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

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Patrick Duffy, MD
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
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

Questions?