

Kentucky FACE Program

2014 Annual Report

About the Kentucky FACE Program

The Kentucky Fatality Assessment and Control Evaluation (KY FACE) Program is an occupational fatality surveillance program of the Kentucky Injury Prevention and Research Center (KIPRC)*. The goal of KY FACE is to prevent fatal work injuries by studying the worker, the work environment, the energy exchange resulting in fatal injury, and the role of management, engineering, and behavioral changes in preventing future injuries. KY FACE investigators evaluate information from multiple sources including 1) interviews of employers, coworkers, witnesses and other investigators; 2) examination of the work site and equipment; 3) review of Occupational Safety and Health Administration (OSHA) reports, police reports, and medical examiner reports; and 4) employer safety procedures. The FACE program does not seek to determine fault or place blame on companies or individual workers. Findings are summarized in narrative reports that include recommendations for preventing similar events in the future.

*Organizationally, KIPRC is located in the University of Kentucky College of Public Health and is a bona fide agent of the Kentucky Department for Public Health (KDPH). Funding for the KY FACE Program is provided by the National Institute for Occupational Safety and Health (NIOSH) Cooperative Agreement Number 5U60OH008483-10.

For more
detailed
information
concerning KY
FACE



Terry Bunn, PhD

KY FACE Program,
Kentucky Injury
Prevention and
Research Center
(KIPRC)

333 Waller Avenue
Suite 242
Lexington, KY 40504
TEL: (859) 257 - 4955
FAX: (859) 257 - 3909





Kentucky Worker Fatalities at a Glance

To create effective injury prevention programs, it's important to look at where and how fatal injuries among workers occur in Kentucky. Here is a brief snapshot of worker fatalities that occurred from January 1, 2014 through December 30, 2014.

How many workers died from injuries in 2014?

While working in Kentucky in 2014, 80 residents from Alabama, Illinois, Indiana, Kentucky, North Carolina, Ohio, Tennessee and Texas died on the job.

What were the leading causes?

- Motor vehicle collision (26)
- Fall (14)
- Struck by (8)
- Agriculture Machine (7)
- Homicide (6)

Who was at highest risk?

- Transportation and material moving workers (30)
- Construction workers (12)
- Farmers (9)
- Manufacturing workers (6)
- Public Administration workers (5)

Deaths by County

- Jefferson (13)
- Boone (4)
- Laurel (4)
- Warren (4)
- Barren (3)
- Bell (3)
- Marshall (3)
- The remainder of fatalities is spread across 40 of Kentucky's 120 counties, with no more than two deaths per county.

Fatal Occupational Injury rate for 2014

In 2014, the Kentucky fatal occupational injury rate increased 2.4% from 4.2 deaths per 100,000 workers (2013) to 4.3 deaths per 100,000 workers (2014). The 2014 Kentucky fatal occupational injury rate is 21% above the 2013 U.S. rate of 3.3 deaths per 100,000 workers.



Demographics

In Kentucky, 80 workers died as a result of work-related injuries. The following lists the demographic profile of this group.

Table 1: Demographics of Kentucky Work-Related Injuries, 2014

Characteristics		Number	Percent of 80 fatalities
Sex	Male	78	98%
	Female	2	2%
Race	White	74	93%
	Other	6	7%
Age	20 - 29	8	10%
	30 - 39	15	19%
	40 - 49	15	19%
	50 - 59	21	26%
	60 - 69	14	18%
	70 - 79	6	7%
	80 - 89	1	1%
Marital Status	Married	57	71%
	Never Married	10	13%
	Widowed	1	1%
	Divorced	12	15%
Education	Less than High School	12	15%
	Some High School	3	4%
	Finished High School	31	39%
	Some College	19	24%
	College Graduate	9	11%
	Unknown	6	7%
Country of Origin	United States	70	88%
	Mexico	8	10%
	Other	2	2%
Primary Language	English	70	88%
	Spanish	9	11%
	Other	1	1%
State of Residence	Kentucky	62	77%
	Other	18	23%



