Oklahoma Fatality Assessment and Control Evaluation Project
Final Progress Report
September 1, 2004 - August 31, 2007
5 U60 OH008342
November 20, 2007

Pam Archer, M.P.H
Principal Investigator

Tracy Wendling, M.P.H.
Project Director

Injury Prevention Service
Oklahoma State Department of Health
1000 N.E. 10th Street
Oklahoma City, Oklahoma 73117-1299
Phone: (405) 271-3430
E-mail: pama@health.ok.gov

Table of Contents

List of Terms and Abbreviations

CFOI—Census of Fatal Occupational Injuries

FACE—Fatality Assessment and Control Evaluation

IPS—Injury Prevention Service

NIOSH—National Institute of Occupational Safety and Health

OKFACE—Oklahoma Fatality Assessment and Control Evaluation

OSHA—Occupational Safety and Health Administration

PEOSH—Public Employees Occupational Safety and Health

U.S.—United States

Abstract

The Oklahoma State Department of Health, Injury Prevention Service (IPS) conducted a project to identify risk factors for workers at highest risk of fatal or severe injuries in order to develop strategies for injury prevention. The project included collection of statewide population-based occupational fatality surveillance data, on-site investigations of specific work-related deaths, data analysis, preparation of reports on work-related deaths, and making prevention recommendations.

In Oklahoma, approximately 100 occupational injury deaths are reported annually. Transportation incidents account for the highest number of deaths; a high rate of agriculture-related deaths also occur. Men accounted for 93% of work-related deaths in 1998-2006. Injuries occurred most commonly among workers 35-54 years of age.

Site visits were conducted and in-depth reports of investigation were prepared for targeted occupational fatalities. Occupational fatalities targeted for this project included youth (<18 years) fatalities, machinery-related fatalities, and immigrant fatalities. The reports included a summary of the incident, information from the investigation, recommendations for prevention, and references. The impact of the reports was evaluated with report-specific feedback surveys. Evaluation surveys obtained information on the overall impression of the report, report length, technical level of writing, if the report would influence their work practices, and how they would utilize the information in the report. Response rates were as high as 48%. Feedback obtained was used to improve the quality of future reports of investigation.

In addition to the groups of workers studied in the in-depth reports of investigation, additional subgroups of work-related deaths were examined. Detailed data collected in the comprehensive, multi-source, statewide occupational fatality surveillance system were analyzed and reports were prepared on work-related homicides, jump-start/bypass-start-related fatalities, work-related deaths among young workers under 25 years of age, and highway work zone-related deaths. Summary data reports were also prepared annually with the final data report covering occupational fatalities from 1998-2006. The summary reports included epidemiologic analyses on age, gender, race, ethnicity, time of day, month of incident, industry, geographic location, and trends by year.

The Occupational Injury chapter of *Injury Free Oklahoma: Strategic Plan for Injury and Violence Prevention* provided guidance for the IPS on conducting farm safety education in targeted areas of Oklahoma.

Highlights/Significant Findings

In July 1997 when the IPS was first awarded a Fatality Assessment and Control Evaluation (FACE) grant, the Oklahoma Commissioner of Health used his authority to declare occupational fatalities a reportable condition for special study. This mandate allowed collection of surveillance data from a variety of sources, including the Office of the Chief Medical Examiner, the Oklahoma State Department of Health Vital Records Division, the Occupational Safety and Health Administration (OSHA), the Oklahoma Department of Labor Public Employees Occupational Safety and Health (PEOSH) division, IPS reportable injury surveillance databases, and additional supplemental data sources. Obtaining the data from multiple sources was instrumental to the success of the surveillance system since the data could not be obtained from any single source. Surveillance data were analyzed to characterize the epidemiology of work-related deaths, to identify high-risk groups, and to monitor trends.

