CASE STUDY

MU Health Care

Evidence-Based Quality Improvement Initiative Results in Decreased Falls Hospital-Wide

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BACKGROUND

Inpatient falls continue to be a serious patient safety issue, with approximately 30-50% of falls resulting in an injury.[1] Falls are associated with increased morbidity, longer hospital length of stay, and decreased quality of life due to fear of falling and impaired mobility.[2-4]

Evidence-based fall prevention requires a team of clinical professionals who collaborate on an ongoing basis and customize their interventions for the patient population. Studies have shown that multifactorial assessments and interventions can be successful for fall reduction, with an emphasis on patient education, medication management, toileting assistance, and risk stratified interventions.[5-7]

A hospital in Missouri recognized the need to develop and implement a bundle of care for fall prevention. The following case history describes this quality improvement (QI) initiative.

METHODS

Objective:
To design and implement an evidence-based fall prevention bundle of care.

Dates of bundle implementation:

- **July 2014:** Defined elements of the bundle through literature review
- **Beginning October 2014 to May 2015:** Fall prevention intervention and competency skills fairs and staff education provided (every other month throughout 2014)
- **October 2014:** Implementation of fall prevention bundle
- **February 2015:** Pilot implemented on Neuroscience Unit with bed technology
- **May 2015:** QI initiative launched house wide

Education:
Education for screening is conducted on hire, and each year through competency-based computer training. Education includes appropriate implementation of fall prevention interventions and use of Adult Morse scale.

Interventions:

- Implemented fall bundle but did not see a change in fall rates initially. An assessment revealed staff were using falls risk signs and mobile fall risk monitor appropriately, but enhanced compliance with bed technology was needed.
- As part of the fall prevention bundle, a new intervention was implemented, during which patients would sign an agreement they would call for assistance if they were at risk for falling on specific pilot units (Orthopedics and Neuroscience).
- Fall prevention education was made available to patients as part of the fall prevention bundle.
- A newer fall alarm pad system was purchased and installed October 2014. This system had connectivity to a secondary device (phones) and assisted greatly

METHODS *continued*

in defining which room had an audible signal alarming, thereby shortening the time to respond.

- In January 2015 utilization of ibed technology available on the beds* was suggested. The additional element of bed technology allowed staff to individualize the safety settings for each patient. Bed exit alarms were to be engaged for all patients and utilization of the ibed green light indicator was added to the bundle of care for fall prevention and piloted on the Neuroscience unit. This visual indicator at the end of the bed allowed staff to recognize at a glance if the bed safety parameters were intentionally set up and engaged.
- In May 2015, the fall prevention bundle was implemented house-wide.

Compliance monitoring:

- A standard auditing tool was utilized to ensure all patients received appropriate use of bed technology as part of the bundle of care.
- The expectation was that every bed would have a green light on, indicating the bed technology was being utilized properly for maximum patient safety.
- It was also established every patient with the bed exit alarm activated was initially in zone 2 until it was established they were independent and could walk on their own at least two times.

60-day no falls challenge:

- The Fall Prevention Council launched a 60-day no falls challenge pilot for February and March 2015, revealing use of the bed technology made a difference compared with prior no falls challenges.
- After seeing the success on the pilot unit, the no falls challenge was made a hospital wide competition. The winner of the challenge received recognition from administration.

Metrics:

- Excluded units who did not have the bed technology
- Looked at all fall rates per 1000 patient days hospital-wide

Clinical buy in:

- Inter-professional collaboration and accountability through daily audits ensured clinical buy in.
- Clinical buy in was enhanced once staff realized the bundle of care incorporating bed technology was less labor intensive.

RESULTS

The QI intervention was considered to be successful. The inpatient areas were averaging approximately 30 falls per month pre-intervention and by June 2015, there was a 73% reduction in falls.

