Natural language processing review can ID health care-linked violence

July 8 2024, by Elana Gotkine

A natural language processing-assisted review is feasible for surveillance of health care-associated violence (HAV) episodes, according to a study published online July 8 in *Pediatrics*.

Mark Waltzman, M.D., from Boston Children's Hospital, and colleagues

examined the feasibility of using nursing notes to identify underreported HAV episodes by extracting notes across inpatient units at two hospitals for 2019.

A workflow for narrative data processing using a natural language processing-assisted manual review process was performed by a nurse and a physician. The models were trained on a pediatric tertiary care center and validated on data from a community hospital. To assess reporting completeness of new cases, these methods were applied to real-time data for 2022.

A total of 70,981 notes from the tertiary care center were used for model building, and 19,332 notes from the community hospital were used for external validation. The researchers found that compared with manual review, the final community hospital model sensitivity and specificity were 96.8 and 47.1%, respectively. Thirty-one HAV episodes were identified in July to December 2022, 26 of which were reportable in accordance with the internal criteria of the hospital. Seven of these 26 cases were self-reported by employees, all of which were identified by the surveillance process.

"Our findings suggest that nurses are documenting elements they feel are pertinent to safe care, yet these events remain underreported in the existing safety infrastructure, similar to under-reporting of patient safety events and medical errors," the authors write.

Citation: Natural language processing review can ID health care-linked violence (2024, July 8) retrieved 8 July 2024 from https://medicalxpress.com/news/2024-07-natural-language-id-health-linked.html