THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

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Quality Improvement Initiative Incorporates i-Bed Technology into Fall Prevention Bundle of Care

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INTRODUCTION

Accidental falls in the acute care setting are attributed to many different factors including the patient's physiologic status, staff behavior, and the hospital environment.[1,2] Fall-related injuries occur in approximately 30% to 50% of in-hospital falls[3] and are associated with increased morbidity and mortality, extended length of stay, excess costs, and decreased quality of life.[4-7]

The evidence-based literature recommends an interprofessional and multifactorial approach to preventing falls including validated risk assessments and targeted interventions.[8-10] Ensuring nursing accountability via safety audits has also been reported to be an effective method for reinforcing evidence-based fall prevention interventions.[11]

The following outcome story discusses how regular safety audits were conducted to increase compliance with fall prevention interventions and to enhance the clinical culture of safety.

METHODS

Clinical setting: This quality improvement (QI) initiative took place on a 29-bed postsurgical unit.

Interventions:

- The nurse manager, professional nurse development practitioner (educator), nurses, patient care technicians, and unit secretaries received written, oral, and simulation education on the appropriate use of bed technology as part of the fall prevention bundle of care.
- Compliance audits were conducted on a regular basis to ensure adherence to the fall prevention bundle of care and appropriate use of bed technology*. Unit champions were selected to perform audits every shift and were trained on data collection. Spot audits were also conducted to validate compliance of staff and provide further education as needed.

Technology: The technology was considered another layer of support for staff, along with the hospital fall prevention bundle of care, to aid in identifying high fall-risk patients and to ensure that staff could act appropriately by reducing the chances of these patients falling while in the hospital. The iBed technology allowed the staff to adjust the bed and side rails and to set the bed alarm for appropriate patients. The bed monitors itself for changes in the bed position or side rails. The bed alarm is considered an early warning system to allow for staff to intervene more quickly to prevent a fall.

Objectives: The objectives of this QI initiative were to appropriately identify high fall-risk patients, make the appropriate clinical decisions regarding bed technology within the bundle of care, and set bed alarms for appropriate patients.
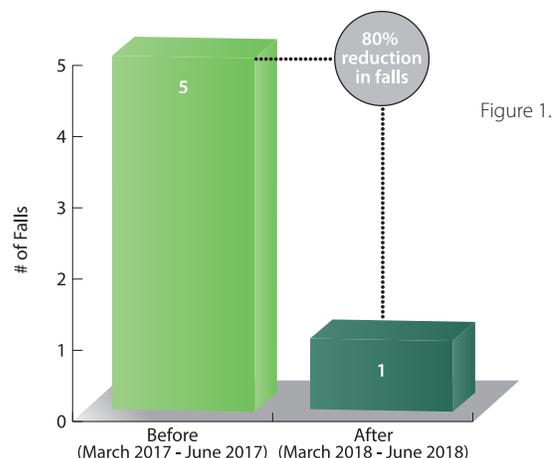
Communications: No Fall Challenge data were shared during daily staff huddles and a post-implementation celebration. Unit e-mail communications were also provided on a regular basis.

MAR 19-25	MAR 26	APRIL 26	MAY 31	JUNE 11
Stryker iBed and bed exit education for all shifts (am & pm)	No Fall Challenge kick-off	30-day mark with no falls	62-day mark with no falls	103 days of No Fall Challenge (1 fall non-bed related)

* S3® Bed with iBed® Awareness Communication System with Zone Control® Bed Exit Technology (Stryker Corporation, Kalamazoo, MI)

RESULTS

This QI initiative resulted in a successful No Fall Challenge, with 65 days with no falls and an 80% reduction in falls (Figure 1). Compliance with the QI initiative was 100% on regular audits.

March 1- June 11

103 days *no* **bed-related** falls

Figure 1.

80% reduction in falls

# of Falls

Before (March 2017 - June 2017): 5
After (March 2018 - June 2018): 1

CLINICAL IMPLICATIONS

- Safety audits were an effective method for increasing compliance with the fall prevention bundle of care and ensuring appropriate use of bed technology.
- Buy-in and support from unit leadership are key drivers for ongoing success.
- Evidence-based education of the interprofessional team was an essential aspect for ensuring team buy-in with the QI initiative.
- Use of unit champions for safety audits ensured that consistent data collection methods were used.
- As a result of this QI initiative, our clinical culture of safety has been enhanced.

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