Innovative PICU Mentoring Model: Using Tele-ICU Nurses

Presented by: Dawn Luzetsky, DNP, RN and Judy Ascenzi, DNP, RN
Objectives

• Outline strategies for creating a care delivery model that mentors and supports novice critical-care nurses

• Discuss approaches to encourage interdisciplinary collaboration to support culture change

• Identify outcomes of implementing a new care delivery model on job satisfaction and nursing retention
Fast Facts: Johns Hopkins Hospital (JHH) PICU

Pediatric ICU

Patients …… newborn to 21 years
Diagnoses ……medical/surgical & cardiac surgery
Beds ……………………….. 40

The PICU BASE! History

• Interdisciplinary working group formed in 2016
• Goal to decrease rapid job turnover that caused an imbalance of novice to experienced nursing staff
• Unused tele-monitoring technology
Background

• Rapid Nurse Turnover
  • Retaining skill and talent
  • Lack experienced staff to be resource
  • Anticipation of growing nursing shortage

• Increased patient acuity
  • Chronic Critically Ill

• Unit geography: 2.5 city blocks

• 40 beds, tertiary care, level one trauma and burn center
  • Approximately 11,000 patient days
  • ADC= 31.8 in FY18
Background

- Turnover rate = 17.3%*
- Turnover rate for ≤ 2 years: 42%*
- Orientation/hiring cycle:
  - 5 cohorts per year with 8-10 nurses per cohort
  - new graduate nurses > experience nurses
- Novice to experience nurse ratio has shifted to 43% novice nurses (<3 years experience)
  - *FY 17 data (July 1, 2016-June 30, 2017)
PICU Identified Areas for Improvement

**BEDSIDE SUPPORT**
- Too busy to help
- Buddy not available
- Timing: need assistance sooner than available
- Overwhelmed and not good time management due to patient acuity and experience
- Charge nurse availability
- Seek assistance due to fear of burden/staff is busy

**PHYSICAL ENVIRONMENT**
- Feeling on an island
- Patient on isolation
- 20 of 40 rooms with limited visibility
- No camera in Pyxis rooms for witnessing medication
- Overall limited line of sight
- 2 1/2 city blocks/ 21,000 sq ft

**FINANCIAL IMPACT**
- Nitric usage
- Antibiotic stewardship
- Med utilization (IV to enteral)

**QUALITY AND SAFETY**
- CLABSI, CAUTI
- Medication administration
- Antibiotic stewardship
- IV to enteral med conversion
- Communication gaps due to hierarchy, can be intimidating to novice RNs
- Need to speed communication to right people (therapy delays)

**STAFF RESOURCE**
- CAT team
- RN retention
- Buddy availability
- No nurse in physical site
- Too busy to help
- Provider having multiple requests at change of shift
- Charge nurse burden of bed control/management

**EFFICIENCY IN CARE**
- Transfers
- Discharge process
- Bounce backs
- Family satisfaction
- OR delays

Rapid Turnover
60% Novice nurses
Sustainability of quality and safe care
## SWOT

<table>
<thead>
<tr>
<th><strong>STRENGTHS</strong></th>
<th><strong>WEAKNESSES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication RN-RN</td>
<td>Interprofessional communication</td>
</tr>
<tr>
<td>Vested interest</td>
<td>Technology</td>
</tr>
<tr>
<td>Acceptance to change</td>
<td>Family refusal</td>
</tr>
<tr>
<td>Existing onboarding program</td>
<td>Staffing: staff mix, experience-base</td>
</tr>
<tr>
<td></td>
<td>Staff perception of Tele-ICU nurse role and purpose</td>
</tr>
<tr>
<td></td>
<td>Provider practices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>OPPORTUNITIES</strong></th>
<th><strong>THREATS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-hospital and Children's Center collaboration</td>
<td>Available space</td>
</tr>
<tr>
<td>Standardization</td>
<td>Healthcare Reform: Maryland Waiver</td>
</tr>
<tr>
<td>Coaching to prevent untoward events</td>
<td>Funding</td>
</tr>
<tr>
<td>Improve patient throughput</td>
<td>Capacity and Acuity</td>
</tr>
<tr>
<td></td>
<td>New graduate preparedness</td>
</tr>
<tr>
<td></td>
<td>Other requests for tele-ICU usage</td>
</tr>
</tbody>
</table>
Poll: Is your hospital able to hire experienced nurses as readily as new graduates?
Poll: Do you hire new graduate nurses in your critical care areas?
Poll: How long is your orientation to your non-ICU areas for new graduate nurses?

