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

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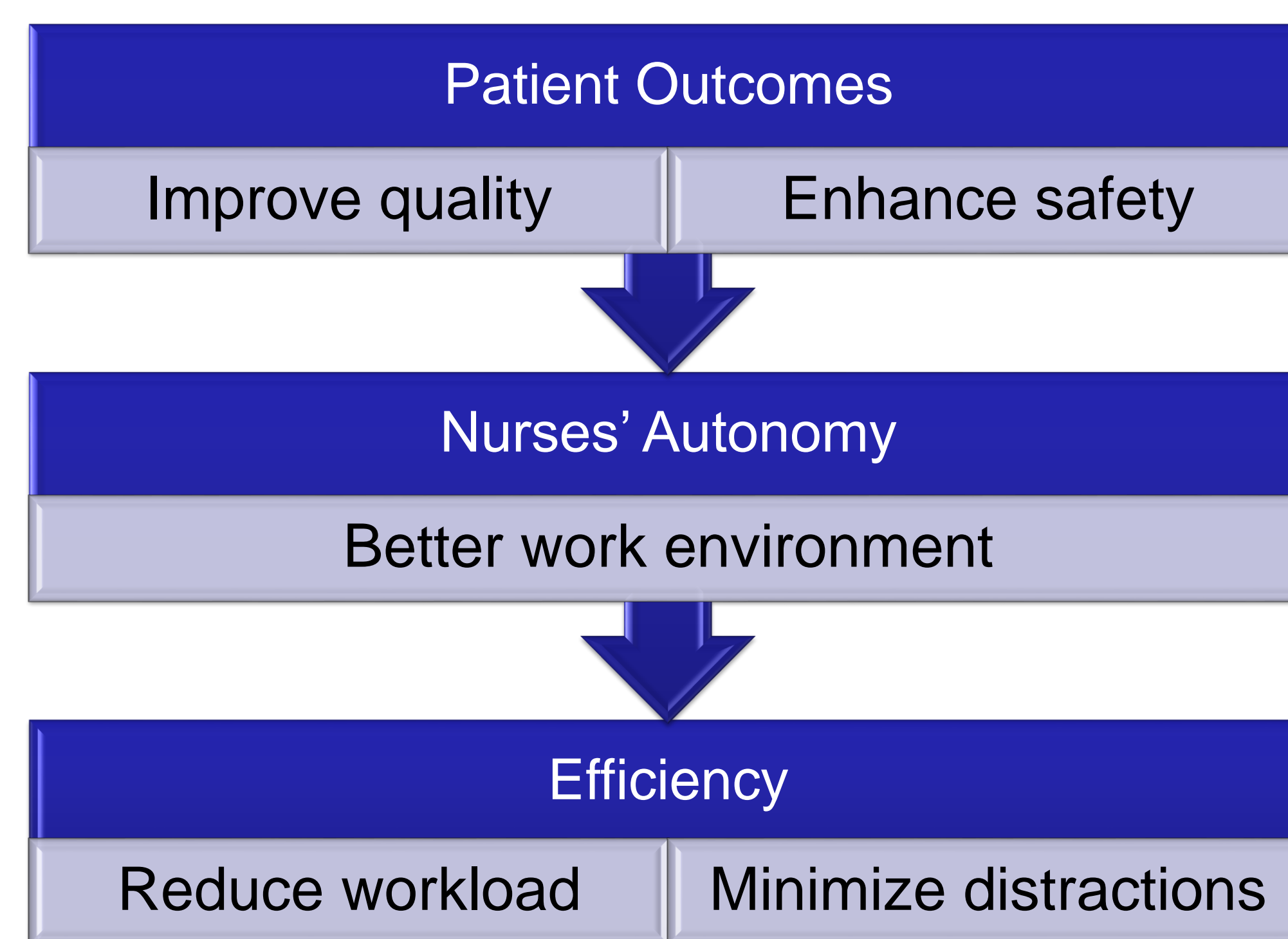
## Introduction

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
  (Kohn, Corrigan & Donnaldson, 1999)
- Leveraging nurse experiences to identify & resolve operational failures is an underutilized opportunity for improvement
  (Tucker, Singer, Hayes & Falwell, 2008)

