Fulfilling the Promises of Health Information Technology: Are Metrics Measuring Our Delivered Care?

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Background

- In the U.S., about 55,000 critically ill patients are cared for each day
- Hospital stays that involved ICU services are 2.5 times more costly than other hospital stays
- Between 2000 and 2005, annual critical care medicine costs increased from $56.6 billion to $81.7 billion, representing 13.4% of hospital costs, 4.1% of national health expenditures, and 0.66% of gross domestic product.
- Cost savings of up to $1 billion per quality life year gained can be attained with critical care management of severe sepsis, acute respiratory failure, and general critical care interventions.

Objectives

- Assess if quality metrics and measures accurately reflect the clinical care provided in the ICU
- Examine if publicly reported outcomes (metrics & measures) reflect the quality of care provided in the ICU

Predictive Scoring Systems

- Scores are measures of disease severity to predict likelihood of outcomes (e.g., APACHE-IV, MPM-III, SAPS3)
- Valuable for standardizing research and quality comparisons

Utilization of Predictive Scoring Systems

- Standardizing, stratifying and comparing severity adjustment
- Provide no assistance for patient management
- Validation – external
- Calibration – predictive agreement O/E over time
- Customization – across a population (region, size, type, performance quartile) – need similar baseline risk
- Discrimination – accuracy (alive or dead)
- Compare ourselves to others – good internal validity

Table 1. Advantages and Disadvantages of Common Predictive Scoring Systems

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Conclusions

“What gets measured gets managed.”

- Measurement combined with public reporting metrics can draw attention to particular areas of concern and stimulate improvement efforts
- Metrics are simplistic approximations of what clinicians and patients believe represents high quality of care
- Quality measurement enterprise operates separately from the workflows associated with delivering health care services

Publicly Reported Metrics

References

Armaignac DL (2018) Fulfilling the Promises of Health Information Technology: Expert to Maximize Positive Care Developmental sample More complex data Less prone to interobserver variability Does not provide discrimination Halpern, N. McGlynn, E. predictive agreement O/E over time Provides algorithms for LOS prediction Customized In the U.S., about 55,000 critically ill patients are cared for each day ICU services are 2.5 times more costly than other hospital stays Between 2000 and 2005, annual critical care medicine costs increased from $56.6 billion to $81.7 billion, representing 13.4% of hospital costs, 4.1% of national health expenditures, and 0.66% of gross domestic product. Cost savings of up to $1 billion per quality life year gained can be attained with critical care management of severe sepsis, acute respiratory failure, and general critical care interventions. Objective: Assess if quality metrics and measures accurately reflect the clinical care provided in the ICU. Objective: Examine if publicly reported outcomes (metrics & measures) reflect the quality of care provided in the ICU. Predictive scoring systems: Scores are measures of disease severity to predict likelihood of outcomes (e.g., APACHE-IV, MPM-III, SAPS3). Predictive scoring systems are valuable for standardizing research and quality comparisons. Utilization of predictive scoring systems: Standardizing, stratifying and comparing severity adjustment. Provide no assistance for patient management. Validation - external. Calibration - predictive agreement O/E over time. Customization - across a population (region, size, type, performance quartile) – need similar baseline risk. Discrimination - accuracy (alive or dead). Compare ourselves to others – good internal validity. **Table 1. Advantages and Disadvantages of Common Predictive Scoring Systems** | Scoring system | Advantages | Disadvantages |
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