

Evidence-Based Hospital-Acquired Pressure Injury Prevention Results in Cost Savings and Sustained Improved Patient Outcomes

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BACKGROUND

Evidence-based prevention of hospital-acquired pressure injuries (HAPIs) has long been a focus of acute care facilities in the United States. A 2019 retrospective analysis of a large pressure injury database (N = 216,626) revealed a significant decrease in the prevalence of superficial HAPIs from 2011 to 2016, but the prevalence of severe pressure injuries did not decrease significantly nationwide, suggesting that there is room for improvement of evidence-based prevention.¹

Patients who develop HAPIs are more likely to experience increased morbidity and decreased quality of life.² The economic burden of HAPIs includes direct, indirect, and intangible costs, as well as medicolegal expenses.³

The development of HAPIs is associated with multiple risk factors such as immobility and advanced age.⁴ The complex nature of HAPI development requires an evidence-based approach to prevention, addressing both physiologic and biomechanical elements.⁴

The following outcomes story describes the quality improvement (QI) efforts of a large hospital in New York, which enhanced evidence-based best practices for HAPI prevention by updating technology, increasing collaboration, and improving staff buy-in and empowerment to decrease HAPI prevalence.

METHODS

Clinical setting: This QI initiative took place at a 492-bed acute care facility in Buffalo, New York.

New support surfaces: During a root cause analysis of HAPIs, recommendations for process improvement were provided to the organization's board of directors, which included the need for updated support surfaces to ensure appropriate pressure redistribution. A cost-benefit analysis, which considered costs of litigation, length of stay, and bed rental fees, was conducted before implementing the QI initiative. The results of the cost-benefit analysis suggested that the purchase of new support surfaces would likely result in cost savings.

- A total of 525 support surfaces* were purchased and used hospital wide.
- Support surfaces were delivered in 4 phases (February, April, July, and September 2018).

The support surface that was selected for this QI intervention had features such as alternating low-pressure therapy, low-air-loss therapy, active sensory technology, and the ability to adjust settings according to patient comfort.

Education: Online and didactic education were provided to the nursing staff.

* IsoAir® Support Surface, Stryker Corporation, Kalamazoo, MI

METHODS *continued*

- Education included review of re-education regarding hospital policies for HAPI prevention.
- In-servicing was provided before each phase of support surface delivery.
- Evidence-based education emphasized that the new support surfaces did not replace the need for appropriate patient repositioning and pressure offloading.
- Clinical education and wound care teams provided education regarding the appropriate use of products and best practices for HAPI prevention.
- Regular rounding on adherence to best practices for HAPI prevention was performed by nursing management.
- The physician champion reviewed HAPI cases from a quality perspective and collaborated directly with the wound care team.
- Including a physician champion in QI efforts helped align all members of the clinical team according to the appropriate use of products in conjunction with evidence-based best practices for HAPI prevention.
- The physician champion also attended the corporate skin care committee meetings and participated in the Quality Leadership Council and other wound care–related committee meetings.
- The QI project coordinator collected and analyzed data, and unit and hospital data were shared with the chief nursing officer, nursing directors, and nurse managers.

Enhanced Collaboration:

- Nursing management included bedside staff in the decision-making process for the QI initiative.
- Discussion of different aspects of change management was an essential part of the QI initiative and increased clinical team buy-in and engagement.
- Nurse managers identified a wound care champion for each unit who took part in monthly audits and was part of the wound care committee.
- In February 2018, the wound care team was added to the daily huddle to increase interprofessional collaboration and ensure that their expertise was available to the entire hospital.
- A physician champion was identified to meet with nursing management and the wound care team every month.

Metrics: Pressure injury data was collected following the National Database of Nursing Quality Indicators (NDNQI) definition for prevalence, “A cross-sectional count of the number of cases in a population. It measures the total number of persons with a pressure injury in a hospital/hospital unit on the day of the NDNQI pressure injury survey. It includes those admitted to the healthcare facility with a pressure injury and those who developed one between admission and the time of the survey.”

- Prevalence data for HAPIs were reviewed 1 year before (2017) and after (2018) the QI intervention.
- Bed rental expenditures were also compared before and after the intervention.

