

Impact of a Tele-ICU Nurse Mentor Model on Novice Nurses' Retention and Practice

Dawn Luzetsky, DNP, RN

Introduction

Within an academic medical center's Pediatric ICU, rapid job turnover resulted in an imbalance of novice to experienced nursing staff, causing an impact to patient care and the work environment. Maximizing PICU capacity while sustaining an experienced and highly skilled workforce can be quite challenging

Objectives

Tele-medicine literature strongly supports that a tele-ICU nursing model can support the delivery of care, improve patient outcomes, and increase staff support at the bedside. The purpose of this project was to specifically evaluate the effectiveness of a tele-ICU nurse mentoring model on novice bedside nurses' retention and quality of care.

Methods

Design

This was a quality improvement project, pretest-posttest design within the PICU in a large academic, inner city, Magnet® hospital.

Study Variables

- The Casey-Fine Nurse Retention Survey©- 2009 revised was used to measure the novice nurses' levels of perception to work environment/ support and job satisfaction.
- Patient's electronic health record was used to assess the novice nurses' level of adherence to two best practices: Central line Associated bloodstream infection (CLABSI) care bundle and high risk medication administration practices.
- The American Association of Critical Care nurses (AACN) Tele-ICU nursing practice standards and the organizations level II Nurse Clinician job description was used to create a tele-ICU nursing competency model.
- An 8-question (6 4 point Likert scale and 2 qualitative) question survey was used to measure the tele-ICU nurses' level of job satisfaction.

Demographic Data of Novice Nurse Participants in Pretest-Posttest Evaluation	
Total no. of subjects	15
Mean Age in years: mean (sd)	26.7 (3.97)
Gender: n (%)	
Female	12 (80%)
Male	3 (20%)
Current RN Clinical position: n (%)	
Nurse Clinician I	3 (20%)
Nurse Clinician IM	11 (73.3%)
Nurse Clinician IIM	1 (6.7%)
Highest Degree: n (%)	
BSN	13 (86.7%)
MS	2 (13.3%)
Years of Employment: mean (sd)	
Average Years as RN	2 (1.309)
Average Years in PICU	1.67 (.724)
Employment status: n (%)	
Full time	14 (93.3%)
Part time	1 (6.7%)
Scheduled work pattern: n (%)	
Straight Nights	1 (6.7%)
Rotating Day/Night	13 (86.7%)
Weekends	1 (6.7%)

Statistical Analysis

Non-parametric paired statistical analysis was competed to measure novice nurses' perception of work environment/support, job satisfaction, and best CLABSI bundle and high-risk medication practice. Adherence.

Results

- There were 67 novice nurses. The mean age of the participants was 26.7 yrs. (sd= 3.97 yrs.), majority were BSN prepared (n=13, 86.7%) with an average of two years experience. Most nurses were on a day/night rotation (n=13, 86.7%).
- No statistical significance was found in any pretest-posttest analysis other than the subscale: *recognition and rewards* (Pre- median = 37, post-median= 34; p= .010; alpha <.05).
- Essential competencies identified for the tele-ICU nurse were effective communication, interpersonal skills, and prioritization/organization skills. Through behavior based interviewing, 3 PICU RNs were selected to be the tele-ICU mentors.

Pretest-Posttest Evaluation of Nurses' Perception of Work Environment and Levels of Job Satisfaction (N=15)			
Work Environment & Support subscales (# items; Range)	Baseline n (Median, IQR)	Post Tele-ICU Mentor n (Median, IQR)	p*
Mentoring (8; 8-32)	13 (24; 22.5-28.5)	15 (22; 21-26)	.056
Recognition and Rewards (13; 13-52)	13 (37; 33.5-40)	15 (34; 30-38)	.010
Professional RN role (9; 9-36)	13 (24; 23.5-25)	14 (24.5; 24-26)	1.00
Scheduling Flexibility (2; 2-8)	12 (6; 5.25-7)	15 (6; 5-7)	.132
Job Satisfaction ^{a, c}	Baseline n (Median, IQR)	Post Tele-ICU Mentor n (Median, IQR)	p*
Getting out of work on time	11 (2; 2-4)	11 (3; 2-4)	.380
Patient to nurse ratios	11 (4; 2-4)	11 (3; 2-4)	.861
Quality of care I am able to provide	11 (4; 3-5)	11 (4; 4-4)	1.00

*- Wilcoxon Signed-Rank test- Level of significance p< .05
^a 4-point Likert scale questions, 1= strongly disagree; 4= strongly agree
^b 5-point Likert scale questions; 1= very dissatisfied; 5= very satisfied
^c Survey tool included 13 questions; statistical analysis completed on only those felt to be influenced by the tele-ICU mentor.
 IQR: interquartile range (2nd-4th quartile)

