

# Early Mobility Program Results in Improved Patient Outcomes and Cost Savings

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## 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.<sup>1,2</sup> 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.<sup>3,4</sup> 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.<sup>5</sup>

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

and address management of pain, agitation/section, delirium, weakness, and social isolation.<sup>6</sup>

**A = assess, prevent, and manage pain**  
**B = both SATs and SBTs**  
**C = choices of sedation**  
**D = delirium monitoring management and interprofessional rounds**  
**E = early exercise/mobility**  
**F = family engagement**

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.

**Metrics:** Preliminary effectiveness of the program was measured by comparing one year of data after implementation of the early mobility program (January through December 2016) with one year of data from the prior year (January through December 2015).

**Outcomes assessed:** The before-after comparison evaluated inpatient pressure injury, inpatient falls, and ventilator-associated events. 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)

## METHODS *continued*

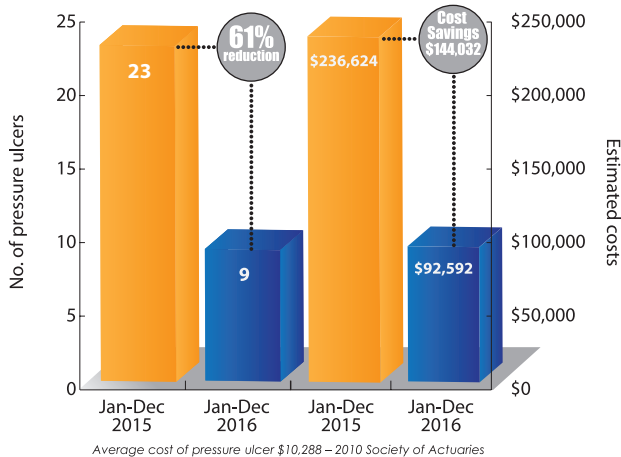
- Identified and addressed barriers to early mobility to ensure clinical, cultural “buy in” of early mobility:
  - ❖ Misperception that physical therapy and occupational therapy were needed to mobilize patients
  - ❖ Understanding that lateral rotation therapy was only one element of mobility and not a replacement for early mobilization
  - ❖ Empowering night shift to begin early mobility around 6 a.m.

## RESULTS

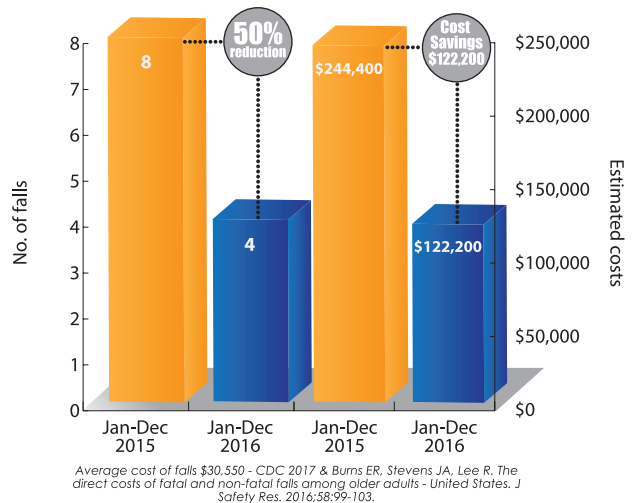
The before-after comparisons have demonstrated improved patient outcomes and savings. Pressure injury rates have decreased 61% (Figure 1), accidental falls declined 50% (Figure 2), and

ventilator-associated events have also decreased (Figure 3). Cost savings were realized with an \$81,129.84 reduction in bed rental costs (Figure 4), and as estimated in Figures 1 and 2.

