INJURY UPDATE

*A Report to Oklahoma Injury Surveillance Participants**

May 5, 2006

Work-Related Deaths Among Young Workers Under 25 Years of Age, Oklahoma, 1998-2004

Between 2004 and 2014, in the United States (U.S.), the youth population, ages 16 to 24 years, is expected to increase 2.9%. While this population climbs, the numbers of teenagers and young adults entering workplaces around the country can also be expected to rise. The youth labor force, which currently holds about a 15% share of the overall labor force, is believed to be at increased risk of work-related injuries. According to the U.S. Department of Labor, approximately 67 teenage workers die from work-related injuries annually, while another 230,000 suffer nonfatal injuries according to the National Institute for Occupational Safety and Health. In a study of emergency department-treated young workers, 52% missed scheduled work, 45% needed prescription medication, 38% felt they were permanently injured, and 33% were restricted in their normal activities. Nationally, agriculture is the most dangerous industry for young workers, followed by retail trades (e.g., restaurants and retail stores). Over 30% of fatal injuries occur in a family business. The reasons for a young worker's elevated risk of injury are many, including limited experience, training, and job knowledge, and various physical and psychosocial developmental factors. As many as 80% of all teenagers will have been employed at some point prior to their high school graduation; clearly, this special population cannot be ignored in occupational safety and health efforts.

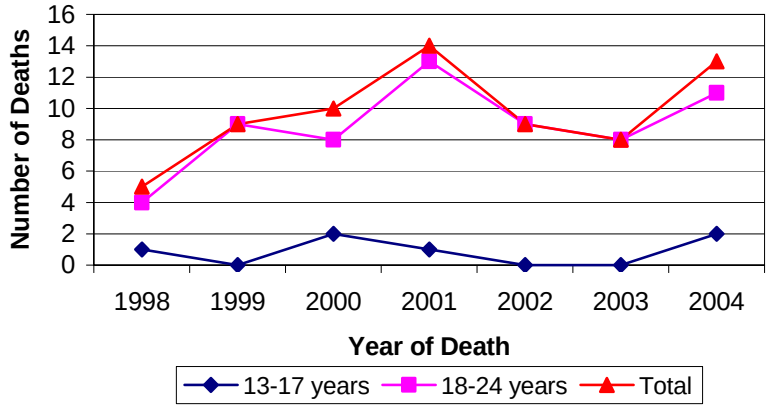
The Fair Labor Standards Act (FLSA) of 1938 is the primary Federal law that governs the employment of workers under the age of 18 years. Additionally, states may have their own child labor laws that are stricter than Federal laws or cover workers and businesses not covered under FLSA. These laws are designed to preserve young workers' educational opportunities (e.g., needing an employment certificate or work permit issued by the school) and protect youth from working in hazardous situations (e.g., various hour, age, and job restrictions). However, there are no Federal child labor laws that cover youth who work on their family's farm. Additional information and state-specific laws can be found by visiting www.youthrules.dol.gov. Although young workers 18 years of age and older may perform any job, hazardous or not, for any amount of time, most remain at high risk of injury due to their limited work experience and limited knowledge of safety and health regulations, workers' rights, and training opportunities.

Data collected by the Oklahoma Fatality Assessment and Control Evaluation program were analyzed for the years 1998 through 2004 for this report. Cases included decedents who were working at the time of death (i.e., at the location for the purpose of work or engaged in an activity that was a job requirement). Data sources included death certificates, Medical Examiner reports, Occupational Safety and Health Administration reports, and newspaper clippings. Work was defined as activities engaged in for profit or compensation and included usual/full-time occupations, secondary/part-time occupations, unpaid family members working for a family business, and volunteers exposed to work conditions (e.g., firefighters, paramedics, and law enforcement). Students engaged in school activities were not considered work-related.

*The INJURY UPDATE is a report produced by the Injury Prevention Service, Oklahoma State Department of Health. Other issues of the INJURY UPDATE may be obtained from the Injury Prevention Service, Oklahoma State Department of Health, 1000 N.E. 10th Street, Oklahoma City, Oklahoma 73117-1299, 405/271-3430 or 1-800-522-0204 (in Oklahoma). INJURY UPDATES and other IPS information are also available at www.health.state.ok.us/program/injury.

