Adoption and Spread of an Electronic Patient Safety Checklist to Eliminate Adverse Events in Intensive Care Units

Sarah Rose Slate, BA[1], Anthony Massaro, MD[1], Patricia Dykes, PhD RN[1,2]

[1]*Brigham and Women's Hospital, Boston, MA;* [2]*Harvard Medical School, Boston, MA*

Introduction/ Background

Effective care of critically ill patients requires collaborative decision-making, goal-related follow-up actions, and patient safety double checks. Studies have shown that standardized checklists help coordinate evidence-based care practices.[1] The use of checklists within interdisciplinary rounds in the ICU can reduce patient harm by improving communication and documentation.[1,2] Our team developed an electronic ICU Safety Checklist Tool (eISCT) for use in the Brigham and Women's Hospital Medical ICU (MICU) on multidisciplinary rounds. The eISCT incorporates existing validated safety checklists into a single integrated checklist and displays the real-time status of safety items on a unit dashboard. An initial evaluation of the eISCT over a 10-month period on 1134 patients demonstrated consistent checklist completion and a 30% reduction in adverse events (p=.009). The purpose of this study is to refine the BWH eISCT for use in two additional BWH/Faulkner Hospital ICUs and develop the tools needed by leadership, clinician, and information technology stakeholders to facilitate generalizability and spread of the eISCT.

Methods

We worked with BWH/FH clinicians to observe rounding workflows and identify barriers to use of the eISCT in their ICUs. During monthly meetings we discussed with stakeholders how to integrate the eISCT into current workflow. We worked with nursing practice committees to identify the types of tools needed to implement the use of the eISCT. We received input from clinicians on ways to refine the eISCT logic and content to improve usability.

Results

Based on stakeholder feedback, we developed refined versions of the eISCT. Clinicians wanted messages on the eISCT dashboard to alert the team of the action needed to resolve the status of a safety item, so we refined the dashboard to clearly convey actionable items. We decided on times in clinician workflow to implement the eISCT in the BWH/FH ICUs. We created a toolkit to help educate the ICU clinicians on use of the eISCT. The toolkit included a pocket guide that highlights when and how to use the eISCT, as well as a manual that describes each eISCT item in detail.

Discussion/Conclusion

The eISCT has the potential to enhance team communication and reduce preventable harms in ICUs outside of the BWH MICU. However, different ICU settings have distinct workflows and patient populations, so communication with clinicians, leadership, and information technology stakeholders is essential to the adoption and spread of a safety checklist tool.

References

1. Berenholtz, S.M., et al., *Improving care for the ventilated patient.* Joint Commission journal on quality and safety, 2004. **30**(4): p. 195-204.
2. Conroy, K.M., D. Elliott, and A.R. Burrell, *Testing the implementation of an electronic process-of-care checklist for use during morning medical rounds in a tertiary intensive care unit: a prospective before-after study.* Ann Intensive Care, 2015. **5**(1): p. 60.