Oklahoma Fatality Assessment and Control Evaluation (OKFACE) personnel conducted in-depth site investigations on machinery-related deaths, occupational deaths among youth, and work-related fatalities among immigrant workers. Deaths associated with the following types of machines/equipment were investigated: forklifts, skid-steer loaders, tractors, tread scrap machine, manlift, bulldozer, and oil field equipment. Reports of investigation with information on the incident and recommended prevention measures were prepared and distributed to appropriate audiences, including businesses doing similar work. Feedback received on reports was shared with the National Institute of Occupational Safety and Health (NIOSH) and used to improve future reports.

Detailed analyses and reports were also prepared on work-related homicides, jump-start/bypass-start-related fatalities, work-related deaths among young workers, and highway work zone-related deaths. The reports were distributed or presented to a very wide audience, including persons on the OKFACE mailing lists, hospitals, injury prevention specialists, county health departments, emergency medical services, fire departments, and the media.

Preventing occupational injuries and deaths is a complex challenge that requires collaborative efforts and input from a variety of agencies, organizations, businesses, NIOSH, and other state FACE projects.

Translation of Findings

Twenty in-depth investigation reports were prepared on 2004-2006 work-related fatality incidents. Information in the reports was based on a site visit, interviews with managers/co-workers and law enforcement officers, and OSHA/PEOSH reports. The reports included a brief summary of the incident and a list of recommendations to prevent similar incidents in the future. They also included an

in-depth narrative on how the death occurred, the cause of death, a detailed discussion of recommendations, and references. The format of the reports allowed safety officers to use the reports as training tools at formal meetings and/or tailgate sessions, thus translating the findings to direct employee training.

The target audience for each report was considered to maximize effective use of the report. The IPS developed several diverse mail/e-mail lists for selective distribution of the reports, including Oklahoma Safety Council members (n=875), career technical schools (n=96), county extension offices (n=92), farm cooperative businesses (n=166), Future Farmers of America leaders (n=450), medical examiners (n=302), other FACE states (n=25), and NIOSH (n=9). In addition, specific mailing lists of similar businesses were determined and obtained for the reports, such as bowling centers (n=71) for a death due to a bowling pin machine. NIOSH publications were occasionally sent along with an investigation report. For example, an OKFACE report on a dumpster-related fatality was sent along with a NIOSH Alert on waste disposal trucks to all landfills, trash management companies, and city managers in the state (n=210). The IPS has received numerous comments from persons who have received the reports about how they have used the reports. Trainers have commented that workers "pay more attention" to the reports and that the reports "hit home" because they are real life incidents and not theoretical examples. Reports could also be used in the future by engineers or equipment manufacturers to identify areas for design of additional safety features.

IPS personnel combined efforts with other programs to distribute information on work-related deaths. For example, a county health department held influenza immunization clinics in farm cooperative businesses in local communities. IPS personnel brought farm safety information to the clinics and discussed safety issues with farmers at the clinic. In addition, the IPS participated in farm safety day camps, teaching children about tractor and ATV safety. Approximately 200 children between the ages of 6 and 14 years attended the farm safety day camps annually. Several other presentations on work-related safety were conducted for various audiences/settings, including elementary, junior high, high school, and university students, industrial hygienists, the Governor's Safety Conference, Oklahoma Department of Labor, Oklahoma Corporation Commission, Oklahoma Chapter of the American Society of Safety Engineers, and the Association of County Commissioners. In addition, poster presentations on work-related fatalities were displayed at the World Conference on Injury Prevention and Safety Promotion, the Council of State and Territorial Epidemiologists conference, the Oklahoma Grange Chapter conference, and Oklahoma Safety Council conferences. Poster presentations topics have included work-related homicides, farming safety in Oklahoma, jump-start/bypass-start-related fatalities, oil and gas industry hazards, and the OKFACE project. OKFACE personnel also worked closely with the Oklahoma Safety Council to plan the annual Governor's Safety Conferences.