- 10 weeks
- 12 weeks
- 16 weeks
- 24 weeks
Poll: How long is your orientation to your PICU for new graduate nurses?

- 10 weeks
- 12 weeks
- 16 weeks
- 24 weeks
JHN Evidence-Based Practice Model

Practice

Internal Factors
- Culture
- Environment
- Equipment/Supplies
- Staffing
- Standards

Research
- Experimental
- Quasi-experimental
- Non-experimental
- Qualitative

Non-Research
- Organizational experience
  - Quality improvement
  - Financial data
- Clinical expertise
- Patient preference

External Factors
- Accreditation
- Legislation
- Quality Measures
- Regulations
- Standards

Education

© The Johns Hopkins Hospital/The Johns Hopkins University
Problem

PICO

Will the addition of a tele-ICU nurse increase nurse satisfaction by offering support to the novice nurses and improve the efficiency of pediatric ICU patient care in an academic medical center’s PICU?
Summary of the Evidence:
Using the JHH Nursing EBP Model

- **Decreased ICU LOS & Mortality**
- **Increased adherence to best practices**
- **Staff Support**
- **Extension to the Healthcare team**

**Healthy Work Environment**
(skilled communication, collaboration, effective decision making, appropriate staffing, meaningful recognition, & authentic leadership)
Roger’s Theory of Diffusion of Innovation

**Knowledge**
- Searched evidence supported tele-ICU nursing positively influences the delivery of care: increased support to bedside nurses, increase in best practice bundle adherence, coaching/mentoring role to novice nurses.
- Share found evidence with PICU project team
- Synthesize evidence to local PICU needs

**Persuasion**
- Lead project team through defining problem in their own words (fishbone exercise)
- Compare evidence to identified problems or areas of concern
- Ensure engagement of opinion leaders (nurse educator, nurse clinician IIs, charge nurses, preceptors)
- Develop communication plan: variety of methods to be used email, staff meetings, newsletters, word of mouth

**Decision**
- Identify the risks and benefits of implementing tele-ICU nurse role
- List risks/benefits if we do not and if we do implement the role
- Review and share evidence for limitations is the studies
- Evaluate impact of the limitations to the local PICU expectations of the role

**Implementation**
- Identify needed competencies by reviewing evidence
- Complete gap analysis between existing staff who want to be the tele-ICU nurse and the needed competencies
- Create PICU specific Tele-ICU competency model
- Create checklists for measuring Tele-ICU performance and novice nurses’ practice adherence
- Initiate communication plan
- Assess staff’s level of acceptance of the role and plan.

**Confirmation**
- Audit/feedback tools to measure tele-ICU nurse satisfaction, compliance to role responsibilities, and novice nurses’ perception of tele-ICU nurses’ bedside support.

---

**Innovator** 2.5%
**Early adopter** 13.5%
**Early Majority** 34%
**Late Majority** 34%
**Laggards** 16%
Why do a Stakeholder Analysis?

- Identifies those that may influence project
  - Positively
  - Negatively
- Allows anticipation of their influence
- Provides opportunity to get the most effective support for project & address barriers early in implementation process
Types of Informal Leaders

• **Opinion Leaders**
  • Part of local peer group
  • Wide sphere of influence
  • Trusted to judge fit between innovation and unit norms
  • Use of innovation influences peers and alters group norms

• **Change Champions**
  • Within the local group setting (clinic, care unit)
  • Expert clinicians with positive relations with other professionals
  • Encourage peers to adopt innovation, are persistent and passionate about innovation

Risk Management Plan

- Do not utilize tele-ICU nurse
- Tele-ICU nurse does not follow role responsibilities
- Patient/parent refuses tele-ICU participation in care
- Staffing does not permit the tele-ICU role to be filled in a shift
Evaluate the effectiveness of a Tele-ICU nurse mentoring model on novice bedside nurses’ retention and quality of care
Project Aims

Aim 1: Create a competency model for Tele-ICU nurse mentoring role

Aim 2: Measure novice nurses’ level of satisfaction and perceptions of support

Aim 3: Measure the level of novice nurses’ adherence to CLABSI care bundle and high risk medication administration practices

Aim 4: Measure tele-ICU nurses’ levels of job satisfaction as a tele-ICU nurse
What is the Base?

