Enhancing Patient Safety in Healthcare Settings: A Risk Assessment Framework to Reduce Medication Errors

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Medication errors have been a major issue in the healthcare industry in the U.S. Preventable medication errors affect more than 7 million patients each year and cost almost $21 billion annually across all healthcare settings. Among different categories of these errors, medication administration errors (MAEs) are identified to be highly occurring and one of the most severe.

One of the main healthcare settings in which MAEs occur are hospitals. Statistics show that approximately 30% of hospitalized patients have at least one discrepancy on discharge medication reconciliation. This statistic is of paramount importance knowing that there were more than 36 million admissions in the U.S. hospitals in 2017. It is also noteworthy that medication errors are underreported in many cases. Therefore, this issue adversely affects patients, providers and the economy.

This paper proposes a risk assessment framework by utilizing a methodology called AcciMap, which was originally developed by Rasmussen in 1997. It is a hierarchical framework that consists of six layers, each representing a main group of involved decision-makers/players. These six layers, which have been customized for the context of our study, from top to bottom, are: government; regulatory bodies; hospital; management; physicians, nurses and other staff who administers medications; and work processes and events related to medication administration. Using the AcciMap framework, the main contributing causes of MAEs will be captured across its layers. Not only does the AcciMap capture different socio-technical factors that contribute to MAEs across its layers, but also it depicts the interactions of those layers and their involved players.

Biography

Dr. Maryam Tabibzadeh is an Assistant Professor at the Department of Manufacturing Systems Engineering and Management at the California State University, Northridge. She received her PhD in Industrial and Systems Engineering from the University of Southern California. Her research has been focused on risk analysis of human and organizational factors, along with technical elements, in complex safety-critical and technology-intensive industries, such as offshore drilling and healthcare. She has been able to present and publish papers in the areas of risk assessment and safety management, accident investigation, and interoperability analysis of multiple emergency response agencies in different peer-reviewed conferences and journals both in the context of oil and gas industry and healthcare settings.

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