teen employee/business owner safety seminars.

Conclusions: Since 1992, the rate of worker deaths has declined in Alaska. Alaska's high rate of traumatic occupational death is, in part, a function of the distribution of workers in hazardous industries and high-risk environments. The AK-FACE program has enabled a collective of municipal, state, and federal agencies and private sector organizations and companies to develop efficacious multi-agency strategies and interventions to reduce the high rate of occupational fatalities. The intervention strategies by the program and its partners may have played a significant role in the reduction of work-related fatalities.

D2.5

Title: Surveys of Alaska's Aviation Industry

Authors: Conway GA, Manwaring J

Purpose: Air travel in Alaska can be hazardous; aircraft crash is a leading cause of death in Alaskan workers. We wanted to ascertain current safety practices, beliefs, and strategies in Alaska's aviation industry.

Methods: We contracted a local university to conduct surveys by mail, telephone, and in-person. Separate instruments were developed for operators and pilots. The sampling scheme was complex. Pilots surveyed were contacted through their employers.

NOIRS 2003 ABSTRACTS

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