

## Transformational Teams in Nursing: The Relationship of Constructs of Teamwork and Nurse-Sensitive Indicators

Debbie J. Rahn EdD, MSN, RN



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### 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).

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### 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).

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### 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

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### 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

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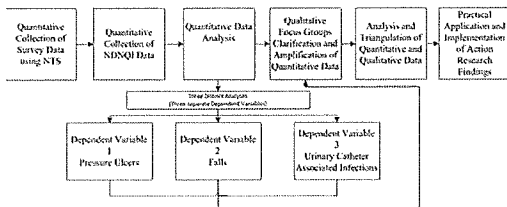
### Purpose Statement

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.

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## Mixed Methodology Research Design



Note: Will report of Quantitative Research only today.....

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## 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
  - Developed by Kalisch, Lee and Salas (2010).
  - Validity and reliability testing by Kalisch, Lee and Salas (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)

- Backup Behaviors,
- Shared Mental Model,
- Team Leadership,
- Team Orientation,
- 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."*



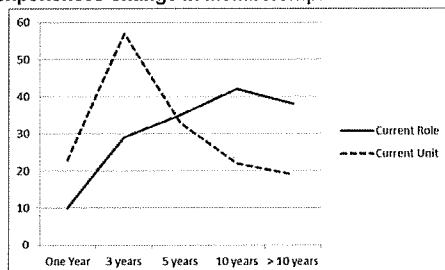
### Site/Population/Participants

- 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

	Total	Injury	Unassisted	UAP	UAPU	CAUTI
	Falls	Falls	Falls	U	>2	
2	2.77	0.46	1.85	0	0	0
6	2.79	0.47	2.79	0	0	2.78



## 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   | Dependent  |
|---|--|
| <ul style="list-style-type: none"> <li>Teamwork Survey Constructs</li> <li>Teamwork Survey Questions</li> </ul> | <ul style="list-style-type: none"> <li>Nurse Sensitive Outcomes</li> </ul> |



## Teamwork Constructs: One Correlation Finding

Kendall's Tau b Correlation			
		4th Q Unassisted Falls	Shared Mental Model
4th Q Unassisted Falls	Correlation Coefficient	1.000	-.571*
	Sig. (2-tailed)	.	.048
	N	8	8
Shared Mental Model	Correlation Coefficient	-.571*	1.000
	Sig. (2-tailed)	.048	.
	N	8	8

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 confronting negativity, dealing with conflict, and holding team members accountable***



- "Teamwork doesn't always necessarily lead to good outcomes, but when the team is not functioning it's a lot worse."
- "You can tell when the teamwork is working effectively and you can tell when the teamwork is not working effectively because the NDNQI scores are definitely affected by that (teamwork)."



## 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

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

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Debbie Rahn, EdD, MSN, RN, FABC  
Director, School of Health Sciences

1025 Old Wyomissing Road  
Reading, PA 19611

[debbie.rahn@readinghealth.org](mailto:debbie.rahn@readinghealth.org)

Office: 484-628-0201

Mailing Address: PO Box 16052  
Reading, PA 19612

[readinghealth.org](http://readinghealth.org)