Investigation Program

The Kentucky FACE Program completed 11 investigations of selected occupational fatalities from July 1, 2014 to June 30, 2015. For more detailed descriptions of each case, see the KIPRC website at: <http://www.mc.uky.edu/kiprc/projects/KOSHS/index.html>

Two Masonry Workers Electrocuted After Contact with an Overhead Power Line (13KY010)

Two masons were in the bucket of an aerial lift. They had finished work on a chimney and were in the process of swinging the bucket around to bring it back to the ground, when the bucket came in contact with overhead power lines running behind the house. The bucket hit a 7,200 volt line and the two masons were electrocuted immediately.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employees should conduct a jobsite survey to identify potential hazards and develop and implement appropriate control measures for the hazards.
 - Employees should follow existing OSHA regulations and safe work practices concerning the operation of equipment in close proximity to overhead power lines, and take steps necessary to de-energize or insulate power lines before work begins.
 - Employees should ensure that when working near a high voltage overhead power line where visibility could be obstructed or clearances difficult to determine, an observer is used to help the operator maintain the required clearance.
 - Employees should be trained in hazard recognition and the avoidance of unsafe conditions.
 - Employers should ensure that workers who operate aerial lifts are properly trained in the safe use of the equipment.
-

Tree Trimmer is Struck and Killed (13-KY-038)

A tree trimmer was attempting to clear a tree that was lying on a telephone line. The tree section that was in contact with the telephone line was a “fork” which was two extensions off the main trunk of the tree. The victim made two cuts on the right fork, a cut on the left fork, then two more cuts on the left fork, but could not saw through the limb. The victim attempted to make another cut on the inside left fork, when the pole saw he was using became stuck. When the victim and a co-worker pulled on the pole saw, their hard hats fell off, and they did not put them back on. The victim used a chain saw to cut through the main trunk of the tree. The left fork section dropped and struck the victim in the face and head. The victim was airlifted to the nearest trauma center, and died as a result of his injuries.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employers should ensure employees are using the correct equipment for the job.
 - Employers should provide applicable appropriate worker safety training specific to the employee’s job responsibilities.
 - Employers should ensure that personal protective equipment (PPE) and special tools needed for work are provided, worn and used, specific to the job responsibilities.
 - Employers should implement and enforce a drug-free workplace program to ensure their workers are not impaired.
-

Heavy Equipment Mechanic Dies when an Elevated Dump Truck Tag Axle Pins Him to the Concrete Floor (13KY041)

A heavy equipment mechanic was replacing an air bag on a tri-axle dump truck. The victim was under the truck and axle, which was resting on a hydraulic floor jack. While the victim was under the axle, he inadvertently placed his hand on the jack, causing the floor jack to lower and pin him between the axle and the concrete floor. The victim succumbed to his injuries due to compression asphyxia.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employers should ensure that employees using jacks must crib, block, or otherwise secure the loads immediately after they have been raised.
- Employers should conduct heavy equipment mechanic safety training on the correct procedures for air bag installation.
- Employers should conduct annual worker safety training for all employees exposed to hazards in the workplace.



Laborer Falls 50 to 75 Feet to the Ground While Spray Painting Grain Bins (13KY061)

A painter, contracted to paint grain dryers at an agribusiness, fell 50 to 75 feet to his death. The victim was shimmying down a grain spout holding a sprayer hose to paint a grain bin, when he lost his grip and fell. He was not wearing any type of fall protection.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Regardless of company size, the employer must furnish proper personal protective equipment to employees conducting hazardous work.
- Employers must train employees on how to properly wear the personal protective equipment provided as well as provide safety training for employees.