RESULTS

The QI initiative resulted in a 46% decrease in HAPIs from 2017 to the end of 2018 (Figures 1, 2), and significant cost savings (Figure 3).

RESULTS *continued*

Figure 1. Hospital-Acquired Pressure Injury Rate BGMC/GVI 2018

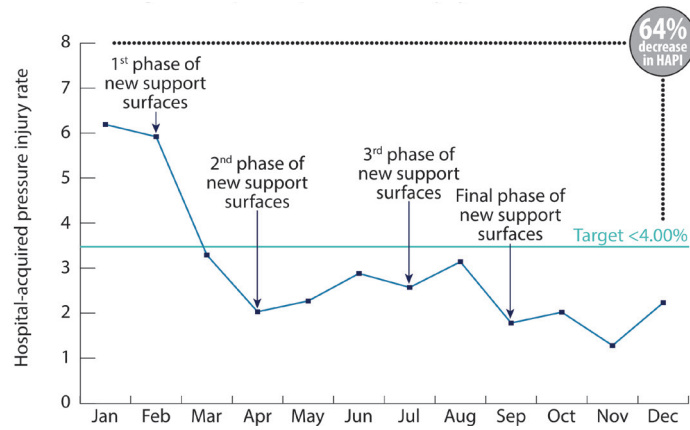


Figure 2. BGMC/GVI Hospital-Acquired Pressure Injury Prevalence Rate 2013-2018

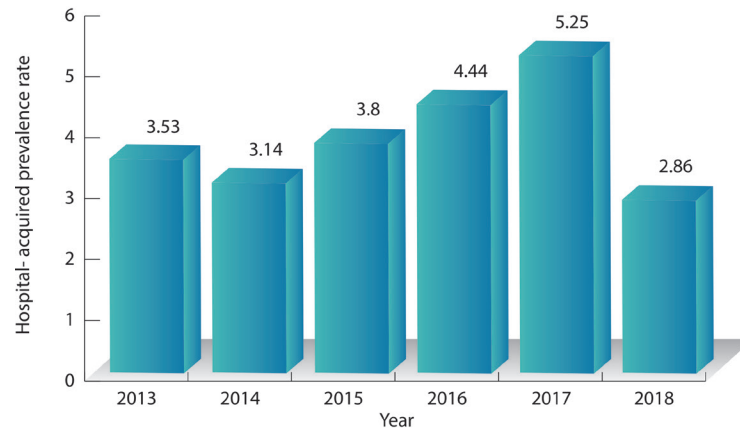
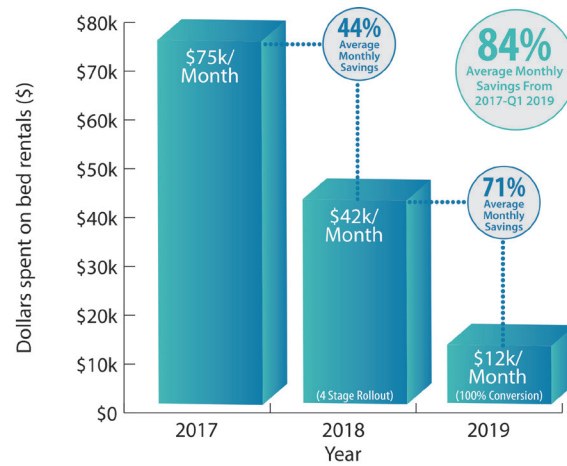


Figure 3. Cost Savings



CLINICAL IMPLICATIONS

This QI initiative was successful because it was multifaceted and combined updated support-surface technology with enhanced interprofessional collaboration.

- Use of NDNQI provided a validated resource for setting goals and objectives to decrease prevalence of HAPI.
- The cost-benefit analysis was an integral piece for justifying the investment required for this QI initiative.
- The use of a support surface designed to ensure appropriate pressure redistribution and alternating low-pressure therapy with active sensory technology was an important aspect of the success of this QI initiative.
- Identifying wound care champions for each unit was important for ensuring staff buy-in and compliance with best practices for HAPI prevention.
- The physician champion was a key collaborator and was instrumental for the success of this QI initiative.
- Continuous QI requires regular re-education regarding best practices for HAPI prevention and ongoing interprofessional team collaboration.

REFERENCES

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