**FIGURE 1: Pressure Injury Incidence**



**FIGURE 2: Accidental Fall Incidence**



**FIGURE 3: Ventilator Associated Events**

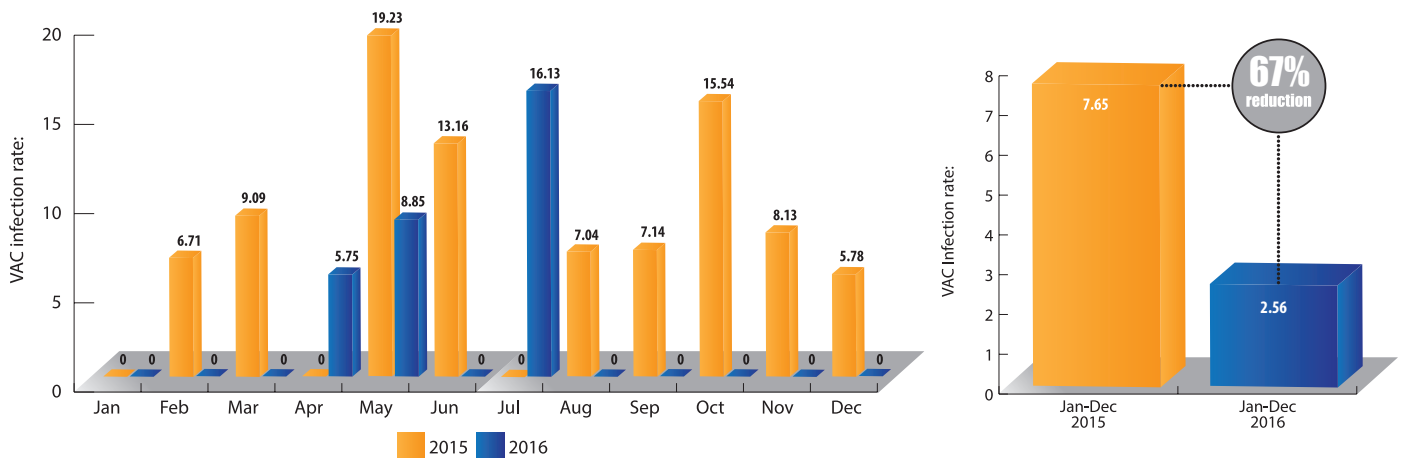


FIGURE 3: Ventilator Associated Events

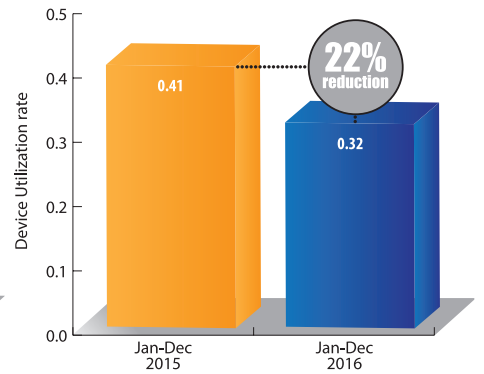
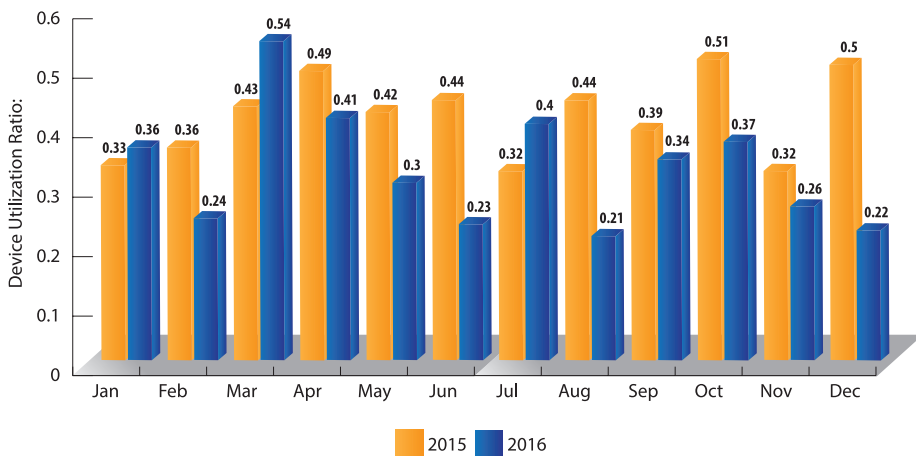
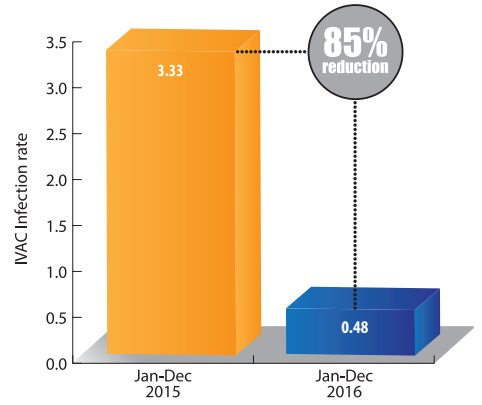
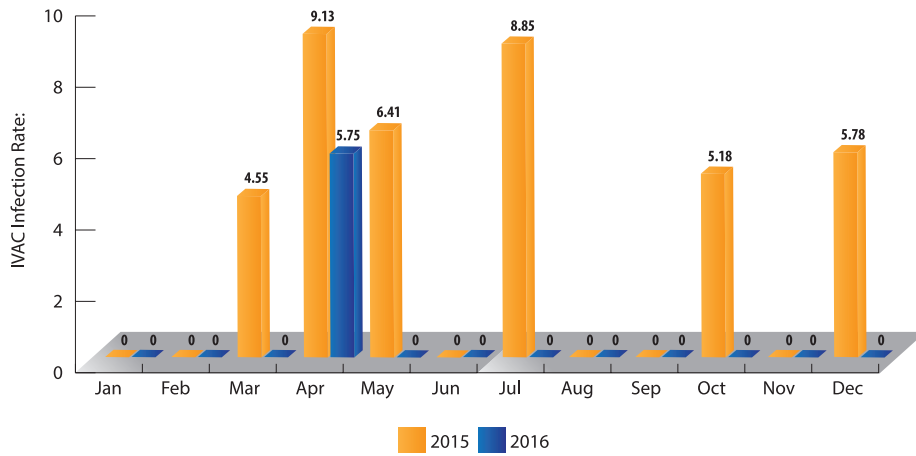
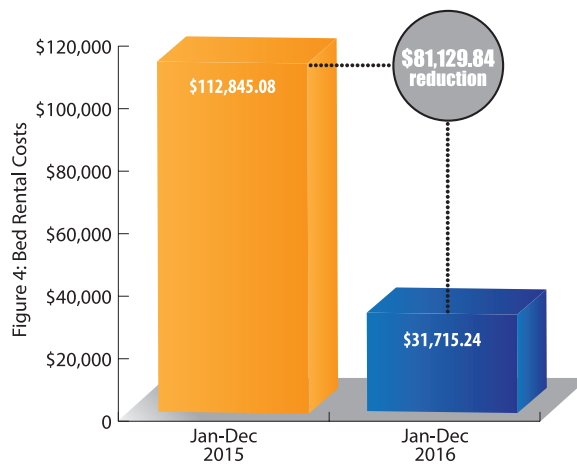


FIGURE 4: Bed Rental Costs



## CLINICAL IMPLICATIONS

The implementation of the early mobility program and the bundle of care has resulted in improved 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, and 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

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