Outcomes/Relevance/Impact

Since a primary activity of the Oklahoma FACE project was developing descriptive, prevention-oriented reports on workplace fatality investigations, a key element utilized in evaluating our impact was report-specific feedback surveys. The IPS sent out evaluation surveys on 11 reports during 2004 and 2005. Some evaluation surveys were sent to all persons who received the report; however, evaluation surveys were usually sent to a targeted group or industry (e.g., bowling centers, poultry producers, construction contractors) on a related fatality. The evaluations asked readers about: a) their overall impression of the report; b) report length and writing style; c) if the report would influence their work practices; and d) how they would utilize the information. With response rates as high as 48%, the returned surveys provided valuable feedback. Virtually all respondents rated the reports as excellent or good overall and at a technical writing level that was "just about right." Most reported the length was "just about right," although some stated that they would have preferred a one-page summary. Respondents shared their experiences in similar situations and helped spread the prevention recommendations to others. The evaluations have allowed us to evaluate resource allocation by ensuring these groups found the reports useful, and they provided feedback from a perspective outside of the industry on how the information can translate across occupations. By soliciting feedback, incorporating comments, and adopting additional proposed recommendations, we enhanced "buy-in" from Oklahoma workers and other stakeholders, which improved the project's quality and reach into the community. Some of the positive responses received are listed below.

- "I use these reports in my classes. I get favorable responses from my students. Some students say the reports caused them to change the way they operate equipment. These are very beneficial."

- "I like all the information you have sent us. I read it from front to back and then I put it out for all the customers to read and the two guys that work here. We discuss some of the topics during safety meetings. I appreciate all of your hard work and dedication to bringing us this helpful information."

- "[I] made copies and posted in all employee areas. I also reviewed it with all employees at [the] monthly safety meeting."

- "Thank you for the information concerning worker safety. We share your enthusiasm to provide the safest workplace for all of our employees. While I have much empathy for the family of the worker that died, I do like the fact that it was an issue concerning a recent event. Hopefully this will help bring the matter of 'safety' to the forefront for all of us. Continue sending us information."

- "These reports are very beneficial in classroom settings. They give the students real world awareness to the importance of safety practices in everyday life and at work."

- "While this specific incident is specific to agriculture, the lessons and failures can be studied and applied to many of our daily activities....Keep up the good work."

- "Thanks for the information; I will use it in training this week."

- "I will share it at job-box safety meetings to make others aware of the dangers."

- "The reports help to keep everyone thinking safety."

- In response to what practices respondents plan to change....
  - "Be aware of surroundings."
  - "Have more safety training for employees."
  - "Use fall protection."
  - "Use guardrails around floor and roof openings."
  - "I put a second lockout-tagout notice on all my machines."
  - "Our field personnel will review pumping unit servicing operations with well service personnel."
  - "Ensure engine is shut off before beginning maintenance."
  - "Never work alone."
  - "Remind employees more often of the safety issues and dangers."
  - "Develop written procedures."
  - "Ensure proper ventilation."
  - "Reading safety material."

While conducting the OKFACE project, IPS personnel found that many death certificates were inappropriately marked for the "Injury at Work" variable on the death certificate. For example, persons who died while working at their secondary/part-time occupation of farming were sometimes not coded as a work-related death. In addition, persons who died from a heart attack (natural death) while at work were sometimes coded incorrectly as a work-related death. The IPS worked to improve the accuracy of reporting work-related deaths on death certificates. An 8½ by 4 inch laminated card for medical examiners and physicians was developed that specifically defined when "Injury at Work" should be checked and when it should not and included examples. When OKFACE personnel identified a death certificate that appeared to be marked inappropriately, a letter was sent to the physician explaining the concern and reasoning, along with the laminated card and an amendment sheet to modify the death certificate (if the physician agreed with the change). By increasing the accuracy of the "Injury at Work" variable on Oklahoma death certificates, data on work-related incidents reflect the problem more precisely for guiding targeted

prevention measures and for conducting evaluations. The increase in accuracy is particularly important for users solely looking at vital statistics data.

