

Sustainable Reduction of Inpatient Falls in the Emergency Department

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INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) classifies inpatient falls as preventable hospital acquired conditions known as “never events”.¹ Inpatient falls are one of the most commonly reported adverse events,² and are associated with increased morbidity, mortality, prolonged length of stay, and excess costs.³ The emergency department is a clinical setting that lends itself to unpredictability and chaotic events that can place patients at increased risk for falling.⁴ The emergency room also has multiple hazards that can increase the risk of falls, such as **slippery floors and** patients lying on narrow stretchers for prolonged periods of time, which can lead to stiffness and weakness.⁵

Prior studies have reported emergency department fall rates ranging from 0.15 to 0.288 per 1000 patient visits.^{6,7} The Centers for Disease Control and Prevention (CDC) reports each inpatient fall can cost \$35,000 per incident.⁸

Penrose Hospital's Emergency Department sees an average of approximately 4,500 patients per month. In 2013, the hospital implemented an evidence-based quality improvement initiative to help reduce the risk of inpatient falls. The following case history summarizes the sustainable efforts implemented to reduce inpatient falls in the emergency room through mid-2016.

METHODS

Root cause analysis

A root cause analysis was conducted on falls in 2011 and 2012 and staff identified the need to enhance patient safety while laying on the stretcher in the emergency department, and increase staff education on falls risk assessment and risk-stratified interventions.

Literature review

A review of the literature was conducted to assess evidence-based guidelines for inpatient fall prevention.^{9,10}

Fall risk assessment

The fall risk assessment tool was changed from the Hendrich Fall Risk Model to the KINDER 1 in 2013 and staff were educated on appropriate use.

Fall prevention interventions

Risk-stratified interventions were developed for the Kinder 1 assessment. Patients considered high falls risk received all fall risk interventions and use of a stretcher alarm.* Stretchers were standardized within the emergency department.

Technology

If patients were confused or disoriented, the use of load cell technology was implemented. This technology tracks the patient's center of gravity and alerts caregivers to patient movement outside of the boundary area. The stretcher used for the QI intervention had two zones, and zone 2 was set for confused or disoriented patients.

Caregiver education

Staff was educated on the revised fall risk assessment tool, fall prevention interventions, and appropriate use of the stretchers in March of 2013 and stretchers were received in April 2013. Staff education included all with direct patient care, housekeeping, and transportation. Re-education was provided June of 2013, September 2013, January 2014, June, 2014, June 2015, and June of 2016.

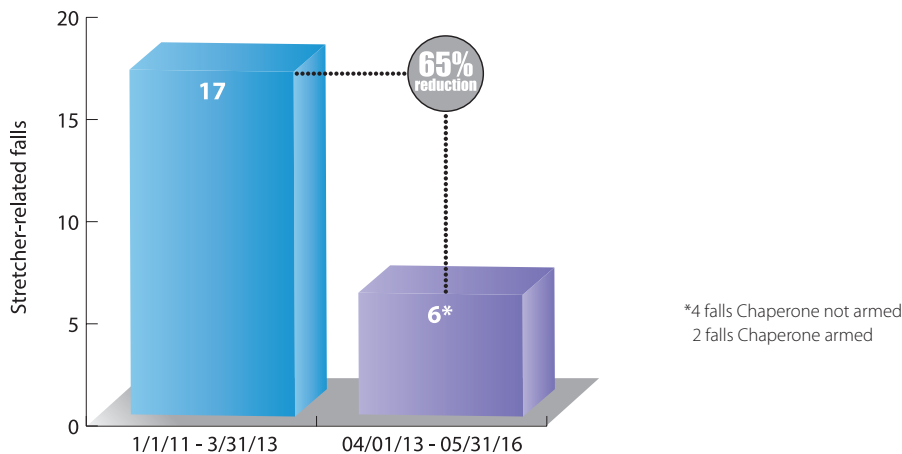
Patient education

Compliance: Fall prevention interventions are monitored through occasional rounds. If interventions are not adhered to, one on one counseling is held.

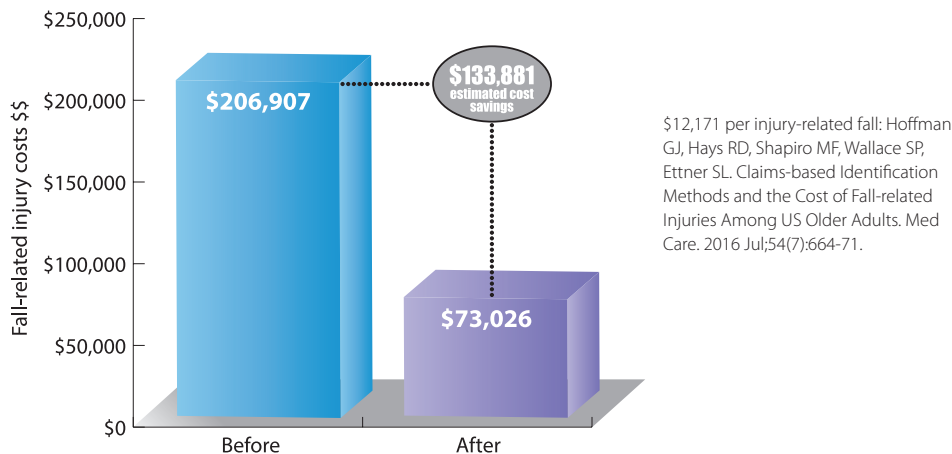
RESULTS

This quality improvement initiative resulted in a 65% reduction in stretcher-related falls (Figure 1).

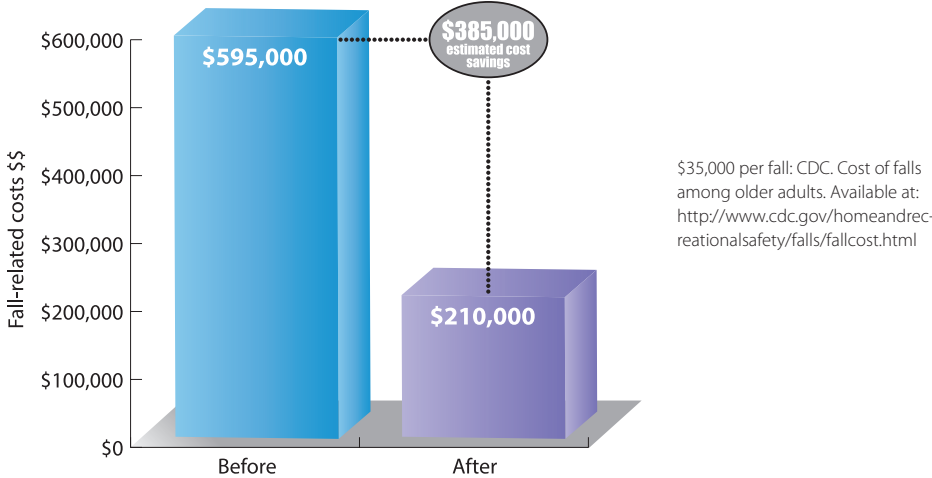
Part A (stretcher-related falls before/after comparison):



Part B (low-end cost savings estimate):



Part C (high-end cost savings estimate):



*Stryker Prime Series® Big Wheel® Electric with Chaperone® Stretcher Exit System (Stryker Corporation, Kalamazoo, MI)

DISCUSSION

The success of this quality improvement initiative is attributed to the combination of caregiver education, patient education, and utilization of updated technology. The patient safety culture in the emergency department has been enhanced as a result of these evidence-based interventions.

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