Figure 1–Falls Per Month

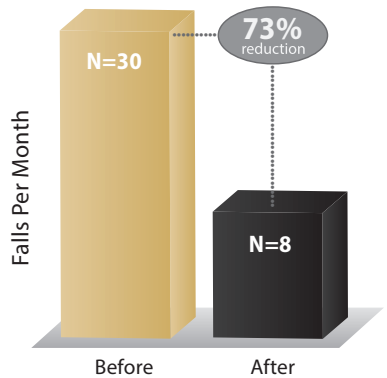
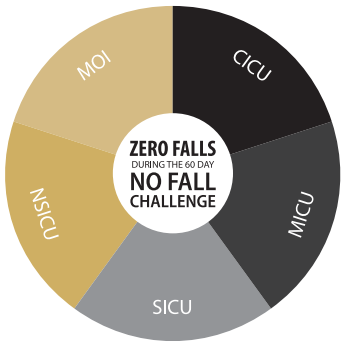


Figure 2–Falls Results of No Fall Challenge



*Stryker S3® Med/Surg Bed configured to include Chaperone® Bed Exit with Zone Control® and iBed® Awareness Smart Bed Monitoring Systems (Stryker Corporation, Kalamazoo, MI)

RESULTS *continued*

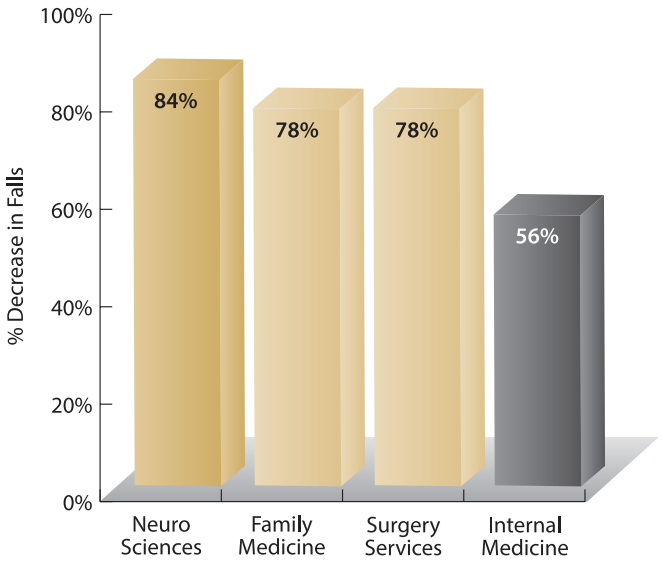


Figure 3–Most Improved

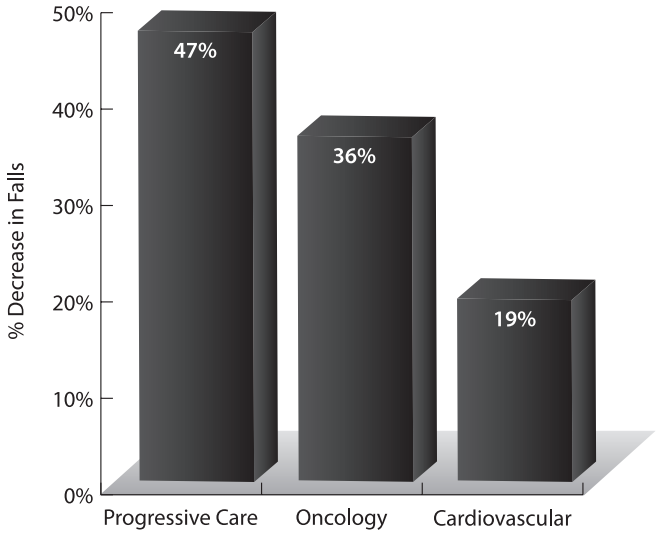


Figure 4–Honorable Mention

DISCUSSION

The inter-professional collaboration and development of the evidence-based fall prevention bundle of care was a success, leading to a hospital-wide QI initiative.

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