Problem Identified in Practice and Confirmed in Literature - Lack of Teamwork

Nursing teams operate "as a collection of individuals who do not engage in the teamwork behaviors of monitoring one another's performance, backing each other up, engaging in closed-loop communication and effective conflict resolution, or sharing the same ideas and understandings of what needs to be done for the patient and family (shared mental models)" (Kalisch & Lee, 2009, p. 324).

Literature also tells us:

- Teamwork in nursing is often difficult to achieve.
- Failures in collaboration and teamwork can result in poor patient outcomes, patient complications, increased length of stay, and patient mortality (Dunton, Gajewski, Klaus and Pierson, 2007; Kalisch and Lee, 2009).

Background Info (Examples)

Joint Commission (2005): lack of team collaboration and ineffective communication was the leading root cause for negative (adverse) outcomes

2011 - 708,642 preventable safety events cost the Medicare program 7.3 billion dollars and resulted in 79,670 preventable deaths (Reed & May, 2011).

2014 - Congressional hearing - loss of life 1000 per day - cost $1 trillion

Statement of the Problem

Preventable patient safety incidents continue to be expensive on national, organizational, and personal levels.

Example: Pressure Ulcers
- Personal - Impact QOL - pain, increased LOS, infection
- Cost - Additional $43,180 in costs to a hospital stay
- 60,000 patients die as a direct result of a pressure ulcer each year
- 17,000 lawsuits annually - second most common litigation claim

Purpose Statement

The purpose of this research was to investigate the relationship of nursing teamwork within acute care medical-surgical nursing units to specific nurse indicator patient outcomes including pressure ulcers, patient falls, and urinary catheter-associated urinary tract infections.
**Mixed Methodology Research Design**

**Quantitative Design: Variables**

**Independent Variable**

NURSING TEAMWORK
measured using Nursing Teamwork Survey (NTS)
Five subsections of teamwork

**Dependent Variable**

NURSE SENSITIVE OUTCOMES:
- Pressure ulcers,
- Patient falls, and
- Catheter-associated urinary tract infections.

**Independent Variable: NURSING Teamwork**

- Nursing Teamwork Survey (NTS)
  - 33-question 5-point Likert scale tool
  - Self-administered survey
  - Validity and reliability testing by Kalisch, Lee and Saies (2010)
    demonstrated psychometric properties including factor analysis
    and subscale development, concurrent validity, contrast and
    convergent validities, test-retest reliability, and internal
    consistency.

**Five Measurable Components of Teamwork Identified in NTS (Survey)**

(a) Backup Behaviors,
(b) Shared Mental Model,
(c) Team Leadership,
(d) Team Orientation,
(e) Trust.

** Constructs of Teamwork – Backup Behaviors**

Actions that team members take to assist when another team member is
overwhelmed or does not know how to complete the work.

Sample NTS Question:
"Team members frequently know when another team member
needs assistance before that person asks for it."

** Constructs of Teamwork – Shared Mental Models**

When members have the same
conceptualization about what work is to be
completed and when
and who will do it.

Sample NTS Question:
"Team members understand the role and
responsibilities of each other."
Constructs of Teamwork – Team Leadership

The direction and support provided by a formal leader [e.g., charge nurse] or members of the team.

Sample NTS Question: "When changes in the workload occur during the shift (admissions, discharges, patients problems etc.), a plan is made to deal with these changes."

Constructs of Teamwork – Team Orientation

An emphasis is on what is in the best interest of the total team, rather than the desires of individual team members.

Sample NTS Question: "Most team members tend to avoid conflict rather than dealing with it."

Constructs of Teamwork – Trust

Confidence in team members that they will complete their part of the work in a quality manner.

Sample NTS Question: “Team members readily share ideas and information with each other.”

Site/Population/Participants

- Site
  - IRB approval (also university IRB)
  - Not-for profit hospital in South-Eastern PA; 735-bed acute healthcare institution
- Sample: nonprobability convenience sample of nursing team members currently employed in acute care medical-surgical environments
- Eight units
- 154 participants (43%)

Unintended Finding: Unit Tenure

The nursing team is transitory and frequently experiences change in membership.

What is the variability of teamwork constructs across medical-surgical nursing units?

- Differences and variability do exist in the levels of teamwork functioning among medical surgical nursing units (Unit two vs. Unit six – statistical significance)
- Provides data for targeted improvement strategies
- First step in establishing a pattern regarding which teams appear to have a stronger teamwork framework in place to later compare outcomes and answer the primary research question. (Now need to look at outcomes)
Units 2 & 6 Outcome Data

<table>
<thead>
<tr>
<th>Total</th>
<th>Injury</th>
<th>Unassisted</th>
<th>UAP</th>
<th>CAUTI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls</td>
<td>Falls</td>
<td>Falls</td>
<td>U</td>
<td>&gt;2</td>
</tr>
<tr>
<td>2</td>
<td>2.77</td>
<td>0.46</td>
<td>1.85</td>
<td>0</td>
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<tr>
<td>6</td>
<td>2.79</td>
<td>0.47</td>
<td>2.79</td>
<td>0</td>
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</tbody>
</table>

Independent t-test

- Assessing if differences in outcome measurements was significant between Unit Two and Unit Six.
- The results failed to demonstrate a statistical significance in any of the outcome measurements at the p < .05 level.

