Feasibility and Acceptability of a Pressure Injury Prevention Bundle

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ABSTRACT

Background: Pressure ulcers/injuries (PU/Is) are localized areas of tissue damage over bony prominences or under medical devices. Severe hospital-acquired pressure ulcers/injuries (HAPU/Is), full-thickness stage 3 and 4 PU/Is that develop or worsen in the hospital setting are considered "never events" by the Centers of Medicare and Medicaid services (CMS). HAPU/Is may increase pain, prolong hospitalization, increase infection risk, and death. The condition cost the U.S. healthcare system $26.8 billion in 2016, which breaks down to $10,708 per patient per incident. Elderly patients, those over the age of 65, are particularly vulnerable to full-thickness sacral HAPU/I during a hospital stay. HAPU/I prevention measures are warranted in this vulnerable population. Bundled care has been shown to improve patient outcomes.

Methods: This quality improvement project's methodology utilized a posttest only design with comparison with norms. The medical-surgical nursing staff were educated on the five bundle components as well as patient inclusion and exclusion criteria. The first aim sought to examine the number of the bundle components implemented at hour 0, the day of bundle implementation, then 48 and 96 hours later. The second aim involved monitoring the project's participants for the development of full-thickness, stage 3 and 4 HAPU/Is.

Results: A convenience sample of 20 patients, meeting inclusion criteria, participated in this pilot project. The mean age was 74.5 years, and 70% were male. There was statistically significant bundle uptake over time. No patient involved in this quality improvement project developed full-thickness stage 3 or 4 HAPU/Is. Additionally, the sample did not exhibit stage 1 or 2 HAPU/Is.

Conclusion: The data showed 100% fidelity to only two of the five components at all periods, assessment of skin, and frequent repositioning. While 48-96 hours may be insufficient time to develop a HAPU/I, the avoidance of stage 1 and 2, was an interesting finding. Further study, including ongoing surveillance, may further confirm findings.

INTRODUCTION & BACKGROUND

- ❖ Pressure ulcers/injuries (PU/Is) are localized aeras of tissue damage over bony prominences or under medical devic3es and range from partial (stage 1 & 2) to full-thickness (stage 3 & 4)
- ❖ Hospital acquired pressure ulcers/injuries (HAPU/Is (HAPU/Is), those occurring during a hospitalization, and are classified as a "never event."
- ❖ Severe HAPU/Is (stage 3 & 4s) are considered identifiable and therefore preventable,
- ❖ 60,000 patients die each year from HAPU/Is.
- ❖ The condition is costly. The United States healthcare system spent $26.8 billion a year on HAPU/Is or $10,708 per patient.
- ❖ HAPU/I diagnosis increases length of hospital stay, severe debility, sepsis, and death
- ❖ HAPU/I prevention is needed to improve patient outcomes. Bundled care is an evidence-based practice shown to improve patient outcomes

