Classification of Health Information Technology-Related Contributing Factors to Patient Safety Events

Abstract
Objective: Develop a classification for health IT contributing factors that can be used to identify, understand, and eventually reduce the risk of health IT-related patient safety events (or sentinel events). The end result is a more robust classification that enables the accurate description of the adverse event as well as the contributing and causal factors related to health IT to (1) inform and influence organizational actions taken to reduce risk, and (2) help prioritize resources. Methods: A sample of 120 health IT-related sentinel events reported to The Joint Commission were used to perform a confirmatory analysis on a composite health IT classification of contributing factors based on a framework of eight sociotechnical dimensions. Results: An analysis of sentinel events resulted in the identification of over 300 contributing factors that are classified into 50 different types of contributing factors from a possible 77 contributing factors in the classification. The classification of health IT-related contributing factors indicates that health IT-related sentinel events are primarily associated with the sociotechnical dimensions of human interface and workflow and communication. Discussion: Health IT-related contributing factors were identified in eight sociotechnical dimensions with no identified contributing factors falling outside the dimensions. This suggests that the sociotechnical model is sufficient for capturing relevant health IT-related contributing factors. Conclusion: Thoughtful design, careful implementation, safe use, and monitoring health IT in the context of a sociotechnical system can help prevent and mitigate problems before they cause patient harm. The classification provides the necessary foundation for learning how to ensure that the technology we use to treat patients is safe and is used safely.

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II Classification of sociotechnical dimensions. 10. III Health IT device involved. Since there are multiple contributing factors to any one sentinel event, 305 health IT-related contributing factors were identified across the 120 health IT-related sentinel events. Contributing factors associated with the human-computer interface were identified most frequently, representing 33% of all contributing. However, health IT safety and the broader goal of using health IT to continuously improve patient safety requires more than collaboration within healthcare organizations. Collaboration on health IT and patient. 3. The most frequently identified health IT related sentinel events were medication errors, wrong-site surgery, and delays in treatment. Journal Article - Commentary. A decade of health information technology usability challenges and the path forward. Ratwani RM, Reider J, Singh H. JAMA. 2019 Feb 4; [Epub ahead of print]. Press Release/Announcement. Notice of Intent to Publish Funding Opportunity Announcement to Improve Care Transitions Through the Use of Interoperable Health Information Technology (R01). Rockville, MD: Agency for Healthcare Research and Quality; January 28, 2019. AHRQ Publication No. Partnership for Health IT Patient Safety. Plymouth Meeting, PA: ECRI; August 2018. Journal Article - Review. Patient safety events (PSE) are the most concerns in the improvement of healthcare quality [1]. With more than 251,000 (9.5%) annual deaths, PSE is ranked the third leading cause of death in the U.S. following heart disease and cancer [2, 3]. Among the PSE, patient falls are the most common events resulting in adverse patient outcomes and imposing significant costs. Unfortunately, the prevailing contributing factors for patient safety are either too general (e.g., AHRQ CF [20]) or too specific (e.g., Castro's list of contributing factors on Health IT exclusively [30]), because clear annotation criteria were unavailable for users to follow. The contribution of sociotechnical factors to health information technology-related sentinel events. Jt Comm J Qual Patient Saf.