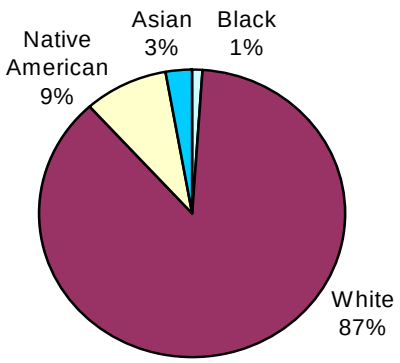
In Oklahoma from 1998 to 2004, there were 68 work-related deaths among workers under 25 years of age, an average of nearly 10 each year. There was a total of 67 incidents because one instance involved two young worker fatalities. The manner of death was unintentional in all but five (7%) of the deaths, which were classified as homicide. Ages of the victims ranged from 13 to 24 years with an average age of 21 years. During the seven-year study period, six (9%) youth less than 18 years of age suffered fatal work-related injuries (Figure 1). Ninety-seven percent of all young workers who died were male.

Figure 1. Number of Young Worker Deaths by Age Group and Year of Death, Oklahoma, 1998-2004



All incidents occurred in Oklahoma and over three-quarters of the victims were considered to be Oklahoma residents. Nearly half of all victims were also born in Oklahoma. Thirteen percent of decedents were foreign-born; of those who were foreign-born, over three-quarters were originally from Mexico. The majority (n=59) of decedents were white, followed by six Native Americans (Figure 2). Overall, 13% of fatally injured young workers were of Hispanic origin.

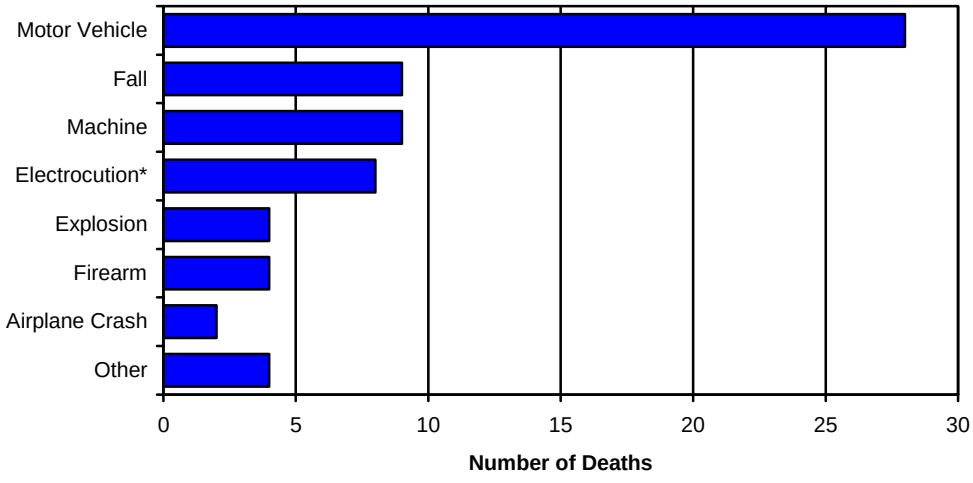
Figure 2. Percentage of Young Worker Deaths by Race, Oklahoma, 1998-2004



Of the 59 victims aged 19 to 24 years, 15 (25%) did not have a high school diploma or GED. Eleven victims (16%) were married, three (4%) were divorced, and 54 (79%) had never been married. The average age of decedents who were married was 22 years.

Among workers under 25 years of age, the leading cause of fatal injuries was motor vehicle-related incidents (Figure 3).

