Simulation in Nursing Schools: Integrating Simulation into Nursing Curriculum

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Course Description: Integrating Simulation into Nursing Curriculum

• The goal of delivering exceptional health care has been one of the key drivers for the use of simulation in the clinical training environment. Learn the benefits, challenges and emerging trends in the use of simulation technology and how to integrate simulation into your nursing curriculum.
Learning Objectives

• Understand drivers for the introduction of simulation
• Identify courses within your nursing curriculum to best leverage simulation
• Locate tools and resources for quick successes
• Create buy-in with faculty and / or other health care specialties
• Define measurable objectives for success
Who you are
Who we are
Mission

• Improve patient safety and quality of care through use of clinical simulation in education and research. We seek to provide our students an exceptional educational experience in a dynamic and diverse learning environment.
Goals

- Enhance and promote patient safety and quality health care by advocating use of simulation in clinical education of health care professionals.
- Enhance clinical competence of health care professionals.
- Assess and demonstrate competence of undergraduate and graduate health care providers.
- Maintain continuing competence of health care providers by using clinical simulation for continuing education.
- Improve productivity and efficiency of health care professionals in clinical settings.
- Encourage research leading to improvement in clinical education of health care providers.
Goldfarb School of Nursing at Barnes-Jewish College

- **State of the Art Facility**
  - 2 10-bed Med/Surg labs
  - 10-bay Health Assessment lab
  - OR/Anesthesia Lab
  - 4-bed Simulation Theater
  - 4-bed Maternal/Child Lab
  - 2 Patient Examination Rooms

- **Resources Dedicated to Simulation**
  - Personnel: 4.0 FTE
  - Support of Administration and IS Department
Second Floor: Simulation labs

Lab 258: Simulation Theater

Lab 254: Anesthesia/OR

Lab 259: Maternal/Child

Exam Rooms
Third Floor: Simulation labs

Lab 350: Med/Surg

Lab 351: Health Assessment

Lab 353: Med/Surg
Why Integrate Simulation?

“The true value of simulation lies in it ability to offer experiences throughout the educational process that provide students with opportunities for repetition, pattern recognition, and faster decision making”

-Doyle & Leighton, 2010
Why Integrate Simulation?

• Bridging the gap between education and practice

“90% of nurse educators think their graduates are ready to safely practice VS. 10% of hospital administrators”

--JONA, November 2008
Reasons to Integrate

• Deliberate practice
• Healthcare Technologies
• Team training
• Quality and safety
• Delegation
• Therapeutic communication/Inter-professional
• Clinical Judgment/Decision-Making
Demonstration

• It all starts in the classroom
  – Introduction of concepts and theory
    • Role Modeling
    – Demonstration
• Skills Labs
  – Realism
  – Demonstration
  – Apply to Practice
**Curriculum Integration: Creating Buy-In**

**• Strategic Vision**

<table>
<thead>
<tr>
<th>ELEMENT (1)</th>
<th>THREAD</th>
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<tbody>
<tr>
<td></td>
<td>• Become recognized and funded in the following <strong>areas of research</strong>:</td>
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<tr>
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<td>addressing needs of vulnerable populations and reducing health disparities.</td>
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<thead>
<tr>
<th>ELEMENT (2)</th>
<th>THREAD</th>
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<tbody>
<tr>
<td></td>
<td>• Deliver <strong>progressive and relevant program offerings</strong> that address the changing needs of the profession and healthcare.</td>
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<tr>
<th>ELEMENT (3)</th>
<th>THREAD</th>
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<tbody>
<tr>
<td></td>
<td>• Align programs, services, recruiting, and admission standards to attract <strong>outstanding students</strong>.</td>
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<thead>
<tr>
<th>ELEMENT (4)</th>
<th>THREAD</th>
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<tbody>
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<td></td>
<td>• Assemble <strong>top faculty and staff</strong>.</td>
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<tr>
<th>ELEMENT (5)</th>
<th>THREAD</th>
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<tbody>
<tr>
<td></td>
<td>• Improve <strong>health outcomes in our community</strong> through meaningful service.</td>
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<tr>
<th>ELEMENT (6)</th>
<th>THREAD</th>
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<tbody>
<tr>
<td></td>
<td>• Prepare graduates who can excel in <strong>clinical practice and as leaders</strong> in research, teaching, and service.</td>
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</table>