The Pediatric Intensive Care Unit at the Johns Hopkins Children’s Center presents:

Eyes On Kids
BASE Mentor Competency Model

- AACN’s Tele-ICU Nurse Standards of Practice
- JHH Nurse Clinician IIM-essential job functions
- Prioritized essential job functions/competencies selected
- Behavioral Based Interviews

AACN’s Tele-ICU Standards of Practice

- Skilled Communication
- True Collaboration
- Effective Decision Making
JHH Nurse Clinician IIM Essential Job Functions

- Clinical Care Competencies

- Leadership
  - Problem solving/critical thinking
  - Accountability/personal effectiveness
  - Collaboration/teamwork
  - Communication

- Resources and Systems
  - Performance improvement/safety/quality improvement
Behavioral Based Interviews

- Panel interview
- NCIIM or higher
- Recommended by mentor and manager

What kinds of communication situations cause you difficulty? Give an example.

What is your idea(s) for engaging the novice nurse.
BASE Nurse Responsibilities

• Support Nursing Practice
  • Act as a resource for novice bedside nurse
    • Retrieve vital information and data
    • Double check high risk medications
    • Respond to questions and requests
    • Coach/educate
    • Troubleshoot equipment
BASE Nurse Responsibilities

• Promote Safety
  • Recognize and prevent unsafe clinical conditions
  • Direct observation via teleconferencing
  • Monitoring vital sign trends and physiologic status
  • Alerting novice nurses of these trends with notification recommendations
  • Monitor best practice bundles and protocol adherence
# Charge Nurse versus BASE Nurse

<table>
<thead>
<tr>
<th></th>
<th>Charge RN</th>
<th>BASE RN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Report</strong></td>
<td>• Receive from off going charge RN&lt;br&gt; • Head to toe with psycho-social needs on each patient</td>
<td>• Self round on novice RN assignments&lt;br&gt; • Determine patient acuity&lt;br&gt; • Travel plans&lt;br&gt; • Procedure plans&lt;br&gt; • Contingency plan</td>
</tr>
<tr>
<td><strong>Huddle</strong></td>
<td>• Attends in person to review high level patient plans for day&lt;br&gt; • Travel/procedures&lt;br&gt; • Bed status&lt;br&gt; • Incoming&lt;br&gt; • Transfers</td>
<td>• Audio conferences in to hear high level patient plans for day&lt;br&gt; • Travel&lt;br&gt; • Procedures</td>
</tr>
<tr>
<td><strong>Rounding</strong></td>
<td>• Direct</td>
<td>• Virtual</td>
</tr>
<tr>
<td><strong>Rounding Frequency</strong></td>
<td>• Based on patient/RN need and clinical condition</td>
<td>• Based on acuity of novice RN’s patient&lt;br&gt; • Q1 most acute&lt;br&gt; • Q4 least acute</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>• In-person</td>
<td>• Virtual</td>
</tr>
</tbody>
</table>
Training

- BASE RN
  - Lead BASE RN
  - Role expectations
  - Scripting
  - Re-education of Best Practice Bundles

- PICU RN Staff
  - Expectations for each support role
    - Charge
    - Resource
    - BASE
  - When to call BASE
  - What the BASE RN will ask of you
Internal Communication Plans

Choosing a Communication Format

- **Standard** venues that staff already use: newsletters, websites, journal clubs, grand rounds, in services
- **Customized** strategies: simulation practice, pocket note cards, tool kits, focus groups, lunch and learn sessions

Questions Addressed in Effective Plans

- How and where will information be disseminated?
- What formats will you use that are accessible to staff?
- Who is your audience?
- Answer the question, “what’s in it for the staff?”
Promoting the Project

- Signs on each computer terminal
- Phone # loaded into directory
- “Thank you” for usage
Patient and Family Education

• Patient Family Advisory Council
• Standardized Orientation to the Unit
  – 3 Key Points
  • “What is Eyes on Kids?”
  • “How is my privacy protected?”
  • “How do our patients benefit?”
Outcomes

- **Novice RN perception of work environment & support and level of job satisfaction**
  - Casey-Fink Nurse Retention Survey©- 2009 revised
    - Validated Survey tool
    - Nurse perception of nurse retention elements
    - Job satisfaction
    - Administered at baseline and 12 weeks post-implementation

- **Novice nurses’ level of best practice adherence**
  - Electronic Health Record (EHR) audits (n=20)
    - 20 randomly selected novice nurses (N=67)
    - Matched RN and patient at baseline and 12-weeks post-implementation
Novice RN perception of work environment & support

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

- I feel the expectations of me in this job are realistic.
- My work challenges me.
- Other nurses are available to assist me during new...
- There are positive role models for me to observe on my unit.
- I have a mentor I look to for continued guidance and...
- I feel supported by my team on my unit.
- I feel comfortable communicating with patients and families.
- I feel that I make a difference with patient care.
- I feel supported by my team on my unit.
- I feel overwhelmed by my patient care responsibilities and...