Scientific Report

Background. Occupational injuries are a significant public health problem in the United States (U.S.) and in Oklahoma. Surveillance data from the national Census of Fatal Occupational Injuries (CFOI) indicate that in the U.S. almost 6,000 persons die each year from occupational injuries. The four leading causes of work-related fatalities from 1992-2006 were highway incidents, homicides, falls, and struck by object. For 2006, the industry sector with the highest number of injuries was construction. Overall, males accounted for 92% of fatal injuries. Persons 25-54 years of age had the highest number of injuries.

In Oklahoma, approximately 100 occupational injury deaths are reported annually by the CFOI program. In 2005, transportation incidents accounted for the highest number of deaths. Overall, men accounted for 93% of deaths. Injuries occurred most commonly among workers 35-54 years of age.

Most injuries are not random accidents, but predictable, and therefore, preventable. The IPS implemented the OKFACE project to identify risk factors for workers at highest risk of fatal or severe injuries and to implement injury prevention strategies.

Specific Aims. The specific aims of the project are listed below with accomplishments on each specific aim.

1. Maintain the comprehensive, multi-source, statewide occupational fatality surveillance system. The IPS began collecting data on fatal occupational injuries statewide in July 1997 and continued through December 2006. (Work-related death surveillance has continued for 2007 through other grant funds.) Deaths are reported by the Office of the Chief Medical Examiner, the Oklahoma State Department of Health Vital Records Division, OSHA, PEOSH, IPS reportable injury surveillance databases, and additional supplemental data sources.

2. Conduct in-depth site investigations of targeted occupational fatalities and distribute reports to at-risk groups and organizations. OKFACE personnel conducted 20 in-depth site investigations for occupational youth, immigrant, and machinery-related deaths. The IPS contracted with a Field Investigator to conduct the site investigations and prepare the reports. OKFACE staff accompanied the Field Investigator on the site visits, and the reports were reviewed and edited by internal and external reviewers. The investigation reports have been widely distributed; NIOSH reports have been distributed along with some investigation reports on similar topics.

3. Analyze occupational fatality surveillance data and provide reports to NIOSH and local/state entities at least twice a year. Data collected in the OKFACE surveillance system were analyzed and data summaries were prepared annually. The most recent data summary report included data from 1998-2006. In addition to annual data summary reports, four *Injury Update* reports were prepared on subgroups of work-related fatalities (see Materials Available for Other Investigators section below).

4. Implement a farm safety education campaign in targeted areas. As recommended by the *Injury Free Oklahoma: Strategic Plan for Injury and Violence Prevention* chapter on Occupational Injuries and Fatalities, OKFACE personnel have conducted prevention efforts in the agriculture industry. OKFACE personnel participated in influenza immunization clinics at rural cooperative stores; the cooperatives are a common gathering place for farmers. During the clinics, a farm safety video ran continuously and farm safety education information was provided. A general presentation on agriculture safety was prepared, and OKFACE personnel participated in a farm safety day camp and in the Oklahoma Grange Chapter conference. Mailing lists of farm cooperative businesses and county extension offices were obtained, and OKFACE reports on agriculture-related fatalities were sent to persons on these lists.

5. Participate in the FACE Coordination Committee. IPS staff participated in FACE Coordination Committee meetings at grantee meetings and on telephone conference calls. The Principal Investigator served as the voting member for Oklahoma.

Procedures. In July 1997, the Commissioner of Health declared occupational fatalities a reportable condition for special study as authorized by Title 310 Oklahoma State Department of Health, Chapter 515-1-6. As mandated by law, confidentiality is maintained for all cases. Data were entered under a security password, and report forms were stored in locked cabinets and rooms. Contact was made with occupational fatality data owners to obtain fatality reports. Data collection began immediately after the reporting mandate and is currently ongoing. When a targeted type of fatality (youth <18 years, machinery-related fatalities, and immigrant fatalities) was identified from the surveillance data, an official at the company where the fatality occurred was contacted to set up a site investigation. Site investigations were completed by a contract Field Investigator and an OKFACE staff member. Comprehensive reports were prepared, which included a summary of the incident, information from the investigation, recommendations for prevention, and references. The reports of investigation were reviewed by internal and external reviewers in Oklahoma as well as by FACE staff at NIOSH. The reports were then distributed to businesses that did similar work, career technical schools, county cooperative offices, high school agriculture groups, and Oklahoma Safety Council members to provide education on prevention efforts.

