

Early Mobility Program Results in Improved Patient Outcomes and Cost Savings

Lilia Hansen, MSN, MBA, RN, CCRN & Sarah Malcom, MSN, RN

Heidi Brooks, MSN APRN-FNP

Nebraska Methodist Hospital, Omaha, NE

INTRODUCTION

Patients who are critically ill experience complications associated with prolonged immobility, such as limitations in activity and difficulty with returning to their pre-morbid functional status.^{1,2} In addition, complications such as pain, delirium, and agitation are common conditions often associated with critical illness, which negatively impact patients, family members, and caregivers.^{3,4} Early mobility programs in the intensive care unit (ICU) have been shown to be safe, feasible, and effective in reducing muscular weakness and the neuromuscular impact of immobility due to critical illness.⁵

The ABCDEF bundle of care has evolved to meet the complex needs of patients who are critically ill and

address management of pain, agitation/sedation, delirium, and weakness.⁶

- A = Assess, prevent, and manage pain
- B = Both SATs and SBTs
- C = Choice of analgesia and sedation
- D = Delirium assess, prevent, and manage
- E = Early mobility and exercise
- F = Family engagement and empowerment

An intensive care unit (ICU) at Nebraska Methodist Hospital implemented an early mobility program to enhance patient safety in their clinical environment. The following case history outlines their efforts and the results of their quality improvement (QI) initiative.

METHODS

Clinical setting: The early mobility QI initiative took place on an ICU within a Magnet facility.

Timeline: The early mobility program began on January 1, 2016 and data collection is ongoing. This outcomes story reports data through end-2017.

Metrics: Effectiveness of the early mobility program was measured by comparing before and after data points.

Outcomes assessed: The before-after comparison evaluated inpatient pressure injury and inpatient falls. Cost savings was calculated by comparing before-after bed rental costs and determining cost avoidance estimates using evidence-based figures.

Interventions: The QI initiative consisted of the following interventions:

- Interprofessional ABCDEF bundle education in November 2015

- Purchased/delivery of new beds* in November 2015
- Purchased sit-to-stand lift and Hoyer lift for unit
- Mandatory Early Mobility educational workshops November-December 2015
- Re-inserviced on advanced bed functions in February 2016
- Nursing staff received education on appropriate sedation with competency checks in May 2016
- Daily implementation of mobility huddles at 9 a.m. and 2 p.m. to set and assess individual patient goals
- PT/OT added a "therapy" log/communication sheet and provided education at monthly meeting
- Use of visual reminders and communication tools to collaborate on individual patient goals (e.g., laminated early mobility protocols in each patient room that could be written on)
- Identified and addressed barriers to early mobility to ensure clinical, cultural "buy in" of early mobility:

METHODS *continued*

- ❖ Misperception that physical therapy and occupational therapy were needed to mobilize patients
- ❖ Understanding that lateral rotation therapy was only one element of mobility and not a replacement for early mobilization
- ❖ Empowering night shift to begin early mobility around 6 a.m.
- ❖ Evidence-based staff education was continued throughout 2017, in conjunction with ongoing compliance audits and daily feedback to emphasize accountability.

RESULTS

The before-after comparisons have demonstrated improved and sustained patient outcomes and savings. Pressure injury has decreased 74% (Figure 1) and accidental falls declined 63% (Figure 2).

Cost savings were realized with a 78% reduction in bed rental costs (Figure 3), and as estimated in Figures 1 and 2.

FIGURE 1:

