



Improving External Cause Coding in Hospital Discharge Data

Injuries, both unintentional and intentional, remain one of the most neglected and costly public health problems in our society.^{1,2} Surveillance is the basis for the public health approach to assessing, preventing and controlling injuries,¹ and statewide hospital discharge databases are a core dataset recommended for injury surveillance by state health departments.³

Hospital discharge data are coded using the current International Classification of Diseases Clinical Modification, revision 9 (ICD-9-CM), which provides codes to specify both the nature of the injury (e.g. skull fracture) and the mechanism or external cause (e.g. bicycle collision with motor vehicle).⁴ Without properly noted external cause coding, public health researchers are limited in their ability to infer causes of particular injuries, hindering opportunities to appropriately target, prioritize, and plan prevention initiatives. Good quality external cause of injury coding is essential to guide planners in identifying how to direct scarce resources to prevent and address issues involving patient safety, elderly falls, motor vehicle crashes, suicide attempts, child injuries and other injuries that present a significant economic burden to the health care system and substantial health burden on the population.^{2,5,6}

Currently, hospitals routinely code injury according to the nature of the injury while the external cause code is not consistently or uniformly included in hospital discharge databases.^{1,7,8} Limited progress has been made on this issue since 1990. As of 2005, only 26 states had a mandate for external cause coding, and in states that have evaluated their systems, only 55% of statewide hospital emergency department datasets have an external cause code for more than 90% of injury records.⁹ External cause codes must be specific and used consistently to have maximum utility.¹⁰

Both Healthy People 2010 Objectives and the Patient Safety Indicators promulgated by the Agency for Healthcare Research and Quality require external cause-coded data.^{5,1} Organizations such as the Council of State and Territorial Epidemiologists (CSTE),¹² the State and Territorial Injury Prevention Directors Association (STIPDA),¹³ the American

Academy of Pediatrics (AAP),¹⁴ the Suicide Prevention Action Network (SPAN),⁶ the Association of State and Territorial Health Officials (ASTHO), and the American Public Health Association (APHA) currently endorse improvements in external cause of injury coding. The costs of fully implementing external cause coding as part of hospital discharge data are minimal.¹⁵

The federal data systems (UHDDS) and uniform billing (UB) procedures drive the submission of data to statewide hospital discharge databases, but these procedures do not currently require the submission of external cause codes. The Society for Advancement of Violence and Injury Research supports the following recommendations:

- External cause of injury codes should be recorded in the hospital record for each hospital admission for which an injury is the principal diagnosis and the first-listed external cause code should be related directly to the principal diagnosis.
- The UHDDS and UB procedures should require the submission of external cause of injury data from statewide hospital discharge data bases.
- Data quality assurance programs at the state level should be developed and implemented with an aim toward improving the completeness and accuracy of external cause of injury codes.
- Professional organizations should join with the AAP, APHA, ASTHO, CSTE, STIPDA, and SPAN in endorsing, promoting and advocating for complete and specific external cause coding in statewide hospital discharge databases.
- Encourage states to join the 26 states that require the inclusion of external cause of injury codes as a separate data element which must accompany nature of injury codes as specified in the Barell Matrix¹⁶ in all state hospital discharge data.
- Call upon the Centers for Disease Control and Prevention's, National Center for Injury Prevention and Control and the National Center for Health Statistics to lead a national effort to develop a strategy to improve the completeness and specificity of external cause coding in hospital discharge databases which should include, at least:
 - Facilitation of a unified federal effort to address this issue involving agencies affected by this issue, such as the Agency for Healthcare Research and Quality, the Centers for Medicare and Medicaid Services, and the National Highway Traffic Safety Administration

- Exploration of the use of federal data sets (UHDDS), coding guidelines, and uniform billing (UB) procedures as a tool to address this issue
- Promotion of the assessment of external cause coding completeness and specificity in statewide hospital discharge databases.
- Education of clinicians, coders, and hospital administrators on the importance of external cause coding to public health surveillance and the prevention of injury and violence.
- Exploration of how other developed countries have approached getting complete and accurate external cause of injury coding

Implementation Suggestions to SAVIR

- SAVIR recommends that this policy statement be used as a model statement, which it will send to approximately 20 national professional organizations to seek similar endorsements for improving external cause of injury coding.
- SAVIR recommends that this policy statement be sent by each Injury Prevention Research Center to the state organization responsible for the uniform hospital discharge data in their state.
- SAVIR recommends that a meeting be set up with CDC, NCIPC and NCHS, to request that they provide active leadership to improve the completeness and specificity of external cause of injury coding.

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