Methodology. An occupational fatality was defined as an intentional or unintentional death resulting from an injury that could be classified by International Classification of Diseases (10th revision; ICD-10) codes ranging from V01 to Y98. Occupational-related deaths included full-time or part-time workers as well as unpaid family members who were engaged in work activities in a work environment at the time of death. All persons with an occupational fatality were included in surveillance, including persons of all ages, races and ethnicities, and males and females.

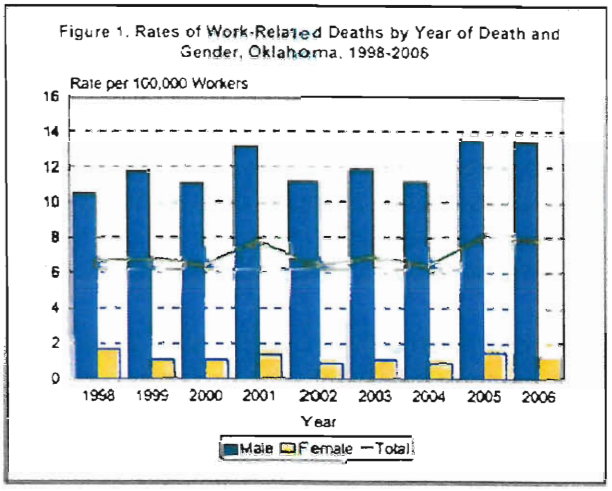
Information on occupational fatalities was collected from a variety of agencies; however, no single source identified all cases. Reports were collected for all cases (as applicable) from the Office of the Chief Medical Examiner, Oklahoma State Department of Health Division of Vital Records, OSHA, Oklahoma Department of Labor, statewide reportable injury surveillance data, and supplemental data sources (Department of Public Safety, fire departments/marshal, Lake Patrol, police and sheriff departments, emergency medical services, and newspaper clippings). Data collected included the date, time, county, and state of the incident; a narrative description of the circumstances surrounding the death; the age, race, ethnicity, sex, date of birth, and date of death of the victim; the occupation and industry; the cause of death; and the type of incident. The 1997 and 2002 North American Industry Classification System codes are also being entered in the database for all cases as well as 2000 Standard Occupational Classification system codes.

Office of the Chief Medical Examiner. The IPS received reports of investigation by e-mail on all non-natural deaths from the Office of the Chief Medical Examiner on a daily basis. The Oklahoma medical examiner system is a statewide centralized system; the system is computerized and is responsible for the investigation of all injury-related deaths. The report form includes the decedent's name, demographic information, the probable cause of death, location of injury death, a narrative description of circumstances and injuries, and a toxicology report. The narrative description of all medical examiner reports of non-natural deaths were reviewed for inclusion in the occupational fatality surveillance system.