Flagger Struck by Motorist and Killed (13KY066)

A derrick operator was directing traffic to stop on a major 5 lane north-south highway, to allow a 40-ton truck and a large front loader to cross the unlit roadway. The victim was wearing a dark gray jacket with orange reflective stripes on each sleeve, above each front pocket and across the upper half of the back, a white hard hat and dark trousers. He was holding a small flashlight and a non-reflective stop sign. As he was standing in the roadway, he was struck by a 2002 red Chevrolet S10 pickup truck in the right northbound lane, traveling at 50 mph. The driver of the pickup truck stated he did not see the flagger.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employers should implement and enforce traffic control-related worker safety training in addition to properly setting up an MUTCD (Manual on Uniform Traffic Control Devices).
- Employers should provide proper MUTCD reflective clothing when employees are required to perform traffic control activities.
- Employers should avoid assigning traffic control activities after dark.
- When corrective lenses are prescribed and an operator's license is restricted to driving with corrective lenses, motorists must wear the corrective lenses while driving.

Hispanic Laborer is Crushed by Gantry Roller Press While Retrieving a Dropped Hammer (13KY012)

A 31-year-old Hispanic laborer working on a gantry roller press dropped a hammer he was using to tap the trusses into place. As the victim bent down to retrieve the hammer, the three other employees working with him did not see him and started the press. As the press came down the line, the victim raised up and became caught between the roller press and the legs of the press. This caused the press to jam. It wasn't until this occurred that the co-workers discovered the victim pinned by the roller carriage. The Sheriff stated that when he arrived, he found the victim face down with his legs over the guide-rail and his chest up against the table leg.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employees should ensure the work area is clear before operating moving equipment. Hazardous areas should also be marked clearly on the floor so employees are away from the danger zones when the press is in use.
- Manufacturers should consider the redesign of the roller carriage guard to extend the guard and prevent the press from contacting employees or other objects in its path.
- Manufacturers should consider the installation of light curtains to detect movement near the roller press before start up.
- Manufacturers should consider the installation of an audible and visual warning device to provide sufficient time to clear the work area before roller press operation commences.



[Truck Driver Falls from Tanker Truck to His Death \(14KY021\)](#)

A tanker driver arrived at an oil distribution plant with 6,000 gallons of oil. He backed into the garage bay with the guidance of an employee at the distribution plant. The victim exited the cab, climbed onto the top of the tanker, and began the process of venting the oil tanker compartments. The employee was in the bay area, but the driver was not in his sightline. The employee heard the sound of the victim falling approximately 10 feet on to the concrete floor below, went to investigate the noise and found the victim injured on the ground. The victim was transported by helicopter to the nearest local trauma center where he died the following day.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employers requiring employees to access the top of tankers must provide adequate fall protection.
- Employers should consider equipping their tanker trucks with rail systems.

[Foreman Falls into Running Auger After Stepping on Door Panel with Broken Door Interlocks \(14KY022\)](#)

A foreman and two coworkers were assigned to clean a mobile concrete mixing plant and try to free the vein feeder that had become clogged with dried concrete. After freeing the vein feeder, the foreman started the mixer section to remove the dried concrete. This created a cloud of dust, and the foreman instructed the two employees to leave the area to avoid breathing the dust. As the foreman started to leave the area, he stepped on one of the four doors covering the mixer section. Unknown to the foreman, the door had broken hinges and missing interlocks. Both the foreman and the defective door fell into the running auger mixer section. By the time one of the employees hit the emergency stop button to shut off the mixer, the foreman was chest high in the auger mixer and had died from his injuries.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employers should develop and implement written procedures for maintaining the continuous mixing plant to include pre-inspection, cleaning the mixing plant inside and out immediately after each use, making prompt repairs to broken parts such as the broken door hinges, and promptly replacing missing and/or damaged parts such as interlocks for the doors covering the mixer section
- Employers should train employees on hazard recognition for all aspects of the job involving such equipment as the continuous mixing plant, including instructions not to walk on or stand on the doors covering the auger section of the mixing plant while the plant is in operation.
- Employers should provide documented refresher worker safety training annually or prior to the missing plant's first use each year.
- Manufacturers should consider installing a switch so that the equipment doors cannot be open during operation.

