

Evidence-Based Quality Improvement Initiative Results in Zero Hospital-Acquired Pressure Injuries and Cost Savings for a Critical Care Population

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INTRODUCTION

A pressure injury (PI) is an area of skin injury or breakdown that can occur when a person lies in one position for an extended period of time, as little as a few hours, without shifting positions.¹ These wounds are uncomfortable and can also become infected, leading to further complications.¹ If identified early, many PIs can be treated successfully, avoiding complications.¹ Not all PIs can be prevented, but many can; therefore, it is important for patients to have access to appropriate support surfaces for pressure redistribution, appropriate repositioning, and nutrition management.¹ Wound care specialists are involved in all aspects of education and research to improve patient outcomes via wound assessment and management using evidence-based practices.¹ Wound care specialists focus entirely on the prevention and treatment of wounds, which requires much more than gauze and Band-Aids.

The critical care patient population is at increased risk for the development of hospital-acquired pressure injuries (HAPIs), which have a reported prevalence ranging from 12% to 24.5%.² Although evidence-based HAPI prevention guidelines have been published and broadly disseminated, the estimated incidence increased from 3.6 to 4.8 per 10,000 hospital encounters among critically ill patients from 2013 to 2016.³ The development of HAPIs is associated with increased morbidity, and excess annual costs are estimated to reach (US) \$26.8 billion.⁴ Quality improvement (QI) interventions to prevent HAPIs in the critical care environment are multifaceted and customized for each patient according to Braden Scale pressure injury risk assessment scores. The following outcomes story highlights the successful efforts of the BronxCare Health System to improve patient outcomes and decrease excess costs associated with HAPIs.

METHODS

Clinical Setting: This QI initiative took place on a 27-bed intensive care unit (ICU) and an 11-bed critical care unit (CCU).

Interventions: The QI initiative focused on standardization of bed technology on both units, which ensured that all beds had updated technology regarding pressure offloading and microclimate control. The ICU and CCU were provided with new beds* in April 2020. These new beds included turn-assist technology to assist with patient turning every 2 hours. The staff received ongoing education on the appropriate use of bed technology in conjunction with HAPI prevention while ensuring a simplified workflow.

Education:

- Educational in-servicing on new beds was provided on the following dates:



- In-servicing videos were uploaded to the facility's Nursing Education platform, and videos were viewed weekly by staff.

Compliance monitoring: A designated Wound and Ostomy Care Manager rounded daily and monitored staff compliance to the HAPI QI intervention, providing real-time education as needed.

Metrics: The effect of this QI initiative was determined by comparing the number of HAPIs over a 5-month period before implementation of the new beds (November 2019-March 2020) with a 5-month period after implementation (May 2020-September 2020). Bed rental costs were estimated during the same time periods to assess costs.

RESULTS

The QI initiative was successful, as evidenced by 5 months of 0 HAPIs in the ICU and CCU after implementation of

the intervention (Figure 1), with a cost savings of (US) \$126,972.16 (Figure 2).

Figure 1: Pressure injury reduction (before and after)

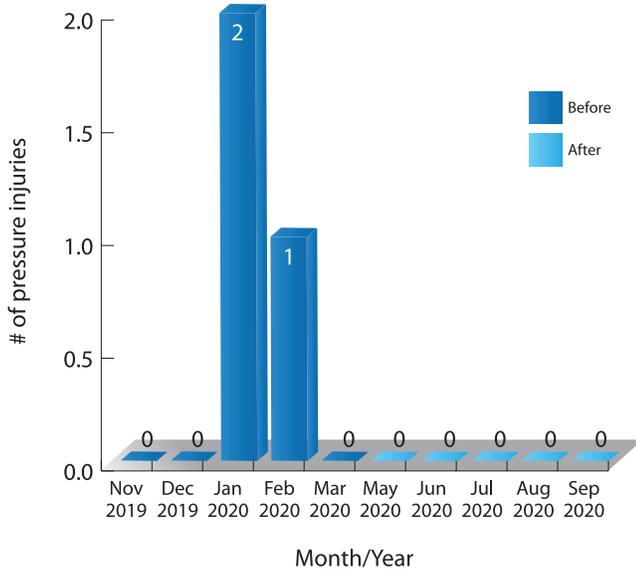
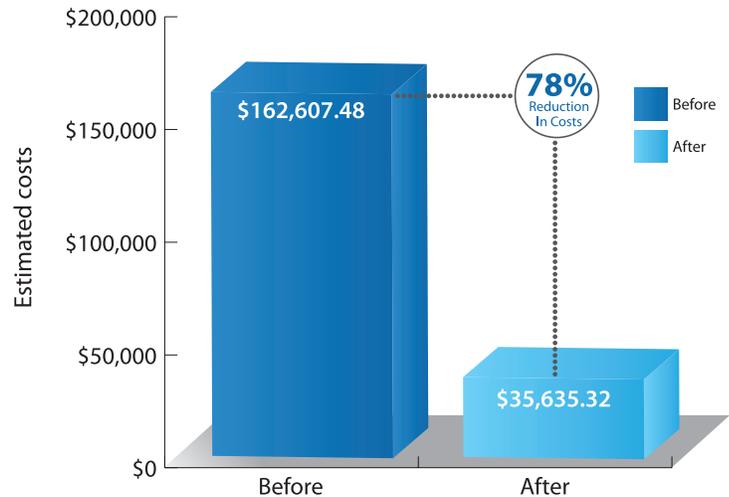


Figure 2. Before and after bed rental costs



CLINICAL IMPLICATIONS

Investing in evidence-based HAPI prevention can lead to improved patient outcomes and cost savings. Providing just-in-time education as needed to ensure compliance with the QI initiative was an important aspect of this

successful intervention. In addition, standardization of bed technology simplified workflow and ensured consistency of bed technology across both the ICU and CCU. This HAPI prevention QI initiative is ongoing.

REFERENCES

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