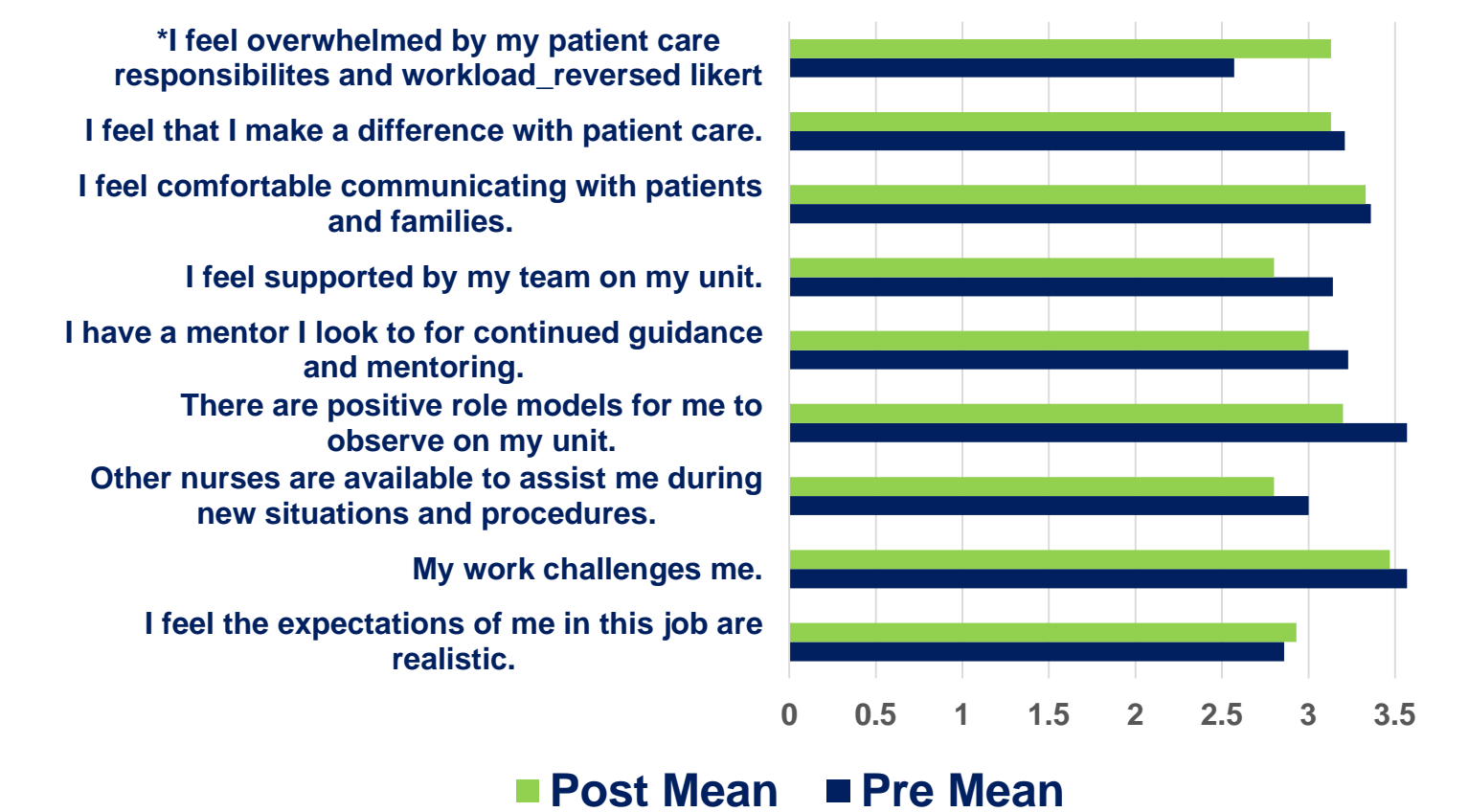
Clinical significance:

- Nurses level of satisfaction in *getting out of work on time* and *quality of care able to be provided* were found to be two areas of job satisfaction
- Two areas nurses showed slight improvement *was I feel overwhelmed by my patient care* and *I feel the expectations of me in this job are realistic*.
- CLABSI care bundles- nurses sustained a high level of adherence pre and post tele-ICU nurse mentor implementation.
- High-risk medication practices: slight improvement in 2nd RN medication verification prior to administration and the 2 RN review of continuous medications at hand-off sustained above the organization's target of 90% adherence.

