A Square Peg into a Round Hole:

Creating a Neonatal and Pediatric Nursing Education Stream within an existing Adult Critical Care Framework

Objectives

- To share our lived experience in establishing, developing and operationalizing a new Neonatal and Pediatric stream within an existing Adult Critical Care Program
- Provide the audience with background, layout, implementation strategies
- Discuss challenges/hurdles experienced
- Share the end result
Background

- Neonatal and pediatric intensive care units (NICUs and PICUs) are staffed by a highly specialized group of doctors, nurses and allied health staff who care for critically ill newborns and children.
- Undergraduate and diploma nursing programs do not provide the specialized Pediatric and Neonatal critical care education needed.
- In the past only experienced nurses worked in critical care. Currently new and recent graduates work in ICU’s and must be trained to care for these critically ill patients.
Background

- Closure of existing stand-alone Neonatal and Pediatric Critical Care Program in 2001
- Decreasing enrollment
- Resource intensive
- MONEY
- Despite efforts to administer quality critical care orientation for new nurses, leadership recognized need for more intense, dedicated education specific to critical care
Background

- Well established Adult Critical Care Program already in place
- No new money in a poor fiscal climate
- Leadership advocated for inclusion of Neonatal and Pediatric Critical Care Stream in the existing adult program

Background

- Fall 2009 agreement reached
- One educator seconded from NICU to be solely dedicated to the neonatal and pediatric stream for, eventually NICU duties backfilled (but always a moving target)
- One educator from PICU- responsible for ongoing orientation/education in PICU, PHDU and WCCNEP- no backfill
Background

- Fall of 2010 first class of the Neonatal and Pediatric Stream of the Winnipeg Critical Care Nursing Education Program commenced studies
- 6 students form PICU, NICU St. B and HSC accepted the challenge of being the first class to enter into this stream
Layout

• Criteria
• 1. Graduation from an approved diploma school of nursing or a baccalaureate program in nursing
• 2. Current active practicing membership in a Canadian provincial or territorial association/college of registered nurses

• 3. A minimum of 1125 hours of nursing experience as defined by the CRNM
• Preference will be given to applicants with acute care nursing experience.
Layout

• 24 week program with theory/lab and clinical components

  – 8 weeks “Core” critical care theory with adult critical care students, aligned with respective skills labs 2-3 afternoons per week

Core Curriculum

• Anatomy and Physiology
• Arrhythmias
• Pharmacology
• Cardiovascular
• Hemodynamic Monitoring
• Targeted Temperature Management
• Acute Coronary Syndrome
• 12 Lead EKG
• HITT/Coagulation
• Pain and Sedation
• Organ Donation

• Acute Heart Disease
• Respiratory
• Mechanical Ventilators
• ARDS
• Renal
• Fluids and Electrolytes
• Endocrine
• GI
• Neuro
• Sepsis
• Early Mobility
Layout

- 1 week of education specific to neonatal and pediatric critical care prior to entering the clinical area
  - This was added in Sept 2012 in response to student evaluations

Neonatal and Pediatric Theory

- Airway Management
- Neonatal Respiratory Pathophysiology
- PPHN
- Pediatric Respiratory Pathophysiology
- Congenital Heart defects with Pediatric Rhythm analysis
- Neonatal HIE/Cooling
- Neuro- Management of increased ICP
- DKA
- Sepsis
- Management of hemodynamics in NICU/PICU
8 weeks of “Buddied Clinical” time, split between NICU and PICU

\[\text{Layout}\]

- Two days of specialized (either NICU or PICU) education prior to 7 week clinical placement in unit of employment.

- Learn while you earn
- Students paid full time wage while in program in exchange for return of service
Layout

• How do we make this work?
• Educators facilitate lab sessions that are specific to neonatal and pediatric critical care
• Support neonatal and pediatric students by providing supplemental theory and helping students apply core theory to the pediatric and neonatal population
• Deliver one week of neonatal and pediatric theory

Layout

• Once students are in clinical rotations, educators select individualized patient assignments, appropriate preceptor
• Educators present in units to monitor and seeking opportunities to engage students in their learning experience
Layout

- Post conference
- Daily written assignments
- Facilitate “Special experiences”
  - OR
  - Neonatal Transport
  - High Risk Newborn Resuscitation Room
  - Pediatric Acute Pain Service
  - Pediatric High Risk Anesthesia

Implementation Strategies

- Student body largely comes from within units themselves with varying experience (6 months to 1 year)
- Hard sell at first!!!
- Now it sells itself
- New nurses are introduced to the idea in orientation
- Exposed to students in the units
- See the change
- Be the change
Implementation Strategies

• Listen and respond to feedback
• Inclusion of week of neonatal and pediatric theory prior to clinical has been key

Challenges

• Do more with less- No new MONEY
• Meeting the needs of neonatal and pediatric critical care nursing students within an adult framework
• Tailoring experiences for students with a wide variety of previous skills, knowledge and experience
Results

- Evaluations from students positive
- Currently into 11th class
- 65 Graduated to date
- 78% retention rate since Sept 2010

Retention

<table>
<thead>
<tr>
<th>Unit</th>
<th>Total Students Numbers (2010 – present)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICU HSC</td>
<td>18 (11 employed in critical care, 4 enrolled)</td>
</tr>
<tr>
<td>NICU S &amp; R</td>
<td>14 (8 employed in critical care, 2 enrolled)</td>
</tr>
<tr>
<td>IMCN</td>
<td>6 (6 employed in critical care, 2 enrolled)</td>
</tr>
<tr>
<td>PICU</td>
<td>23 (23 employed in critical care, 1 enrolled)</td>
</tr>
<tr>
<td>CVICU</td>
<td>3</td>
</tr>
<tr>
<td>ECM team</td>
<td>1</td>
</tr>
<tr>
<td>Withdrawn</td>
<td>6 (NICU HSC, PICU, NICU S &amp; R)</td>
</tr>
<tr>
<td>Currently enrolled in program</td>
<td>9</td>
</tr>
<tr>
<td>Total enrolled since Sept 2010</td>
<td>78</td>
</tr>
<tr>
<td>Total Graduated</td>
<td>65</td>
</tr>
<tr>
<td>Not currently working in critical care</td>
<td>14</td>
</tr>
<tr>
<td>Total Employed in Peds/Neo Critical Care (Wys) as of Sept 2015</td>
<td>51 (includes 1 ECM Relief Team) 78% of graduates working in neonatal or pediatric critical care</td>
</tr>
</tbody>
</table>
Conclusions

• Critical care concepts are very transferrable
  – Cardiac output
  – Mechanical ventilation
  – Invasive pressure monitoring

• Important differences - Recognize what is different and make adjustments
  – Equipment and skills
  – Normal values
  – Disease processes

What we learned

• Be prepared to mentor and support
• Must assist students to translate concepts
  – How is this the same in kids?
  – How is it different?
• Help students “discover” using critical thinking and inquiry
• Building confidence and developing communication skills is a primary goal
Future Directions

- ? Entry to practice in NICU/PICU
- ? Increase number of students we can accept into the program each intake
- Incorporate more adult learning strategies

Thank You!