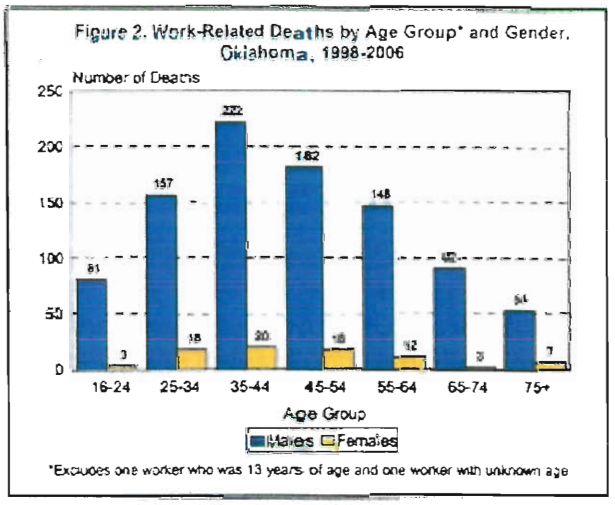
Oklahoma State Department of Health Division of Vital Records. Copies of vital records death certificates that reflected an "Injury at Work" were reviewed by the IPS for inclusion in the occupational fatality surveillance system. Death certificates were also obtained for all occupational fatalities reported by another source that were not automatically received.

Occupational Safety and Health Administration. OSHA faxed fatality/catastrophe reports to IPS when they received a report of a traumatic occupational fatality (includes private industry, excludes public employees, traffic incidents). These brief, immediate reports included information about the worker's occupation/industry and circumstances resulting in the death.

Oklahoma Department of Labor. The Oklahoma Department of Labor PEOSH program sent the IPS reports of occupational fatalities involving public employees when they occurred. These reports included information about occupation/industry and cause of death.

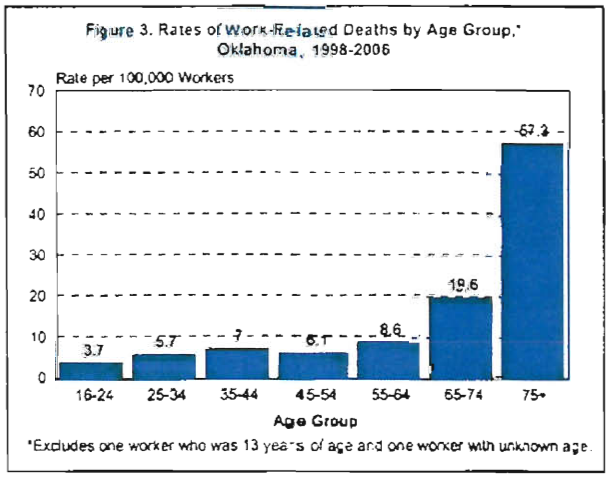


Reportable Injury Surveillance Data. The IPS cross-referenced all occupational fatalities reported through its existing injury surveillance system for traumatic brain and spinal cord injuries, burns, submersions, and violent deaths.

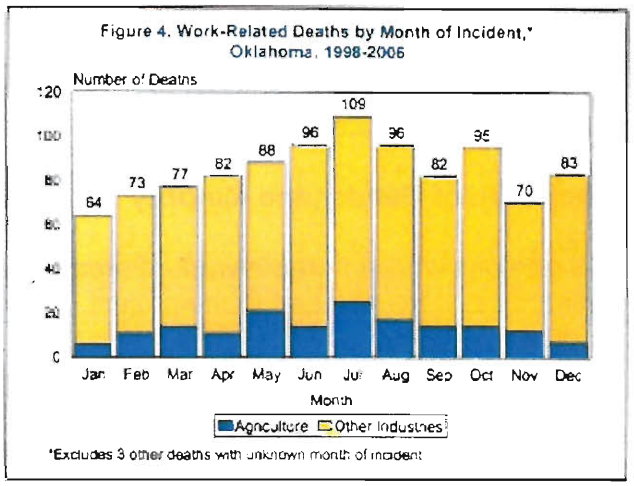


Supplemental Data Sources. The IPS requested supplemental reports as needed from the Department of Public Safety, fire departments/marshal, the Oklahoma Lake Patrol, police and sheriff departments, and emergency medical services. In addition, the IPS collected newspaper clippings on occupational fatalities.

