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## Comparing Computer Coding of Oiics Against a Visual ♦Gold Standard♦ for Farming and Forestry Injury

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*Tuesday, June 16, 2015: 3:00 PM*  
*104, Hynes Convention Center*

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**BACKGROUND:** Access to narrative text in existing administrative databases has proved useful in identifying and characterizing agricultural and logging-related injuries. Particularly, narratives from pre-hospital care reports (PCRs) provide specific details of the injury event directly from the scene and from interviewing the patient. These narratives, which are retained by a number of states, typically contain information needed to code the four variables in the Bureau of Labor Statistics' Occupational Injury and Illness Classification System (OIICS): part of body, nature, source, and event/exposure. To reduce the time and cost of visually reviewing these narratives, researchers are working to develop an agricultural and forestry keyword computer algorithm that can assign OIICS codes to injury events.

**METHODS:** From 2008 to 2010, researchers identified 1194 agricultural or forestry injury cases in PCRs for Maine and New Hampshire. Both states use the same software to maintain their records, and records were identified based on a keyword search in the narrative or a farm location code. Once the cases were verified to be truly agricultural or forestry-related via visual inspection, they were coded using the OIICS scheme by two independent coders. The discrepancies were resolved by the coding pair; and if they could not reach consensus, the case was brought before the entire eight-person coding team for resolution. With these same cases, a coding algorithm was developed in SAS 9.3 that attempted to assign OIICS codes, with varying degrees of specificity, based on the narrative.

**RESULTS:** The visual coding provided greater detail than the computer algorithm was able to consistently provide; however, the computer algorithm identified broad categories for event/ exposure and source of injury. This is important because large text files can be scanned and summarized using the algorithm, much faster than with visual review.

**CONCLUSIONS:** With continual refinement, auto coding of text strings may reduce the burden of visual record review, though the codes assigned are not as specific as visual inspection. However, this efficient technique could prove vital to ongoing surveillance strategies in agriculture and forestry.

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