Lack of statistical significance does not indicate lack of importance of the finding.

- Each and every patient spared the pain and expense of negative patient outcomes is an important improvement, regardless of the lack of apparent statistical significance.
- Study limitations may have masked additional findings

Summary: What patterns exist in medical surgical nursing teams when comparing teamwork constructs and patient outcomes?

- Pattern exists whereby medical-surgical nursing teams with higher levels of teamwork as measured by the NTS is accompanied by a pattern of fewer negative nursing outcomes

Clinical significance only

Correlational Analysis

Independent

- Teamwork Survey Constructs
- Teamwork Survey Questions

Dependent

- Nurse Sensitive Outcomes

Teamwork Constructs: One Correlation Finding

<table>
<thead>
<tr>
<th>Kendall’s Tau-b Correlation</th>
<th>4th Q Unassisted Falls</th>
<th>Shared Mental Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation Coefficient</td>
<td>1.00</td>
<td>-0.51*</td>
</tr>
<tr>
<td>4th Q Unassisted Falls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>-.045</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>-0.71*</td>
<td>1.000</td>
</tr>
<tr>
<td>Shared Mental Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.041</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Reminder: Shared Mental Model = When members have the same conceptualization about what work is to be completed and when and who will do it.
Key Finding

Statistically significant relationships have been demonstrated between nursing teamwork and patient outcomes of falls, pressure ulcers and CAUTI.

Correlations do not imply cause and effect.

Lack of additional correlations does not indicate teamwork is not important.

Barriers

- Passionate discussion – emotional response
- Lack of communication
- Personal differences
- Staffing
- Assuming abilities in others which are not present
- **Individual negativity** - Single negative person drains a team.
- **Lack of skill controlling negativity, dealing with conflict, and holding team members accountable**

CONCLUSIONS:

- (1) Inverse clinical finding - relationship of teamwork and nurse-sensitive patient outcomes;
- (2) Lack of a standard theoretical model of team performance within the nursing profession;
- (3) Need to adapt team training strategies to address the unique needs of nursing teams; and
- (4) Need for implementation of additional strategies related to the educational needs of nursing team members.

Transformational Teams/Teamwork

- Single cohesive teamwork theory for nursing
- **TRANSFORMATIONAL TEAMWORK**: Teamwork existing when a transformational leader influences not only individual followers, but also influences the team as a whole to perform optimally, resulting in high quality outcomes.

Recommendations:

- Further exploration of Transformational Teamwork in Nursing – characteristics of teams with achievement of quality patient outcomes.
- Multisite Replication study
- Possible practice changes:
  - Improve conflict resolution;
  - Strategies to increase unit tenure;
  - Focused strategies to improve team orientation and shared mental model
- Hardwire team educational strategies (academic and clinical)
- Include UAP in education
Table 3: Correlation Coefficients for NTS Questions and Nursing Outcomes

<table>
<thead>
<tr>
<th>NTS Item (and associated teamwork construct)</th>
<th>Patient Outcome</th>
<th>r(8)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>My team believes that to do a quality job, all of the members need to work together (Shared Mental Model).</td>
<td>Unassisted Falls</td>
<td>-771</td>
<td>.042</td>
</tr>
<tr>
<td>Most team members tend to avoid conflict rather than dealing with it (Team Orientation).</td>
<td>UAPU &gt; STAGE II</td>
<td>-732</td>
<td>.039</td>
</tr>
<tr>
<td>RN and Nursing Assistants work well together (Team Orientation).</td>
<td>CAUTI</td>
<td>-734</td>
<td>.038</td>
</tr>
<tr>
<td>The shift change reports contain the information needed to care for the patients (Shared Mental Model).</td>
<td>CAUTI</td>
<td>-854</td>
<td>.007</td>
</tr>
<tr>
<td>When the workload becomes extremely heavy, team members pitch in and work together to get the work done (Backup).</td>
<td>CAUTI</td>
<td>-889</td>
<td>.003</td>
</tr>
<tr>
<td>Team members are more focused on their own work than working together to achieve the total work of the team (Team Orientation).</td>
<td>CAUTI</td>
<td>-776</td>
<td>.024</td>
</tr>
<tr>
<td>Within our team, members are able to keep an eye out for each other without falling behind in our own individual work (Backup).</td>
<td>CAUTI</td>
<td>-746</td>
<td>.034</td>
</tr>
<tr>
<td>Team members understand the role and responsibilities of each other (Shared Mental Model).</td>
<td>CAUTI</td>
<td>-876</td>
<td>.004</td>
</tr>
<tr>
<td>Team members willingly respond to patients other than their own when other team members are busy or overloaded (Backup).</td>
<td>CAUTI</td>
<td>-794</td>
<td>.019</td>
</tr>
<tr>
<td>Team members value, seek and give each other constructive feedback (Trust).</td>
<td>CAUTI</td>
<td>-725</td>
<td>.042</td>
</tr>
<tr>
<td>When someone does not report to work or someone is pulled to another unit, we reallocate responsibilities fairly among the remaining team members (Trust).</td>
<td>CAUTI</td>
<td>-848</td>
<td>.008</td>
</tr>
</tbody>
</table>

References


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