Figure 3. Young Worker Deaths by Type of Injury, Oklahoma, 1998-2004



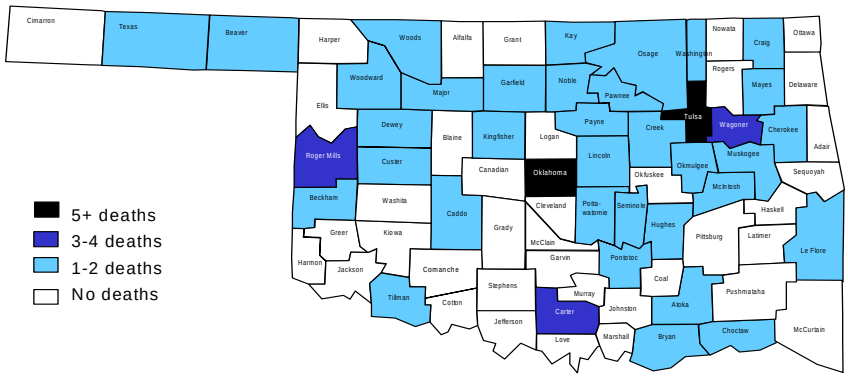
*Includes 2 lightning deaths

Forty-one percent of decedents were involved in a motor vehicle crash or were pedestrians struck by a motor vehicle. Motor vehicle crashes that occurred while commuting to or from work were not included; only vehicle operations occurring for work purposes were counted. The leading occupations involved in the 28 motor vehicle-related deaths included oilfield workers (7), truck/delivery drivers (6), construction laborers (5), farmhands (3), and law enforcement officers (2). All deaths were unintentional, except for the homicide of one law enforcement officer in the middle of a pursuit.

Nine decedents suffered a fatal fall and nine others were involved in machine-related incidents. Communications towers (i.e., cellular and television) were the leading structures from which victims fell, followed by two incidents each on oil derricks, scaffolding, and holes in roofs. Oilfield equipment and tractors were the most common types of machinery causing fatal injuries among young workers. Other machinery involved in incidents included a skid-steer loader, a backhoe, a hay baler, and a bucket lift.

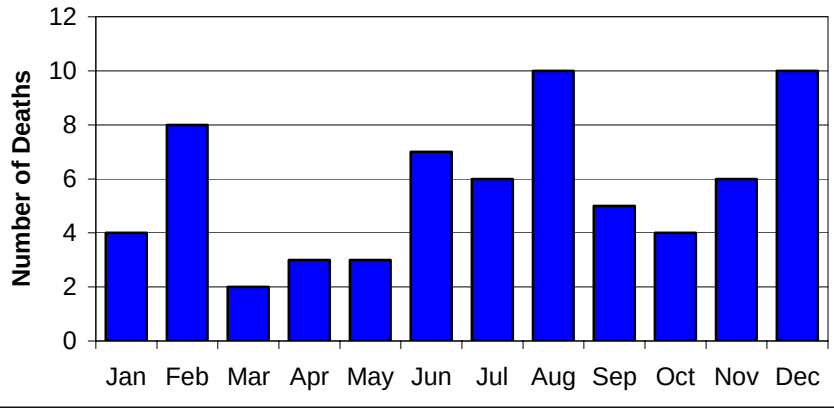
Of the 11 young workers who had "student" listed as their usual occupation, five were working as farmhands and one each was working as the following at the time of the incident: political campaign worker, flight instructor, mason, mechanic, construction laborer, and oilfield worker. Overall, over one-third of young workers killed were working in some form of construction or general labor at the time of the incident. Sixteen percent were employed as oilfield workers, followed by 10% farmers/ranchers and 10% truck/ delivery drivers.

Figure 4. Number of Young Worker Deaths by County of Incident, Oklahoma, 1998-2004



Nearly 95% of incidents had a known time of occurrence. Of those incidents with a known time, 61% occurred during 8:00 a.m. and 5:00 p.m., while 14% occurred between midnight and 8:00 a.m. Nearly one-quarter of all young worker deaths from 1998 to 2004 occurred in either Tulsa or Oklahoma counties (Figure 4). Ten incidents occurred in August and in December, while the fewest occurred in March (Figure 5).

Figure 5. Young Worker Deaths by Month of Incident, Oklahoma, 1998-2004



CASE BRIEFS

- A 17-year-old male was working on a three-person hay hauling crew. The crew members, who were all the same age, were hauling square hay bales from a field to a storage facility three to four miles away. While riding on the moving hay truck, the victim fell and was apparently run over by the vehicle's tire. He was pronounced dead at the scene. The victim had worked this same job during the previous summer

season and had participated in safety training at his high school as part of the vocational agriculture and industrial education curriculum.