[Hispanic Roofer's Fall Protection Failed Causing Him to Fall 29.91 Feet to His Death \(14KY030\)](#)

A Hispanic roofer was removing shingles from a church roof. As he leaned back on the leading edge of the roof, his safety rope snapped, causing him to fall 29 feet 11 inches to hard dirt below. Although the victim was wearing a safety harness, it was not considered a personal protection fall arrest system and he was not tied off properly. The victim died 20 minutes later in the hospital from injuries sustained from the fall.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Roofing industry employers must train their roofers in fall protection, including how to wear and how to inspect their equipment for defects.
- Employers must ensure that worker safety is adopted by all employees from the top management down to laborers.
- Kentucky OSHA enforcement regulations must be stricter for repeat offenders and willful citations.
- Employers should provide written worker safety programs as well as ensure that all employees are annually trained on safety programs, including the use and care of personal protection equipment.



Factory Manager Bypasses Lockout/Tag-out and is Electrocuted (14KY031)

A factory manager was called to check on a 5 blade multiple trim saw. Two employees reported that the saw was not working properly. The victim walked to the electrical panel box and failed to de-energize the saw by properly shutting down any hazardous energy. He did not lockout, tag-out, and verify hazardous energy shut down before servicing the saw. The victim reached into the energized electrical panel box to reset a relay and came into contact with 480 volts of electricity. This shock was powerful enough to send him into cardiac arrest.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employers should ensure that all employees servicing or maintaining electrical equipment practice proper lockout/tag-out (LOTO) procedures.
- Employers should ensure that management is leading by example by following all safety policies.

Scrap Processor Struck by Wrench and Dies after Makeshift Torque System Fails (14KY036)

A scrap processor was instructed by his supervisor to salvage the main bolts on a locomotive flywheel that was being scrapped, so the normal procedure of removing the bolts with a torch was replaced by the following method: To increase tension, the scrap processor wrapped one end of a large 48 mm wrench with a makeshift sling that was tied at the other end to an excavator grapple. The scrap processor fit the wrench on the bolt and an excavator operator applied tension to the sling on the excavator. Once the bolt was loosened, the scrap processor signaled the excavator operator to lower the tension, after which the scrap processor moved the wrench to the next bolt.

After successfully removing 40 bolts using this method, the scrap processor placed the wrench on the next bolt and signaled the excavator operator to apply tension. While tension was applied, the victim grabbed the sling and leaned over to observe the bolt. The wrench slipped off the bolt, shot out and struck the victim on the right side of his head causing him to fall 6 feet to the ground, striking several pieces of scrap metal. The victim succumbed to his injuries 13 days later and died.

To prevent future occurrences of similar incidents, the following recommendations have been made:

- Employers should ensure employees use appropriate tools for the required job.
- Employers should ensure employees use appropriate personal protective equipment such as hard hats and fall protection.
- Employers should require guarding or ensure that fall protection is utilized when employees are working four feet or more above ground.
- Employers should develop and implement a comprehensive safety and health program that includes an operating procedure for removing bolts on a locomotive flywheel.



Kentucky Hazard Alerts

The Kentucky FACE Program completed 1 HazAlert on selected occupational fatalities from July 1, 2014 to June 30, 2015. For the complete HazAlert, see the KIPRC website:

<http://www.mc.uky.edu/kiprc/projects/KOSHS/index.html>

Semi Drivers Killed due to Rear-End Collisions, December 2014

A 50-year-old truck driver, traveling after dark, approached a semi that had slowed to a stop due to road construction. The operator attempted to brake and swerve to the right, but failed to avoid collision on the driver's side of his truck. The driver was speaking on his cell phone at the time of the incident, though it is unclear if he was using a hands-free device. A second driver was traveling during daylight hours along the interstate, when he approached a truck traveling at 55 mph with its emergency flashers engaged. Both trucks were in the right-side lane. At the last second, the driver braked and swerved, attempting to avoid a collision, but struck the slower vehicle. Although he was wearing a seatbelt, the driver was ejected and killed.

