

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

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Patrick Duffy, MD

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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

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Questions?