### Aims

Simultaneously, Covenant Health will address the following three aims:

| Patient Outcomes | |
|---|---|
| Improve quality | Enhance safety |

| Nurses' Autonomy |
|---|
| Better work environment |

| Efficiency | |
|---|---|
| Reduce workload | Minimize distractions |

### Background

- Organizational climate in hospitals are potentially modifiable to produce better patient outcomes & workforce satisfaction.
- Causal links between macro- & micro-system features & improvement are poorly understood.
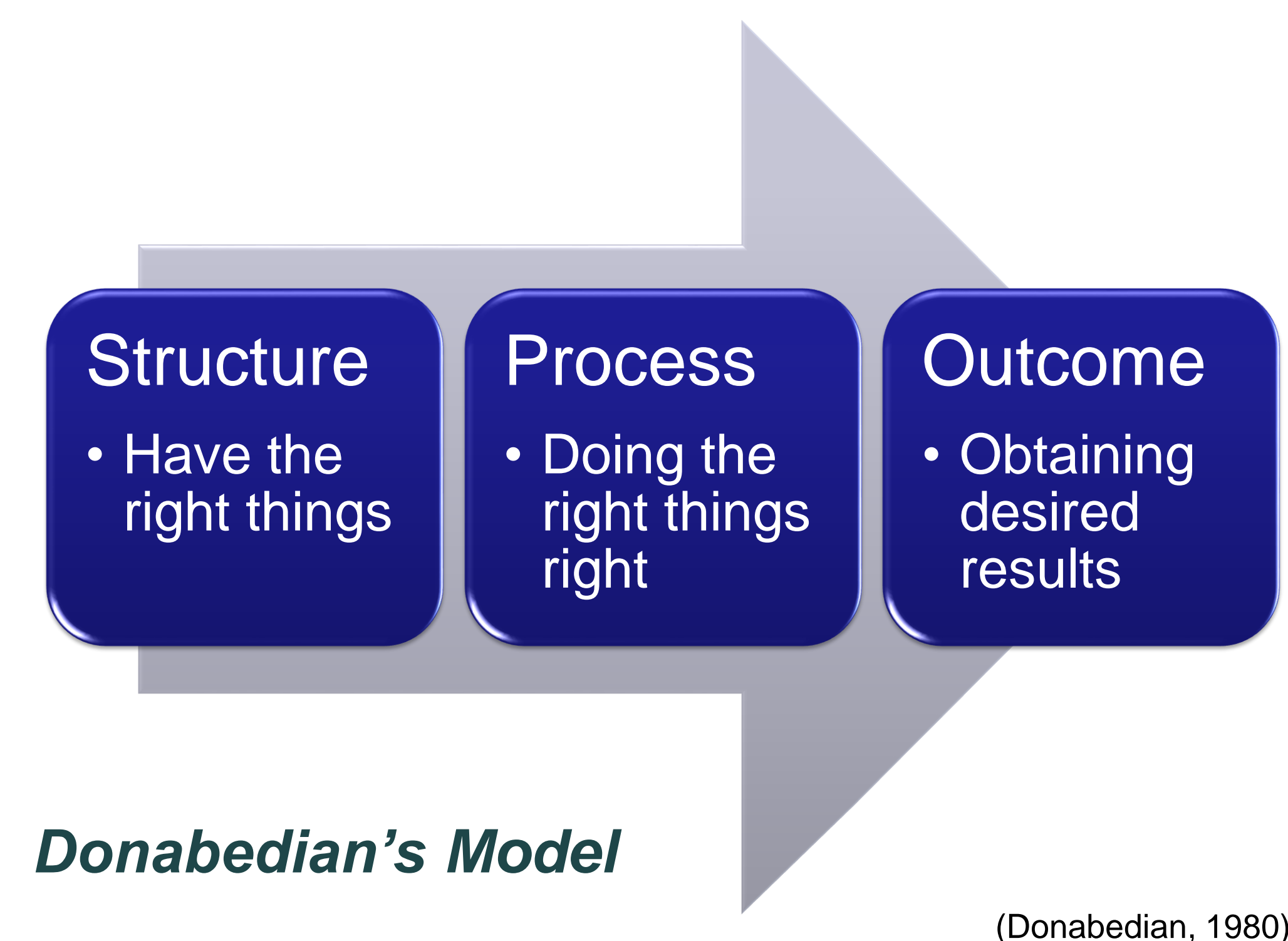
**STAR-2 Research Trial**
*Small Troubles, Adaptive Responses*

## Significance

### Improve the Nursing Practice Environment
- nursing shortages
- job satisfaction
- low productivity
- quality of care
  (Institute of Medicine, 2004)

## Conceptual Framework



| Structure | Process | Outcome |
|---|---|---|
| • Have the right things | • Doing the right things right | • Obtaining desired results |

*Donabedian's Model*
(Donabedian, 1980)

### Reflection of Organizational Learning "Building Blocks"
The STAR-2 study incorporates three building blocks required for organizational learning.
(Garvin, Edmondson, Gino, 2008)

