


Ushering in NEW International Guidelines for Pressure Ulcer Prevention and Treatment: PUBLIC POLICY & CLINICAL PRACTICE


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## Risk Adjustment for Quality Measures

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## What to Measure for Quality

- **Assessment of Risk**
- **Mitigation of Risk**
- **Stage II Incidence and Healing**
- **Stage III-IV Incidence, Prevalence, Life-time risk, and Healing**
- **For small (e.g., nursing home) and large (e.g., metro area) populations**


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## What the MDS/OASIS/CARE measure...

- **Risk assessment and level**
- **Number Stage II, III, IV, unstageable**
- **Whether onset in this program**
- **Date of onset**
- **Unstageable - DTIE, covered by dressing, slough/eschar**
- **Size – surface length and width**


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## Why Adjust for Risk

- **Because some patients are more likely to develop PU or to fail to heal, even with optimal care**
- **Because some patients refuse optimal care**
- **Because good care systems do not penalize concentrations of especially risky patients**


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## When NOT to adjust (generally)

- **When the target action should apply to all**  
 – E.g. – mammograms – PU example?
- **When the adjustment factor is a preventable part of the cause**  
 – E.g. – Throw rugs and falls – PU example?
- **When the adjustment factor censors the case**  
 – E.g. – Delirium and death – PU Example?
- **When the data is not available or not reliable**  
 – E.g. – genetic factors in cancer – PU example?
- **When the adjustment factor comes later**  
 – E.g. – adjust on being in the last few weeks of life

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## How to Adjust

- **Multi-variable predictive modeling**  
 – Major challenge – large enough data sets with varied situations  
 – Major risks – over-fitting, non-linear relationships
- **Stratification or exclusion**  
 – Can exclude population of interest  
 – Reduces explanatory power if relationship is continuous

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## Consider measures of PU risk

- Having an assessment
- Having mitigation for those with higher risk

### **Potential strategy –**

- No risk adjustment for assessment in hospital, NH, Home care
- Exclusion of near-death, DTIE
- Multivariable model for the rest



## Consider Measures of PU Onset

- In a program, or a large population?
- Who to hold accountable?
- Split Stage II from III/IV/Unstageable?
- Risk Adjust?

### **Potential Strategy –**

- For programs - with small N, roll up over multiple years – and exclude some very high-risk populations and risk-adjust with prior conditions
- For populations – may not need risk adjustment – hold all providers jointly accountable



## Life-time Risk?

- Appealing measure for stable populations – III/IV/Unstageable
- Most relevant for patients
- Track over time and across areas
- Empirical question as to risk adjustment – are sizable populations very different?

### **Potential Strategy –**

Combine data sources and calculate



## Healing

- Split II from III/IV/unstageable
- Split also osteomyelitis, fistulae, etc?
- Exclude near-death, very low weight?
- How to measure?

### **Potential Strategy**

- Measure healing within arbitrary period for Stage II
- Measure progress of worst lesion for others
- Measure progress on average for multiple lesions



## Conclusion

- Need to risk-adjust some measures
- Requires substantial data and analysis
- Never actually accounts for all variation in risk
- Should be done quickly with new data collected in MDS/OASIS/CARE



## Good Resource on Statistical Risk Adjustment

- <http://symptomresearch.nih.gov/> - Chapter 8 on predictive modeling.