Development of an Electronic Patient Risk Communication Board (ePRCB)

Kumiko Ohashi, RN, PhD, Christine Caligtan, RN, BSN, MS
Angela Benoit, Carol Keohane, RN, BSN
Diane Carroll RN, PhD, FAAN, Patricia Dykes, RN, DNSc, FAAN

BACKGROUND: Communication failures have been identified as the root cause of the majority of medical malpractice claims and patient safety violations. To date, communication breakdown of patient risk's and safety interventions to reduce risk have been identified in the literature. We believe it is essential to share key patient risk information with healthcare team members at the patient's bedside. In this study, we developed an electronic Patient Risk Communication Board (ePRCB) to assist in bridging the communication gap between professionals, paraprofessionals, and all members of the healthcare team. The goal of the ePRCB is to effectively communicate the patient's key risk factors and safety interventions, such as a fall risk or an NPO order, to the healthcare team and to reduce medical errors caused by communication failures that impact patient safety.

METHODS: Qualitative (focus group) and quantitative (survey) methods and rapid prototype development were employed to develop an ePRCB prototype. By applying the same methods used to develop icons for patient fall risks in a previous research, icons were developed with an illustrator to depict other patient risk status/intervention icons. The preliminary ePRCB prototype was developed based to address barriers identified in data collection/analysis. Developed icons related to patient risk status (including existing fall prevention icons), patient restriction, and interventions were employed on the system screen. The ePRCB transmits patient risk information and tailored interventions with easy-to-understand icons on an LCD screen in the patient's room.

RESULTS: A set of patient risk and intervention reminder icons were developed and validated by focus group participants, mostly nurses. The evaluation of the ePRCB system itself was viewed positively and the use of icons was favorable. However, some cautioned that if there are too many icons displayed, this may cause confusion or information fatigue. Therefore, the staff emphasized the importance of categorizing the icons to facilitate the recognition of each patient's risks.

CONCLUSION: In this study, we created a communication board that aims to transmit patient risk information and tailored interventions with easy-to-understand icons on an LCD screen in the patient's room. We developed the system requirements based on providers' needs. Through an iterative process of refining patient risk alert icons, a set of patient risk icons were developed for the ePRCB. The ePRCB has great potential to bridge the communication gap between professional, paraprofessional, and other members of the healthcare team by displaying key patient risk information and actionable reminders available at the patient's bedside. We used the results of the evaluation to refine and finalize the icons for the ePRCB.