have been or will be disseminated to health promoters and educators, industry representatives, and safety and health specialists.

Conclusions: Effective occupational injury and fatality surveillance systems should contain not only mechanisms to obtain the most accurate facsimile of an event, but also a strategy to generate and disseminate recommendations on how to improve and ensure worker safety and safe industry conditions.

The Use of Sentinel Injury Deaths to Evaluate Reporting for Occupational Injuries

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Objectives: To evaluate the validity of various sources of data on fatal occupational injuries, using a series of sentinel injuries as an alternative to the more expensive and time-consuming total census approach.

Methods: All deaths from three sentinel injuries (falls from elevations, machinery-related injuries, and electrocutions) were identified from vital statistics. The work-relatedness of these injuries and sensitivity of reporting were determined from a variety of different sources in Maryland from 1980-1986. These three injury groups account for 30% of all fatalities due to work-related injury nationally.

Results: A total of 527 deaths were identified for ages $\geq$16, of which 45% were work-related. The ability to identify these deaths varied by source: medical examiner (98%), death certificates (89%), NIOSH's National Traumatical Occupational Fatality System (NTOF) (68%), Maryland Occupational Safety and Health Administration (59%), and Worker's Compensation (44%). There was meaningful variation in reporting by age, cause of injury, year, occupation, and industry. Administrative errors in reporting of death certificate data to NTOF were also uncovered.

Conclusions: Estimates of work-related fatalities vary widely by source of data and methods used. This study demonstrates that sentinel injuries can be a useful and efficient means of evaluating existing data sources for reporting occupational injury. Similarly, such sentinel injuries could be used to improve injury surveillance investigation and to develop effective control programs at the state level.

The Fatal Accident Circumstances and Epidemiology (FACE) Experience in Colorado

McKenzie L, McCammon J, Hoffman R, Colorado Department of Health, United States

Objectives: To establish an investigation program aimed at reducing occupational fatalities in Colorado.

Methods: Cooperative agreements with the federal Occupational Safety and Health Administration (OSHA), Mine Safety and Health Administration (MSHA), and Colorado Workers Compensation system, linked with review of state death certificates and reporting by state and local law enforcement agencies and county coroners have enabled CDH to identify and investigate 127 work-related fatal injuries occurring from April 1989 to July 1992. We evaluated the response time and effectiveness of these notification methods. All investigations are conducted using the Fatal Accident Circumstances and Epidemiology (FACE) protocol developed by the Division of Safety Research (DSR), NIOSH. The determination of the primary, secondary, and basic causes of each injury and separation into the major

Standard Industrial Classification (SIC) codes has facilitated the development of industry-specific profiles. Secondary causes are further separated into hazardous practices and hazardous conditions.

Results: Each profile illustrates the common characteristics of fatal injuries within an industry and provides a method to enhance awareness within that industry. Company size and geographic location have been found to be critical factors, along with severity of the initial injury. Case reports and profiles are distributed to business, labor and safety organizations, and trade journals.

Conclusions: The investigation of occupational fatalities by nonregulatory agencies provides valuable information not usually obtained and can be used to develop industry-specific training programs.

Fatal Accident Circumstances and Epidemiology (FACE): Expansion of a Successful Model for the Surveillance, Investigation, and Prevention of Occupational Fatalities

Smith LD, Helmkamp JC, Casini VJ, National Institute for Occupational Safety and Health, United States

Objectives: To describe a model of national fatal occupational injury surveillance, investigation, and prevention and its potential for implementation in other countries.

Methods: The FACE program, consisting of 10 volunteer states and 9 federally funded states, uses the traditional epidemiologic agent-host-environment model to accurately describe the pre-event, event, and post-event phases of targeted fatal occupational incidents. Through surveillance and epidemiologic investigations, potential risk factors are identified and injury intervention strategies are developed.

Results: From May 1982 through August 1992, over 400 field investigations were conducted in the 19 states: 53% concerned electrocutions; 23%, fall-related fatalities; 16%, confined-space-related fatalities; and 8%, other causes. Recommended injury intervention strategies included the implementation of engineering controls, working in accordance with national safety standards, establishing and following safe work practices, and wearing proper personal protective equipment. The FACE data have been extensively used to target dissemination of prevention strategies and to guide national safety policy. To meet the national goal of measurably reducing traumatic occupational fatalities, NIOSH plans to expand FACE to include all occupational fatalities in all states.

Conclusions: The FACE model has been demonstrated as an effective tool for identifying and describing fatal occupational injuries and developing prevention strategies. This model could be expanded to other countries to assist in reducing fatal occupational injuries throughout the world.

Session 2030
Suicide

Suicide Attempts: Community-Based Study of Demographic, Mental Disorder, and Family History Risks

Sorenson SB, Southern California Injury Prevention Research Center, UCLA, United States

Objectives: To estimate risk of suicide thoughts and acts associated with demographic and psychiatric factors and family history.

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Abstracts

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