PURPOSE & AIMS

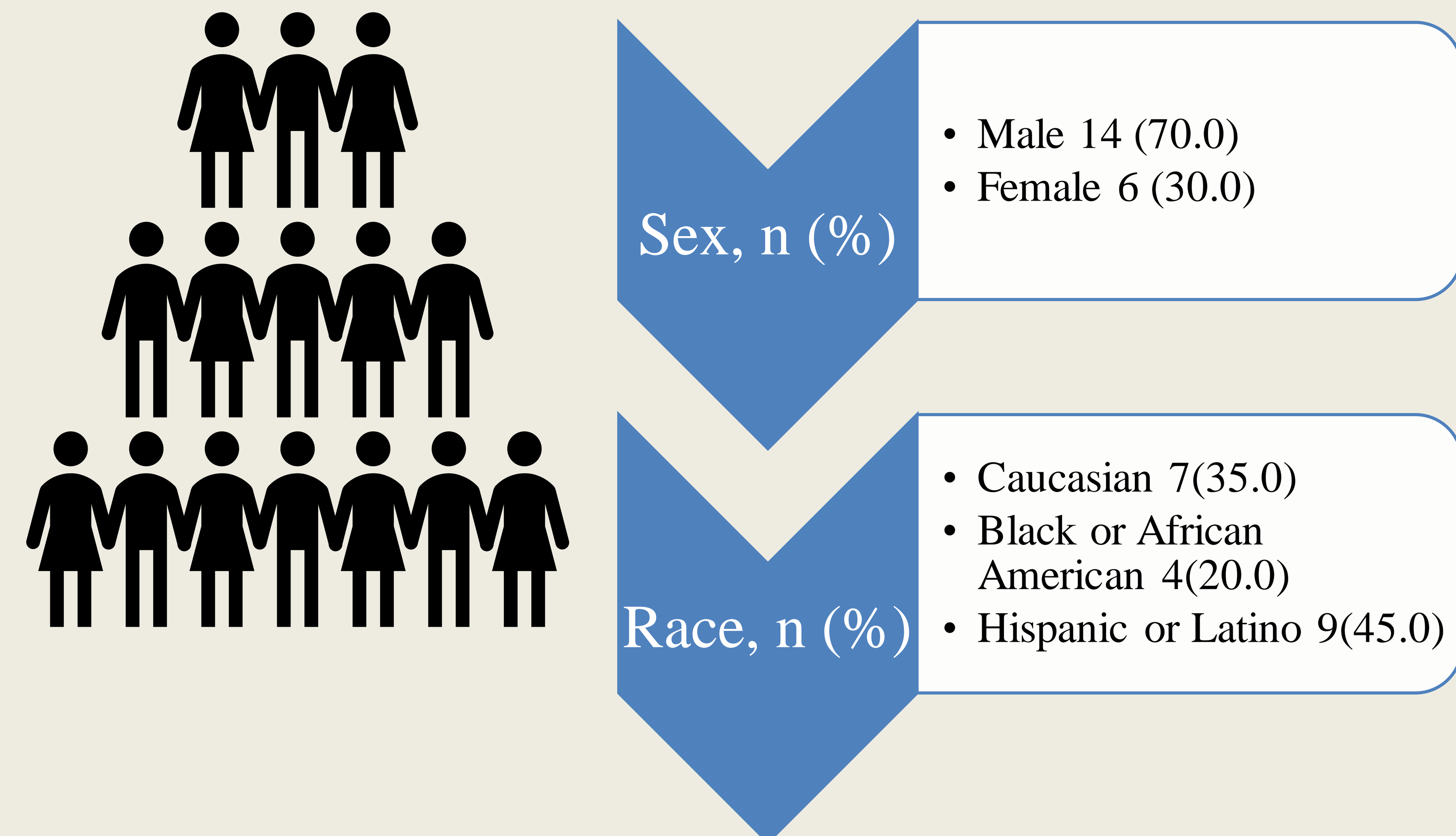
The purpose of this quality improvement project was to determine if the facility's current twenty-three page HAPU/I prevention policy can be distilled into a care bundle, which would include a multi-layer foam dressing for HAPU/I prevention.

- ❖ Aim 1: Implement a 5 component HAPU/I prevention bundle and evaluate the number of pressure injury bundle components executed in the geriatric medical-surgical patients with Braden score 13 or less
- ❖ Aim 2: After bundle implementation, monitor the study participants for the incidence of full-thickness pressure injuries

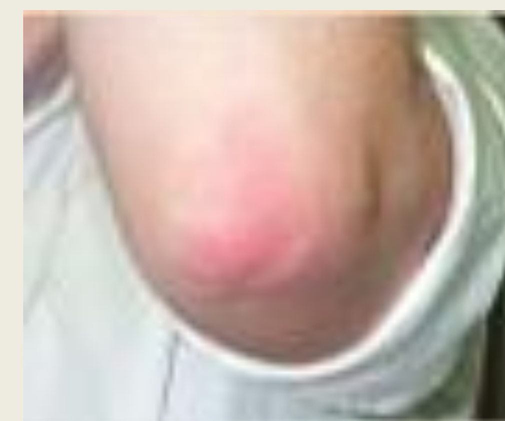
METHODS

Design: Quasi-experimental, within-subject
Setting: Medical-surgical units in a 200-bed rural safety net hospital
Sample: Convenience sample of 20 medical surgical patients 65 years and older
Measurements:
1. Number of bundle components implemented at time 0, 48 and 96 hours
2. Full-thickness pressure injury incidence