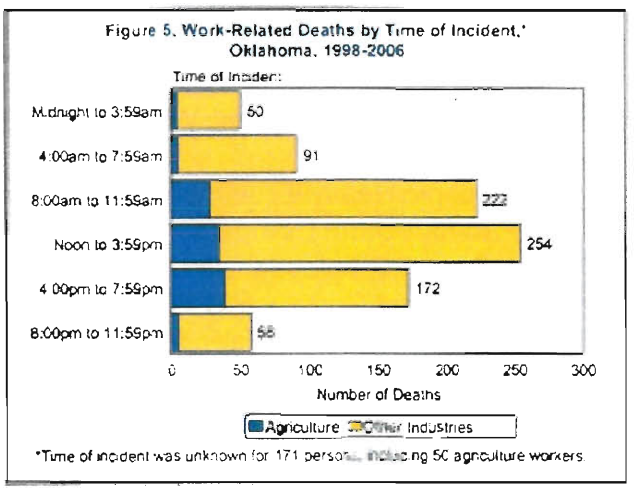
Results and Discussion. From 1998-2006, a total of 1,018 work-related deaths were reported in Oklahoma, an average of 113 deaths per year (average annual rate 7.0 deaths per 100,000 workers). Rates for work-related fatalities showed a slight increase over the 9-year period (Figure 1). Ages of persons who died ranged from 13 to 91 years, with an average age of 46 years (Figure 2). More than 40% of work-related deaths occurred among workers
35-54 years of age. The highest annual rate of death occurred among workers 75 years of age and older (57.3 per 100,000 workers) (Figure 3). Sixty-six percent of deaths among persons age 75 and older were in the agriculture industry



with the majority of these fatalities (68%) involving machinery. Overall, males outnumbered females 12 to 1, with males accounting for 92% of work-related deaths. The rate among males was 10 times that of females (12.0 and 1.2 deaths per 100,000 workers, respectively). Whites accounted for 84% of work-related fatalities, African Americans 5% and Native Americans 5%. Seven percent of workers who died were Hispanic.



Work-related deaths most commonly occurred in the warmer months of the year (June-August) and peaked in July (Figure 4). Agriculture-related fatalities were highest during the summer months; one-quarter of the deaths that occurred in July were agriculture-related. Sixty-three percent of work-related incidents with a known time of incident occurred between 8:00 a.m. and 5:00 p.m. (Figure 5). Incidents were most frequent between noon and 4:00 p.m. Deaths that occurred between midnight and 4:00 a.m. were most commonly among trucking/transportation workers, law enforcement officers, club/bar workers, and cab drivers.



Conclusions. Work-related fatalities are a public health problem in Oklahoma. The work-related fatality rate in Oklahoma has increased slightly over the past several years and is currently higher than the U.S. rate. Agriculture and transportation industries have high work-related fatality rates in Oklahoma. It is important to continue to collect detailed information on work-related fatalities to monitor trends overall and within subgroups to be able to develop targeted prevention measures. Prevention measures need to be expanded and should involve the collaborative efforts and input of a variety of agencies, organizations, and businesses.

Publications

No peer-reviewed articles were published; however, several reports were prepared using OKFACE data (see Materials Available for Other Investigators section below).

Inclusion of Gender and Minority Study Subjects

All persons who suffered a work-related fatality, including males and females and minorities, were included in the project.

Inclusion of Children

All persons who suffered a work-related fatality, including children under 18 years of age, were included in the project.

Materials Available for Other Investigators

All materials created by OKFACE are available for other investigators to use. Site visits were conducted and in-depth reports of investigation were prepared for targeted occupational fatalities. Occupational fatalities targeted for this project included youth (<18 years) fatalities, machinery-related fatalities, and immigrant fatalities. The reports include a summary of the incident, information from the investigation, recommendations for prevention, and references. Ten reports were prepared on deaths that occurred in 2004, nine in 2005 and one in 2006. All completed reports are listed below and available on the NIOSH website (http://www.cdc.gov/niosh/face/) or upon request from the IPS.