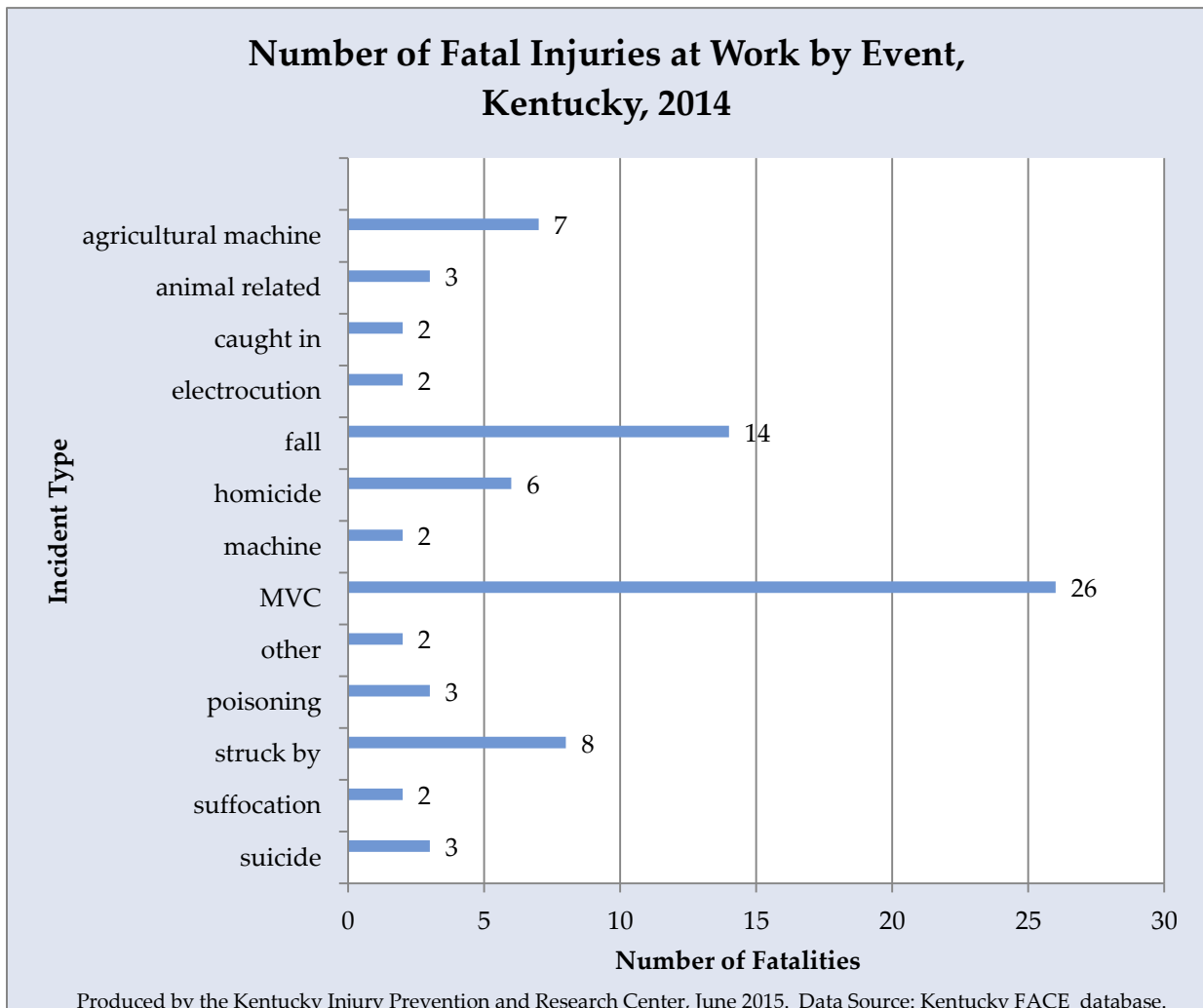
To prevent rear-end collisions, the Kentucky FACE program recommends:

