STAR-2++ Research: Frontline Nurse Engagement in Quality Improvement

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Introduction
Medical errors cost approximately $37.6 billion annually in the US with $17 billion associated with preventable errors.
- About half of the cost of preventable medical errors is related to direct health care
- Leverage nurse experiences to identify & resolve operational failures is an underutilized opportunity for improvement

Aims
Simultaneously, Covenant Health will address the following three aims:

<table>
<thead>
<tr>
<th>Patient Outcomes</th>
<th>Structure</th>
<th>Process</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve quality</td>
<td>• Have the right things</td>
<td>• Doing the right things right</td>
<td>• Obtaining desired results</td>
</tr>
<tr>
<td>Enhance safety</td>
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Nurses’ Autonomy
Better work environment

Efficiency
Reduce workload Minimize distractions

Background
- Organizational climate in hospitals is potentially modifiable to produce better patient outcomes & workforce satisfaction
- Causal links between macro- & micro-system features & improvement are poorly understood.

STAR-2 Research Trial Small Troubles, Adaptive Responses

Significance

Improve the Nursing Practice Environment
- Nursing shortages
- Job satisfaction
- Low productivity
- Quality of care

Donabedian’s Model

Reflection of Organizational Learning
“Building Blocks”
The STAR-2 study incorporates three building blocks required for organizational learning:

1. Supportive environment for learning:
   - Psychological safety for asking questions & questioning the status quo
   - Openness to new ideas & tolerance of differences
   - Time for reflection that incubates creativity
2. Set of concrete learning practices providing opportunities for:
   - Information gathering
   - Experimentation
   - Analysis
3. Leadership reinforcement of learning through:
   - Active engagement with staff on the design & interpretation of learning opportunities
   - Openness to divergent opinions

Donabedian, 1980

Move Toward Shared Governance
- Builds on principles of organizational learning
- Integral to quest for Magnet distinction
- Successful when an ongoing quality improvement process engages nurses in decisional involvement
- Enhances team vitality for system improvement & practice standards
- Frontline nurses are engaged in formal & informal leadership

The Value of Teamwork
Basis for hospital improvement projects:

Multifaceted Team Vitality
Availability of Necessary Supplies
Operational Aspects of Work Transitions
Team Collaboration
Staff Empowerment

Team vitality
Effective in transforming healthcare work environments into one exhibiting quality of care & patient safety

Donabiers & Yee, 2008

Methods

Variables measured using quantitative self-report approaches as follows:

<table>
<thead>
<tr>
<th>Study Variable</th>
<th>Measurement Approach</th>
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<tr>
<td>Frequency &amp; type of operational failures</td>
<td>STAR Pocket Card (2016)</td>
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<td>Team collaboration</td>
<td>Team Vitality Instrument (O’Grady et al., 2009)</td>
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<tr>
<td>Hospital staff opinions about patient safety issues, medical error, &amp; event reporting</td>
<td>AHRQ Hospital Survey on Patient Safety Culture (HSOPS) (Schnelle &amp; Blegen, 2009)</td>
</tr>
<tr>
<td>Work environment</td>
<td>Practice Environment Scale of the Nursing Work Index (PES NWI) (Lee, 2009)</td>
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<td>Volume of QI activities</td>
<td>Reaction Scale (adapted from Donabedian et al., 2009)</td>
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<tr>
<td>Quality of care</td>
<td>Nurse Assessment of Quality (Chung, Bromley, 2010)</td>
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<tr>
<td>Overall job satisfaction</td>
<td>Visual Analog Scale (Adapted from &amp; Yee, 2008)</td>
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Research Design
Multisite, cross-sectional, multivariate
- Covenant Health is one of 40 participating hospitals
- 3 nursing units will participate in the research project
- Covenant Health has the first & only intensive care unit & pediatric unit to enroll in the research project & report data

Conclusions
The STAR-2 study will examine how frontline nurse engagement in detecting system failures is related to organizational learning for quality & safety in the hospital work environment at Covenant Health & other national sites.

This study will advance our understanding of relationships among nursing practice environment, frontline quality improvement engagement, & outcomes in acute care clinical units.

References

References available upon request

STAR-2 Research Trial Frontline Nurse Engagement in Quality Improvement