- A 19-year-old male working as a sheet metal assembler at a construction site suffered multiple blunt trauma when he fell approximately 40 feet. The victim stepped on an unstable platform and fell, landing on a concrete slab below. He was dead on arrival to the hospital.
- A 22-year-old male was working as a roofer at an apartment complex when a storm approached. The victim was in the process of gathering his tools and unplugging a circular saw when he was struck by lightning. He was pronounced dead 25 minutes later.
- A 21-year-old male was driving a semi truck with 117 head of cattle. For unknown reasons, the victim's truck left the roadway, went onto the center median, struck an embankment, and overturned. The victim was pinned in the truck for about one hour and died during extrication. He was not wearing his seat belt and was found to have ½ ounce of cocaine in his pocket.
- A 24-year-old female was working at a check cashing business when she was killed by a robber. She was the only employee working at the time and was later found dead in the back office by a customer. The safe was wide open. The victim's throat was cut and she had multiple stab wounds and blunt force injuries.
- A 17-year-old male was working alone baling wheat straw for hay when the baler became jammed with straw. The victim climbed on top of the baler to clear the jam with his foot. When it cleared, the victim's leg became trapped in the machinery and the belts that were spinning around the hay caught fire. The victim died at the scene from smoke inhalation and burns. He was a full-time student working for the summer; he had two years of experience working with his family on the farm.

PREVENTION

While it is advantageous in many ways for teenagers and young adults to be part of the labor force, the potential for fatal and nonfatal injuries to occur is real and must be considered by employers, young workers, parents, and educators. According to the National Institute for Occupational Safety and Health, one or more of the following factors have typically been present when a young worker is injured or killed at work:

- Inadequate training to perform tasks safely.
- Assignment of incidental tasks for which workers have not been trained or do not have experience performing (or workers initiate doing these tasks themselves).
- Inadequate supervision.
- Lack of experience or maturity or insufficient understanding of work processes needed to recognize and mitigate hazards.
- No training or experience in emergency response.
- Disregard or lack of awareness of applicable child labor laws.

In order to reduce the chances of a young worker being injured on-the-job, young workers should:

- Participate in employer-offered training programs or request training if none is offered.
- Understand and follow all safe work procedures and practices and be able to recognize hazardous situations that may cause injury to themselves or others.
- Ask a supervisor or the employer if they are concerned about how to do a task safely.
- Learn about their rights as a worker, including the right to work in an environment that is safe, healthy, and free of recognized hazards; the right to file complaints with the Department of Labor when they feel they have been put in an unsafe situation; and the right to workers' compensation in the event of a work-related injury or illness.

Employers should:

- Know and comply with applicable Federal and state laws concerning child labor and occupational safety and health.
- Develop a comprehensive safety and health program that includes safe work practices, information on hazard recognition, and training and compliance components.
- Provide training on safe work practices and hazard recognition, and ask young workers to demonstrate tasks safely and correctly.
- Ensure that young workers are adequately supervised and that supervisors and managers are aware of what tasks the worker is authorized to perform.
- Understand that even though a young worker may be 18 years of age and older, and therefore able to perform any job hazardous or not, young workers still may lack the experience, knowledge, and maturity of older workers.

Educators should:

- Understand the role they may play in a young worker's employment and the applicable child labor laws, particularly if they are responsible for signing work permits or employment certificates.
- Consider including worker safety and health into their curricula, including information on safety and health regulations, hazard recognition, and where to go for help.
- Talk to students about work and their rights and responsibilities.
- Ensure that school-based work experience programs provide safe and healthful working environments and training opportunities for students.

Parents should:

- Take active roles in their children's employment opportunities and ask them questions about the types of work and training being performed. Parents should be particularly aware of situations where youth are balancing school, work, home responsibilities, and extracurricular activities and should watch for signs of stress and fatigue, which may place them at higher risk of injury.
- Understand applicable child labor and occupational safety and health laws as they apply to their children.
- In the case of family farms, assign age-appropriate tasks and provide adequate supervision and instruction.

Prepared by: Tracy Wendling, M.P.H
Injury Prevention Service