- Carriers should consistently train their drivers on the importance of speed and space management.
- Maintain awareness of distracted drivers sharing the road.
- Reduce distractions. Limit hands-free cell phone use to emergencies only.
- Perform a thorough pre-trip and post-trip inspection to ensure your brakes, turn indicators and headlights are in good working order.
- Buckle up! If all else fails, restraint use can save your life.



Types of Events Causing Worker Deaths

Figure 1



Highlights:

- Of the 80 fatal occupational injuries in Kentucky, 26 were motor vehicle collisions. Motor vehicle collisions are up from 18 deaths in 2013, an increase of 44%. 11 of the fatalities included drivers of heavy trucks, and 5 included light truck or delivery services drivers.
- Of the 14 fatal falls that occurred in Kentucky in 2014, 10 were workers over the age of 50, and 6 falls occurred in the construction industry. 9 were falls from elevation; 3 were falls into an opening; 2 were falls that occurred on the same level.
- 2 of the 8 struck by deaths included loggers.
- 6 farmers and 1 mechanic over the age of 40 died in deaths involving agricultural machinery.
- 2 taxi drivers were included in the 6 Kentucky workplace homicides.

Kentucky FACE Program

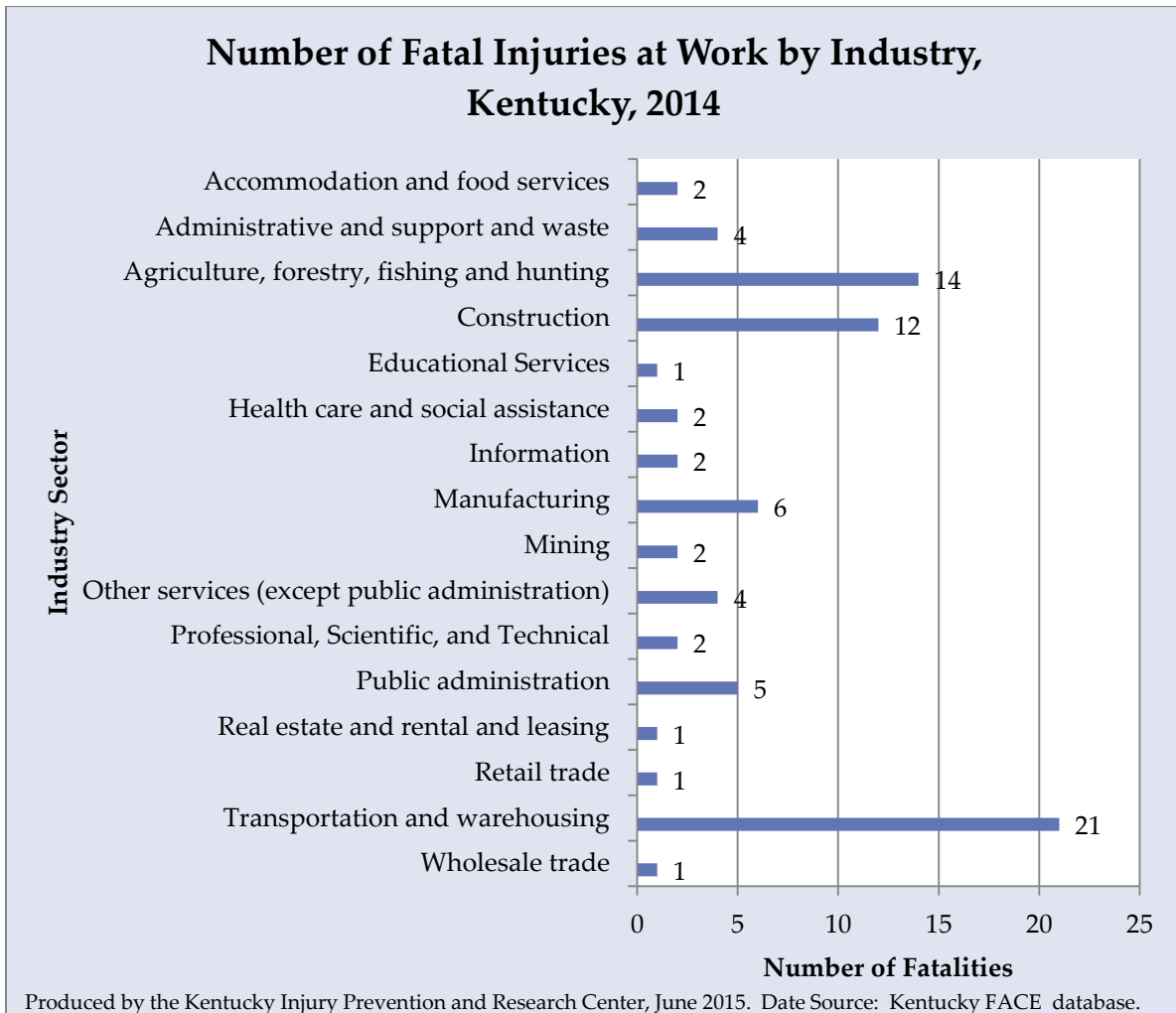


- At least 17 Kentucky worker deaths involved drugs and/or alcohol. 3 of the deaths involved truck drivers, 1 was a taxi driver and 2 were delivery drivers. Other occupations included construction worker, tank cleaner, clergyman, electrician's helper, warehouse worker, satellite dish installer, cell tower worker, farmer, repairman, maintenance worker and surgeon.



Fatal Injuries at Work by Industry

Figure 2



Highlights:

- The Transportation and Warehousing Industry accounted for 21 of Kentucky’s work related fatalities. Aside from 10 motor vehicle collisions, the fatalities included 2 homicides, both involving taxi drivers, as well as 2 drug poisoning deaths involving fentanyl and hydrocodone. Residents spanned 6 different states, including Kentucky (13), Alabama (1), Indiana (2), Ohio (2), Tennessee (2) and Illinois (1). All were men, except for one 21-year-old woman.