- A 54-year-Old Hispanic Worker was Killed When He was Crushed by a Forklift
- Hispanic Heavy Equipment Operator was Killed While Jump-starting a Pad-foot Drum Compactor
- A County Employee Died When He was Crushed Between Two Heavy Equipment Compaction Vehicles
- A Driller Died after Falling through an Opening in the Oil Rig Floor
- A Yard Hand was Killed when He was Crushed Between the Mast and the Rollover Protective Structure of a Forklift
- An Hispanic Youth Laborer Died after being Struck by Lightning
- A Heavy Equipment Operator was Killed when He was Crushed between the Lift Arm and the Rollover Protection Cage of a Skid-steer Loader
- An Elevator Operator was Killed when He Fell from a Manlift
- A Forklift Operator was Killed when his Forklift was Struck from Behind by a Motor Vehicle
- A Lumberyard Forklift Operator Died after Being Crushed between Two Railcars
- A Press Brake Operator Died when He was Struck by a Steel Lug

- A Plumber was Killed when a Skid-steer Loader Tipped Forward and Struck Him in the Head
- A Farmer was Killed while Bypass-starting his Tractor
- A Temporary Production Worker Died when He was Caught in a Tread Scrap Machine
- A Heavy Equipment Operator was Killed when the Bulldozer He was Operating Overturned
- A Farmer was Killed while Bypass-starting his Tractor
- A Gas Well Drilling Floorhand Died when He was Struck by a Hoisted Wellhead Equipment Stack
- A Utility Cleanup Worker for a Brick Manufacturer Suffocated in a Storage Silo
- A Construction Laborer was Struck in the Head and Killed by a Falling Steel Beam
- A Carpenter Died after Falling 20 Feet from a Roof

In addition to reports of investigation, *Injury Update* reports were prepared on a variety of subjects and are available to other investigators. *Injury Update* topics specific to workers include deaths among workers under 25 years of age, jump-start/bypass-start-related fatalities, work-related homicides, construction-related fatalities, and farming-related deaths. Additional *Injury Update* topics that were not specific to workers, but provide information that would be helpful to subgroups of workers include fireworks-related burn injuries, burn injuries resulting from working on a motorized vehicle, heat-related deaths, brush and trash fire-related injuries, and work-related traumatic brain injuries due to falls. Two *Injury Update* reports using OKFACE data were prepared in 2005, one was prepared in 2006 and one in 2007. The reports were sent to a very wide audience, including persons on the OKFACE mailing lists, hospitals, injury prevention specialists, county health departments, emergency medical services, fire departments, and the media. *Injury Update* reports are listed below and are available on the IPS website (http://www.health.ok.gov/program/injury/updates/index.html).

- Work-Related Homicides, Oklahoma, 1998-2004
- Jump-Start/Bypass-Start-Related Fatalities in Oklahoma, July 1997-February 2005
- Work-Related Deaths Among Young Workers Under 25 Years of Age, Oklahoma, 1998-2003
- Highway Work Zone-Related Deaths, Oklahoma, July 1997-December 2006

One-page *OKFACE News* reports were also prepared and distributed. Reports listed below are available from the IPS upon request.

- Life and Death in the Oil Field
- Construction Safety

- Tractor Safety

Summary data reports of occupational fatalities were produced annually, with the final annual summary covering occupational fatalities from 1998-2006. The summary reports included epidemiologic analyses on age, gender, race, ethnicity, time of day, month of incident, industry, geographic location, and trends by year. Summary reports are available on the IPS website (http://www.health.ok.gov/program/injury/summary/index.htm).

A state strategic plan addressing injury prevention was published by the IPS in 2004. The plan was developed with the assistance of experts from across the state, and it includes a chapter targeting occupational injuries and fatalities. This chapter includes background information on occupational injuries and fatalities, Year 2010 objectives, prevention strategies, recommended strategies, an implementation plan, and references. *Injury Free Oklahoma: Strategic Plan for Injury and Violence Prevention* is available on the IPS website (http://www.health.ok.gov/program/injury/stateplan/index.htm).