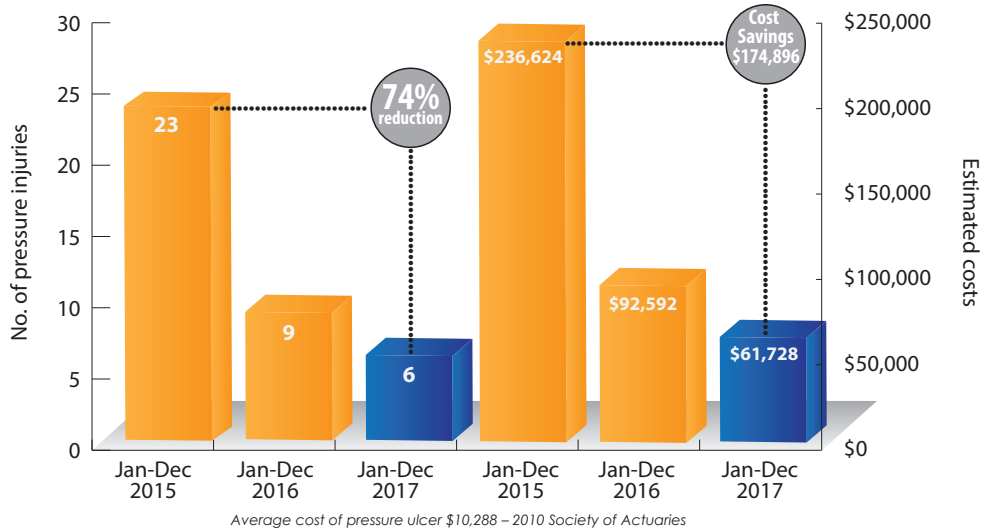
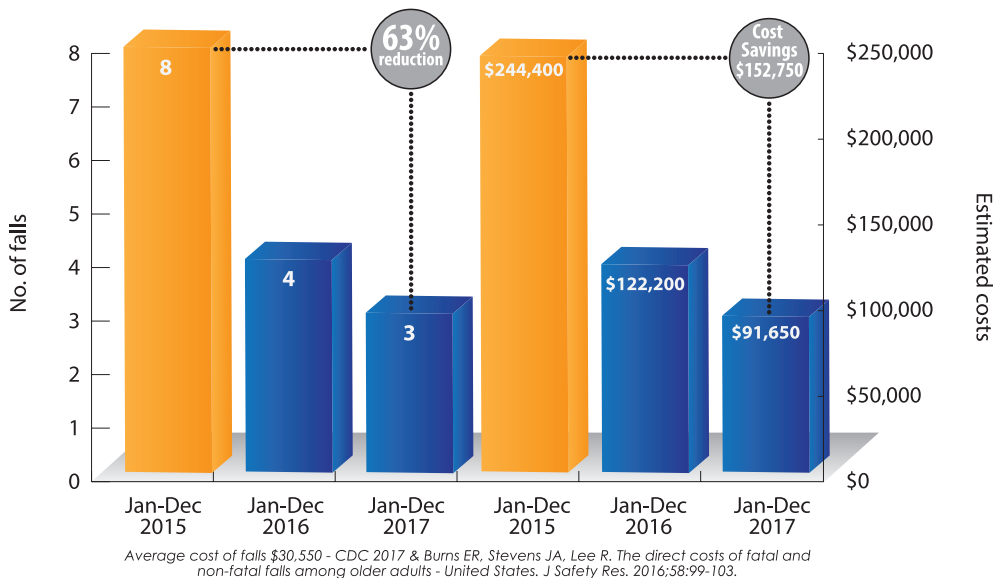
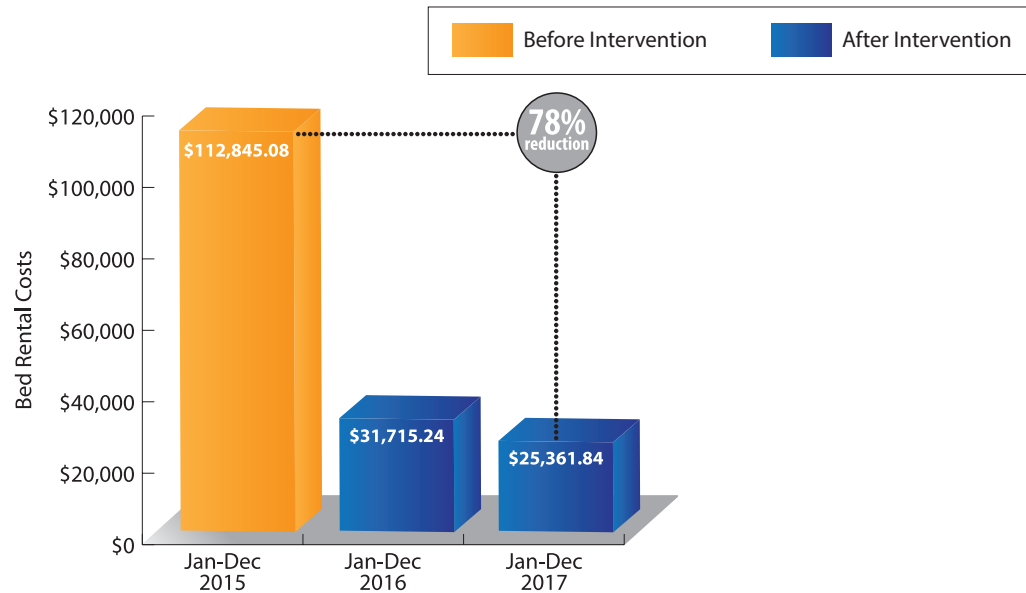


FIGURE 2:



RESULTS *continued*

FIGURE 3:



CLINICAL IMPLICATIONS

The implementation of the early mobility program and the bundle of care has resulted in improved and sustained patient outcomes, and an enhanced clinical culture of safety. The complex nature of each critically ill patient requires an evidence-based approach to the

ABCDEF bundle implementation. The interprofessional collaboration and ongoing education associated with this QI initiative have led to improved communication between staff, improved patient outcomes, and cost savings.

REFERENCES

1. Zanni, J. M., & Needham, D. M. (2010). Promoting early mobility and rehabilitation in the intensive care unit. *PT in Motion*, 2(4):32–38. Retrieved from www.PTinMotion.org
2. Ecklund MM, Bloss JW. Progressive mobility as a team effort in transitional care. *Crit Care Nurse*. 2015;35(3):62-8
3. Barr J, Fraser GL, Puntillo K, et al. American College of Critical Care Medicine. Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit. *Crit Care Med*. 2013;41(1):263:306
4. Spronk PE, Riekerk B, Hofhuis J, Rommes JH. Occurrence of delirium is severely underestimated in the ICU during daily care. *Intensive Care Med*. 2009;35(7):1276-1280
5. Balas MC, Vasilevskis EE, Olsen KM, et al. Effectiveness and safety of the awakening and breathing coordination, delirium monitoring/management, and early exercise/mobility bundle. *Crit Care Med*. 2014;42(5):1024-1036
6. Balas MC, Devlin JW, Verceles AC, Morris P, Ely EW. Adapting the ABCDEF Bundle to Meet the Needs of Patients Requiring Prolonged Mechanical Ventilation in the Long-Term Acute Care Hospital Setting: Historical Perspectives and Practical Implications. *Semin Respir Crit Care Med*. 2016 Feb;37(1):119-35.