- 14 deaths occurred in the Agriculture, Forestry, Fishing and Hunting Industry, 11 farm related and 3 logging. 4 of the deaths were tractor related, including 3 tractor overturns occurring among farmers ranging in age from 59 to 80.
- The Construction Industry accounted for 12 deaths; 6 were due to falls. 5 workers were Hispanic, with Spanish as the primary language; 4 of the 5 were born in Mexico, and one was born in

Kentucky FACE Program



Guatemala. Deaths in this industry included residents from Kentucky (7), Ohio (2), North Carolina (1), Texas (1) and Tennessee (1).

- Manufacturing deaths in Kentucky included 2 homicides (a truck driver and a field service representative), 2 struck by incidents, 1 electrocution and 1 fall.
- In the Public Administration Industry, 3 firefighters lost their lives, as well as a sheriff's deputy and a maintenance worker at a correctional institution.
- Two motor vehicle deaths occurred in the Administrative and Support and Waste Industry, including a pest control delivery driver and a truck driver delivering to a land fill.
- The Other Services Industry included two pastors who died of snakebites while preaching to their congregations. A church volunteer worker tearing down a building for a parking lot, died in the building's collapse. An automobile technician was struck by an automobile while working at his desk.



Conclusions

The Kentucky Injury Prevention and Research Center would like to take a moment to respectfully acknowledge the individuals that the numbers in this report represent, and the pain and loss their families must endure. It is hoped that surveillance of these tragic workplace situations will help guide government, industry, workers and communities to direct their efforts toward better targeted injury prevention.