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

## 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
  (O'Grady, 2003; Anthony, 2009; O'May & Buchanan, 1999)

### The Value of Teamwork
Basis for hospital improvement projects:



(Upenieks, Needleman, Soban, Pearson, Parkerton & Yee, 2008)
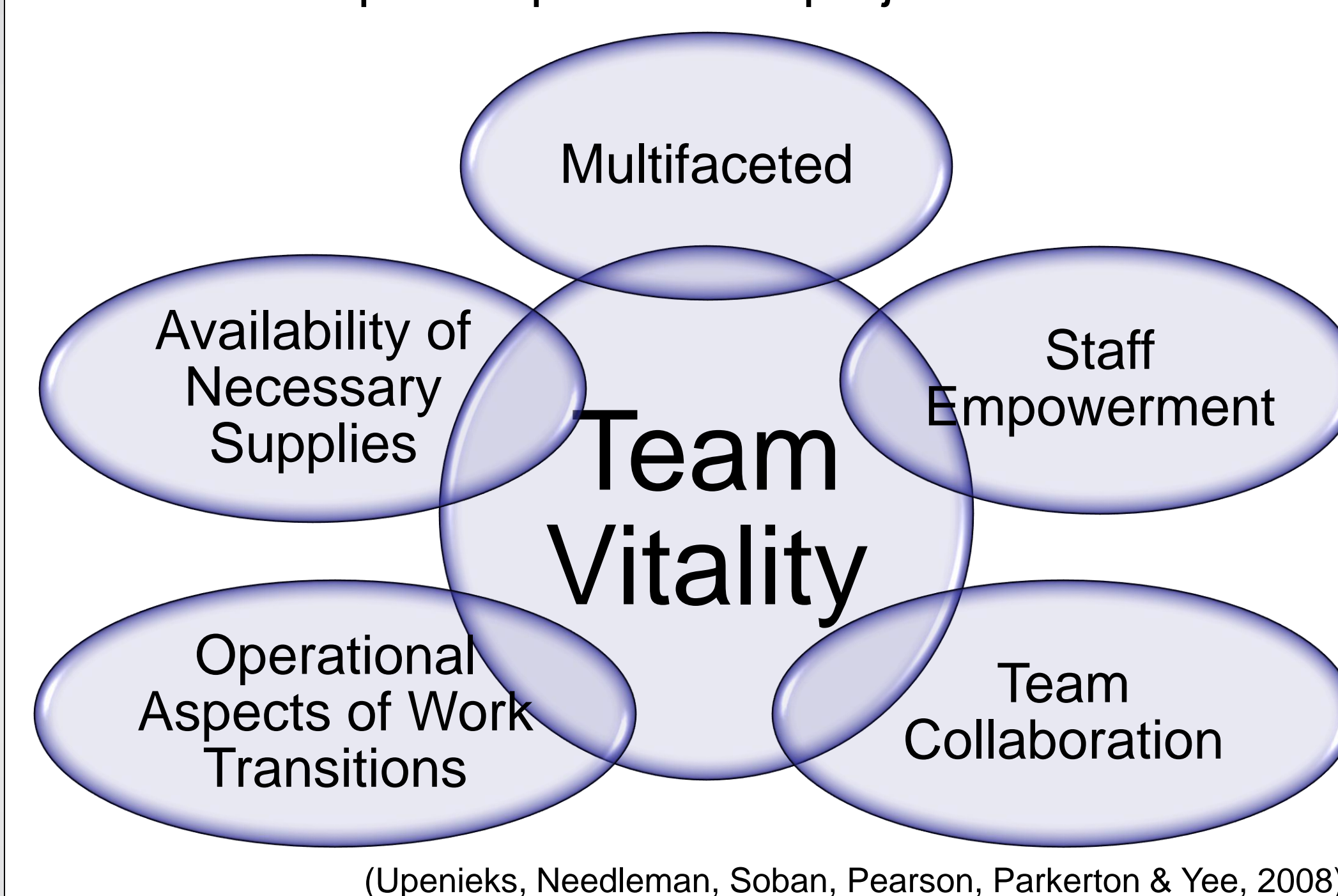
**Team vitality** Effective in transforming healthcare work environments into one exhibiting quality of care & patient safety
(Upenieks, Lee, Flanagan & Doebbeling, 2009)

## Methods

Variables measured using quantitative self-report approaches as follows:

| Study Variable | Measurement Approach |
|---|---|
| Frequency & type of operational failures | STAR Pocket Card (Ferrer & Stevens, 2010) |
| Team collaboration | Team Vitality Instrument (Upenieks et al., 2009) |
| Hospital staff opinions about patient safety issues, medical error, & event reporting | AHRQ Hospital Survey on Patient Safety Culture (HSOPS) (Sorra & Nieva, 2004) |
| Work environment | Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002) |
| Volume of QI activities | QI Action Scale (Adapted from Upenieks et al., 2009) |
| Quality of care | Nurse Assessment of Quality (Aiken, Clarke, Sloane, 2002) |
| Overall job satisfaction | Visual Analog Scale (Schmalenberg & Kramer, 2008) |

## 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*