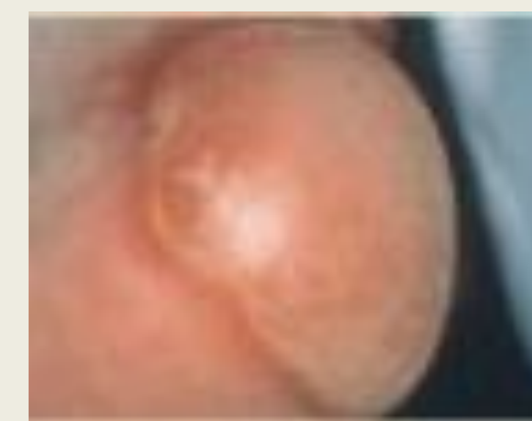
RESULTS



Partial-Thickness



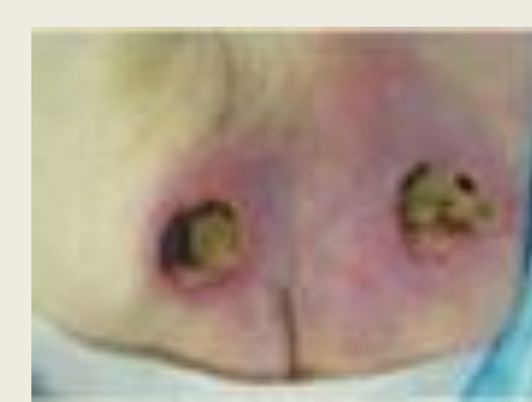
Stage 1



Stage 2

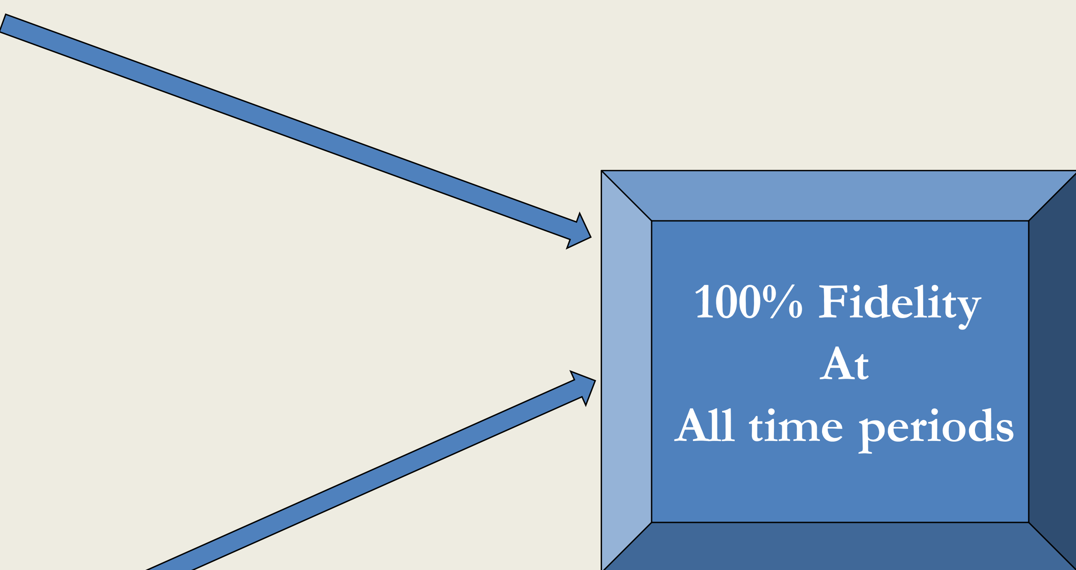
Full-Thickness

Stage 3



Stage 4

No patient involved in this feasibility study developed partial or full-thickness pressure injuries



Statistically significant uptake of bundle over time

100% Fidelity At All time periods

CONCLUSIONS

- ❖ No patient developed a full (stage 3 or 4) or partial (stage 1 or 2) thickness HAPU/I during this pilot study.
- ❖ Bundle including multi-layer foam dressing may help prevent stage 1 & 2
- ❖ Bundle uptake shows promise.
  - ❖ Rationale for decrease in bundle adherence at the 96-hour mark unclear

Future Recommendations

- ❖ Repeat this QI project over a longer time span.
  - ❖ 48-96 hours may be insufficient time to develop a full-thickness HAPU/I.
- ❖ More intense staff education with a possible washout period
  - ❖ Hawthorne effect and the COVID-19 pandemic may have significantly impacted the findings.