

Value-Based Medicine: The Financial Impact of a Pressure Ulcer Prevention Program on a Trauma Population

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Purpose

- Plan-Do-Study-Act model of performance improvement
- Implement Pressure Ulcer Prevention Program
 - Center for Medicare & Medicaid Services (CMS)
 - Agency for Healthcare Research and Quality (AHRQ)
- Improve Value and Decrease Cost

The Problem: Pressure Ulcers

- Incidence 4-10%
- Prevalence 10-20%
- Estimated 2.5 million patients per year
- Multifactorial
- Preventable
 - Focus on prevention and implementation of strategies to reduce risk factors
- Geriatric syndrome
 - Age associated with increased risk

The Cost

- Average cost per ulcer \$43,180
 - Ranging from \$20,900 to \$150,700 per ulcer
- Annual cost of \$9.1 - \$11.6 billion dollars in United States
- 17,000 Lawsuits per year
 - Second most common claim after wrongful death
- 60,000 deaths per year related to complications

Prevention

- Risk identification
 - Pressure relief measures
 - Co-morbidity management
 - Nutritional assessment and support
- Immobility or restricted mobility
 - DM
 - Smoking
 - PVD
 - Shock and Hypoperfusion
 - Spinal Cord Injury
 - Palliative Care
 - Incontinence
 - Nutrition
 - Restraints
 - Iatrogenesis

METHODS

collaboration

EDUCATION

comfort

INNOVATION

RESEARCH

community

compassion

Interdisciplinary Intervention

- Unit Champions
- In-service Training of all unit staff
 - Skin Assessment
 - Staging of Ulcers
 - Chair Cushions for all patients at risk
 - Barrier creams, Mepilex dressings
 - Frequent Turning/Repositioning
 - Decreased Underpad linen layers
 - Documentation of meal completion
 - Braden scoring
 - Communication of skin risk on White Boards
 - Patient and Family education

Interdisciplinary Intervention

- Early Wound Care Nurse Consultation
- Twice daily Quality Huddles
 - Identify patients at risk
 - Appropriate interventions
- Revision of Criteria for Nutrition Consultation

Results

- Examined Population Characteristics and Pressure Ulcer rates for 9 months pre and post intervention
- Compared: Age, ISS, LOS, Pressure Ulcers
- No difference between Age, ISS, and LOS

Results

- Pre Intervention:
 - 39/1099 patients with pressure ulcers (3.5%)
- Post Intervention:
 - 11/1038 patients with pressure ulcers (1.1%)
- Fisher Exact
- $P < 0.0001$, odds ratio 0.29, $z = 3.6$

Conclusions

- Given the estimated cost per patient of \$43,180 and our patient volume...
- \$1,209,040 per year in potential savings for inpatient stays in our Transitional Trauma Unit.
- Utilizing a Plan-Do-Study-Act model to apply evidence based medicine to multidisciplinary practice, can lead to significant increase in the value of healthcare delivered.
- Relatively low cost interventions can lead to significant cost savings

References

- Banks, M., Graves, N., Bauer, J., & Ash, S. (2013). Cost effectiveness of nutrition support in the prevention of pressure ulcer in hospitals. *European Journal of Clinical Nutrition*, 67, 42-46.
- Bonne, S. & Schuerer, D. (2013). Trauma in the older adult: epidemiology and evolving geriatric trauma principles. *Clinical Geriatric Medicine*, 29, 137-150.
- Campbell, J., Degolia, P., Fallon, W., & Rader, E. (2009). In harm's way: moving the older trauma patient toward a better outcome. *Geriatrics*, 64(1), 8-13.
- Committee on the Future Health Care Workforce for Older Americans; Institute of Medicine. *Retooling for an Aging America: Building the Health Care Workforce*. Washington, DC, USA: National Academies Press, 2008, p. 1.
- Hines, P. & Yu, K. (2009). The changing reimbursement landscape: nurses' role in quality and operational excellence. *Nursing Economics*, 27(1), 7-13.
- Padula, C., Hughes, C., & Baumhover, L. (2009). Impact of a nurse-driven mobility protocol on functional decline in hospitalized older adults. *Journal of Nursing Care Quality*, 24(4), 325-331.

Questions?

