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Comparison of Agricultural Injury and Fatality Characteristics Obtained from Media Monitoring Versus Official Statistics

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Agriculture is one of the most hazardous industries in the United States (1). While occupational fatalities have declined in other industries, no reduction has occurred in agriculture in recent years (1). Agricultural employees also have the highest non-fatal injury rate the United States (2). Common injury hazards include tractors, machinery, ATVs, grain bins, confined spaces, manure pits, livestock, and pesticides (3). Agricultural fatalities and injuries impact families and communities, and thus public health problem requires better surveillance in order to create tailored prevention modalities.

Currently, agricultural fatalities and injuries are tracked by the Bureau of Labor Statistics and individual research studies. Often, the data consist of simple counts of incidents in broad categories, such as “tractor incident”. A national database, Census of Fatal Occupational Injuries (CFOI), captures occupational fatalities by industry. These data are useful in understanding the magnitude of the problem, but does not give the details needed to create specific prevention efforts tailored to the farming population.

The Central States Center for Agricultural Safety and Health (CS-CASH) at the University of Nebraska Medical Center (UNMC) has created an agricultural injury and fatality database, tracking incidents through media briefs, including electronic Google Alerts and press clippings from printed media. A similar database in Australia has proven useful in examining the incidence of farm injuries and providing quality assurance measures when used with other databases (5).

Agricultural injuries and fatalities are underreported in federal databases, and collecting farm fatality cases from death certificates failed to detect up to 18% of farm fatalities (6, 7). Hence, researchers and safety experts must utilize additional means for collecting information on injuries and fatalities. This research study examined fatality and injury data collected by CS-CASH over a five-year period, focusing on differences in incident characteristics between data collection systems.

**METHODS**

- **Data Collection**
  - CS-CASH created a database using Microsoft Access software. Injury data were obtained from electronic and print media sources and entered into the database.
  - Google Alerts were collected based on key words including: “farm accident”, “farm incident”, “farm death”, “ranch accident”, “ranch incident”, “ranch death”, “ATV farm death”, “ATV ranch death”, “livestock death”, as well as other descriptors. Articles from Google Alerts were screened. Relevant articles were analyzed, and data were then extracted and added to the database.
  - Verifiable electronic and print media reports were collected from agricultural safety and health experts and press clipping services.
  - CFOI data were obtained from the Bureau of Labor Statistics.

- **Data Analysis**
  - Reported incidents in the United States from 2011 to 2015 were selected for analysis. Data collected by CS-CASH were compared to CFOI data for the same states. Data were analyzed using SAS 9.4. All variables were treated as categorical variables. Two sample Z-test was used to test if there were significant differences between frequency proportions by gender, type of incident (fatal vs. non-fatal), type of injury event, and data collection method (electronic vs. print).

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6. 31(1), 64-68.

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