

Time and Cost of Acute Care Nursing Interventions

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Background

- Time study of inpatient care is difficult
- Observational tool offers new opportunities
 - More accurate data capture
 - Allows for multitasking
 - Uses standardized terminology (the Omaha System) to provide meaningful intervention data

Method

- Setting: Major urban medical center post-surgical unit
- Sample: 6687 observations of nurses
- Collected by PhD students in health informatics and nursing

Analysis

- Data transformation to create a flat file from multi-layered interventions
 - Algorithm to transform “A and B” interventions to a flat file A, B
 - Process created duplicate time entries (increased total time)
 - Enabled aggregation, counts, and comparisons

Observer Consistency

- Standardized tool was developed by first observer (health informatics PhD student)
- Second observer was a nurse with mobile technology development experience (nursing PhD student)
- First observer trained second observer
- Two joint observation sessions
- First observer available for support if needed

Results

- Total time captured = 96 hours, 2 minutes
- 4147 observations (63% of time) described as one of 33 nursing interventions
- No significant difference in duration of the observations between observers
 - 37% of time on
 - administrative tasks (n=32)
 - time stamp only (154)
 - or 1 (n=2354)

By Problem

- Most frequent nursing interventions
 - Health care supervision
 - Medication regimen
- Most expensive interventions
 - Bowel function
 - Skin

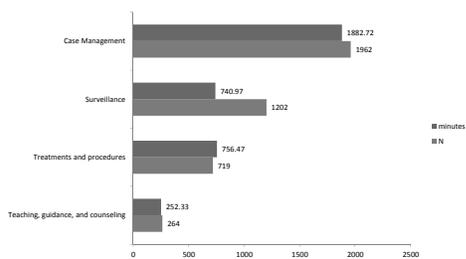


Monetization of Interventions

- Average intervention was 1.1 minute
- Average cost of 1.1 minute of nursing = \$1.00
 - Can compute the cost of an intervention
 - These data will be useful in cost/benefit analyses



Nursing Actions



- Surveillance is significantly faster than the others ($p < .001$)



Limitations

- First use of tool
- Focus on computer tasks (original study)

Future Research

- Efficiency, effectiveness, and value of acute care nursing interventions
- Self report vs. observation
- Use of Omaha System in EHR to guide and document acute care

Thank you!

- Questions?