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); therefore an increase in the post- implementation mean suggests improved perception.
Novice RN Level of Job Satisfaction

Novice Nurses’ Levels of Job Satisfaction (N=15)

- Getting out of work on time
  - Baseline: 2.45
  - Post Tele-ICU Mentor: 2.93

- Nurse:Patient Ratios
  - Baseline: 3.18
  - Post Tele-ICU Mentor: 3.20

- Quality of Care
  - Baseline: 4.00
  - Post Tele-ICU Mentor: 3.93

Note: The Casey-Fink Nurse Retention Survey- 2009 revised; 13 item 5-point Likert job satisfaction questions (1= very dissatisfied, 5= very satisfied). The questions selected for analysis were thought to be influenced by the tele-ICU mentor project.
Novice Nurse Reasons to Stay

What would keep you to stay in the PICU?

- Types of patients in my care area: 25%
- Patient care or making a difference: 25%
- Nurses you work with: 25%
- Continuing education opportunities: 17%
- Opportunities for career advancement: 8%
A Novice Nurse’s Base Experience

Sam, why do you call the BASE?
## Novice Nurses Level of Best Practice Adherence

<table>
<thead>
<tr>
<th>Component of CLABSI Bundle</th>
<th>Baseline n (%)</th>
<th>Post Tele-ICU Mentor n (%)</th>
<th>P&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL assessed</td>
<td>20 (100)</td>
<td>20 (100)</td>
<td>N/A</td>
</tr>
<tr>
<td>CL dressing assessed</td>
<td>20 (100)</td>
<td>20 (100)</td>
<td>N/A</td>
</tr>
<tr>
<td>Need for dressing changed identified</td>
<td>9 (45)</td>
<td>10 (50)</td>
<td>1.00</td>
</tr>
<tr>
<td>CL necessity validated</td>
<td>9 (45)</td>
<td>10 (50)</td>
<td>1.00</td>
</tr>
<tr>
<td>CHD daily baths</td>
<td>17 (85)</td>
<td>15 (75)</td>
<td>.688</td>
</tr>
</tbody>
</table>

### High Risk Medication Administration

| Compliance with 2<sup>nd</sup> RN verification | 66.9 (41.8) | 73.0 (38.6) | .624 |
| Continuous medication review                 | 19<sup>b</sup> (100%) | 18<sup>c</sup> (94.7%) | N/A |

<sup>a</sup>: Statistical significance p < .05
<sup>b & c</sup> Patients omitted who did not have continuous medications to review

CL - Central Line; CHD - Chlorhexidine; RN - Registered Nurse
Outcomes

• **Tele-ICU Mentor Satisfaction**
  • Survey via Qualtrics®
    • 4-point Likert
      • 1=Strongly disagree/4=Strongly Agree
    • Administered month 1 and 3 during intervention phase
How has the BASE impacted novice nurse practice?
Why are PICU Nurses Calling the Base?

- Patient Coverage
- Continuous infusion double checks
- Coaching through nursing procedure
  - Central line dressing change/cap change
- Discharge to home/EPIC documentation
- Medication compatibility questions
- Documents for a procedure; central line placement, intubation
What We Have Discovered to Date

**Strengths**
- Quality of Care
  - Assist in best practice adherence
- Patient Safety
  - Alerting patient status changes
  - Redirecting bedside nurse
- Nurse Retention & Job Satisfaction
  - Educating the bedside RN
  - Enhance a healthy work environment

**Limitations**
- Staffing
  - Monday-Friday, 12 hour days
  - Low exposure
  - Casey-Fink Survey 2009 revised© measured more than Tele-ICU Mentor implications
Conclusions

• Virtual Mentor & Coach
  • Cost effectiveness
• Implications to Practice
  • Non-traditional approach to bedside support/resource
  • Increased support to care
  • Ensuring quality, safe care
Ongoing Opportunities

Roger’s Theory of Diffusion
- Laggards Phase
- Adoption of New Practice

Tele-ICU Nurse

Continue studying
- Novice RNs Level of Satisfaction of Tele-ICU Nurse
- Best Practice Sustainability
- RN Retention

Leadership Onboarding
- Fiscal Approval
- Business Opportunities
  - Consultation
  - PICU Bounce Backs


Thank You

Questions?
Contact Information:

jascenzi@jhmi.edu
dluzets1@jhmi.edu
ehorbac1@jhmi.edu