Summary

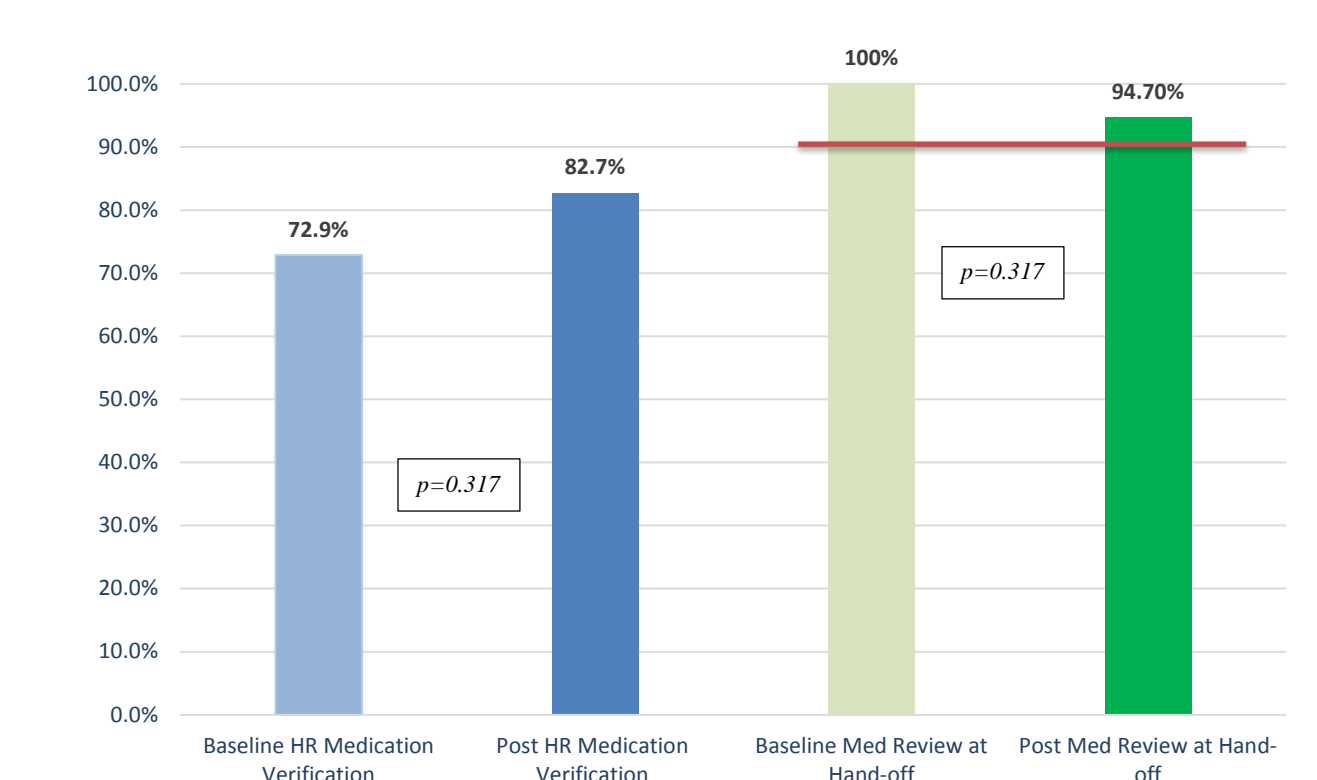
While there was not a statistical significance to most of the outcomes of this study, it is believed that offering a tele-ICU nurse mentor to novice PICU nurses is valuable. When there is more than 20% novice nurses within a PICU, there is a risk to patient safety and quality. (Hickey, et. al., 2013) The tele-ICU nurse was able to help the novice nurses stay focused on their tasks by reminding them of needed plans for follow-up care, by expediting getting patient orders or tests, and being readily available to answer questions, check medications, and monitor patients. The tele-ICU nurse was able to alert the novice nurse when the patient was deteriorating or needed assistance.

Work Environment and Support Questions Influenced by the Tele-ICU Nurse Mentor (n=13)



4-point Likert (1= strongly disagree, 4= strongly agree)
 *I feel overwhelmed by my patient care responsibilities is a reversed Likert (1=strongly agree, 4= strongly disagree);

High Risk Medication Administration



Significance level p<.05

References

- Blake, N., Leach, L. S., Robbins, W., Pike, N., & Needleman, J. (2013). Healthy work environments and staff nurse retention: The relationship between communication, collaboration, and leadership in the pediatric intensive care unit. *Nursing Administration Quarterly*, 37(4), 356-370.
- Hickey, P. A., Gauvreau, K., Curley, M. A., & Connor, J. A. (2013). The effect of critical care nursing and organizational characteristics on pediatric cardiac surgery mortality in the united states. *The Journal of Nursing Administration*, 43(12), 637-644.



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