Evidence-Based Quality Improvement Initiative and Nursing/Physical Therapy Collaboration Results in Decreased Hospital-Acquired Heel Pressure Ulcers

Frances M. Dyckman, MSN, BSN, PHN, APRN-CNS, CWOCN; Christine Love, PT, DPT

BACKGROUND

The Triple Aim is a national quality strategy that has gained momentum since the Affordable Care Act (ACA) legislation leveraged this concept in 2010. The 3 primary aims of the Triple Aim are:

- Better Care: Improve the overall quality, by making health care more patient-centered, accessible, and safe
- Healthy People/Vulnerable Communities: Improve the health of the U.S. population by supporting proven interventions to address behavioral, social, and environmental drivers of health in addition to delivering higher-quality care
- Affordable Care: Reduce the cost of quality health care for individuals, families, employers, and government.

The prevention of hospital acquired heel pressure ulcers (HAHPU) is a major focus of the Triple Aim. HAHPU is associated with increased patient morbidity and cost, decreased quality of life, extended hospital length of stay, and increased costs. The heel is the second most prevalent anatomic location for pressure-related breakdowns.

Evidence-based guidance has been published on HAHPU prevention, which consists of adequate heel off-loading. Although there is consensus on the most effective heel off-loading device, a device should remain that leg weights are redistributed along the calf without undue pressure on the Achilles tendon, effectively floating the heel off the surface, while immediately, and preventing foot drop.

Public hospitals are faced with patients with complex issues, some of whom are homeless, living in poverty, and/or have high risk factors for HAHPU development. This quality assurance/performance improvement (QAPI) intervention was implemented to meet the objectives of the Triple Aim, reduce the incidence of HAHPU, and improve patient outcomes.

METHODS

ANALYSIS

Past, present, and future methodology: analysis and approaches were compared to determine the need to identify strengths and weaknesses that needed to be addressed for HAHPU prevention.

Risk assessment protocols and prevention guidelines were not broadly understood and accepted by staff. In addition to the prevention of the adverse events of HAHPU and plantar fascia contractures (foot drop), use was not a priority for the staff. There was a need for evidence-based education on how to appropriately identify patients at risk for HAHPU development and how to implement risk-stratified interventions based upon Braden Risk Assessment Scoring.

It was determined that after the return to the original heel off-loading device, an algorithm standardizing application criteria for devices would be used for interprofessional education and to facilitate collaboration in all efforts to prevent HAHPU.

IMPLEMENTATION

The baseline HAHPU rate was calculated and compared with the post-intervention rate. Each heel ulcer was evaluated using a unit cause analysis process to determine the gap in care. After determination of the gaps, a FODA (Plan Do Study Act) performance improvement analysis supported the need for the change in process and intervention. It should be noted that the original heel off-loading device utilized for HAHPU prevention had been changed to a less expensive option between November 2011 to February 2012. The intervention focused on patient selection with functional criteria to include heel off loading for extreme bariatric patients and prevention of plantar fascia contractures, and the heel off-loading device used prior to November 2011 was re-implemented. First PDSA and intervention evaluation, a caregiver perception survey was administered to the Physical Therapy and Nursing staff. This survey was designed to assess the competency with risk assessment and the perception of the priority for prevention of HAHPU and plantar fascia contracture interventions. Interventions:

1. Heel off-loading device changed
2. Nursing education to risk assessment and proper device application
3. Physical therapy education to use of algorithm for heel pressure relief
4. Coordination of interprofessional communications with regular meetings
5. Algorithm development for evidence-based HAHPU prevention
6. Incorporation of heel pressure relief algorithm to standardize of evidence-based bundles of care

RESULTS

The HAHPU intervention was deemed successful after an total before-before review of HAHPU rates, which showed an approximate 70% reduction of HAHPU. A sustained improvement required focused education and competency checks during the March 2012 house-wide nursing skills day. Inclusion of the competency checklist a regular basis has ensured a consistent reduction in our HAHPU rates in the post-intervention period.

REFERENCES


CLINICAL IMPLICATIONS

The implications of this successful project were wide-ranging for public hospitals and other hospital systems, by driving best practices to the patient’s bedside and enhancing collaboration between nursing and physical therapy staff, we have improved patient outcomes, staff education and competencies, patient quality of care, and decreased excess costs.

A cross-disciplinary, respectful relationship was forged during our QAPI experience. It was recognized that the input of an expert clinician is necessary during the decision making process for product changes. Prevention products are now recognized as important components for patient safety and the avoidance of adverse events.

Although costs are difficult to justify based on cost avoidance, the fiscal and materials management department now recognizes the contribution of continued analysis of best practices and dollars spent in prevention versus dollars lost after a negative avoidable event such as HAHPU development.

Presented at The Symposium on Advanced Wound Care, October 16–18, 2014; Las Vegas, NV