- Inter-Institutional & Professional Collaboration
- Unique Clinical Opportunities
- Differentiation through Innovation
- Simulation as an Educational Model
Curriculum Integration: Engaging the Faculty

• Laying the Foundations: Training the End User
  – Laerdal Course 100
  – Working one on one to increase familiarity and confidence with equipment
  – Development of scenarios
  – Practice and Implementation in the simulation labs
Impact of Simulation on Faculty

- Stages of Change (Adoption)
- Realizing that teaching in simulation is not the same as teaching clinically
  - Differences in time commitments (practice and preparation time)
- Personality types
Curriculum Integration

• Integration
  • CCNE BSN Essentials
  • QSEN
  • IOM
  • The Joint Commission
    – The “never events”
  • Healthy People 2010
## Curriculum Integration

- **Development of Curricular Roadmap**

<table>
<thead>
<tr>
<th>Accelerated Term III</th>
<th>Course Title</th>
<th>Content</th>
<th>Skills</th>
<th>Scenarios</th>
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</thead>
<tbody>
<tr>
<td>3270</td>
<td>Leadership Role Development</td>
<td>Licensed &amp; un-licensed personnel</td>
<td>Delegation and confrontation</td>
<td>Communication, delegation</td>
</tr>
<tr>
<td>4970</td>
<td>Pediatric Nursing</td>
<td>care of children: infant through adolescence</td>
<td>Pre clinical skill reviews to include: infant</td>
<td>post appendectomy and post op pain, rsv and respiratory care, injury</td>
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<td></td>
<td></td>
<td></td>
<td>assessment, child assessment, iv pump, feeding</td>
<td>prevention, seizure and seizure care, asthma and respiratory care for</td>
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<td></td>
<td></td>
<td></td>
<td>pump, intake and output skills. Other skills</td>
<td>during lecture</td>
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<td>and order interpretation to include: trach</td>
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<td>care/suctioning/sputum, urinary catheterizations,</td>
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<td>albuterol nebulization, g tube care and feeding,</td>
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<td>central line dressing change, iv set up,</td>
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<td></td>
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<td>antibiotic set up and bid cultures.</td>
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<tr>
<td>4980</td>
<td>Community Health and Health Policy</td>
<td>Bioterrorism</td>
<td>Triage</td>
<td>Bioterrorism</td>
</tr>
<tr>
<td>4990</td>
<td>Nursing Management Adult Health Care II</td>
<td>Renal, Burns, Critical Care concepts,</td>
<td>CPR and defibrillation</td>
<td>Femur fracture, CVA, C-Spine Injury, Seizures, Head Injury with ICP,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neurological, Immunology, Cancer, HIV</td>
<td>Stroke recognition and intervention</td>
<td>Myasthenia Gravis/Respiratory Distress, Leukemia, Kidney - Renal</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Neurological Deficits</td>
<td>Failure, Shock, Sepsis,</td>
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<td></td>
<td></td>
<td></td>
<td>Systemic Inflammatory Syndrome recognition and</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>early intervention</td>
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<td></td>
<td></td>
<td></td>
<td>Burns</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Renal perfusion</td>
<td></td>
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<td></td>
<td>Spinal cord injury management</td>
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<td></td>
<td></td>
<td>Oncology emergencies</td>
<td></td>
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</tbody>
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Curriculum Integration

– Defined Learning Outcomes
– Importance of Debriefing
– Confidentiality
– Safe Learning Environment
– Evaluation
– Assessment
Bloom’s Taxonomy: New Vision

<table>
<thead>
<tr>
<th>Original Domain</th>
<th>New Domain</th>
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</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>Creating</td>
</tr>
<tr>
<td>Synthesis</td>
<td>Evaluating</td>
</tr>
<tr>
<td>Analysis</td>
<td>Analyzing</td>
</tr>
<tr>
<td>Application</td>
<td>Applying</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Understanding</td>
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<tr>
<td>Knowledge</td>
<td>Remembering</td>
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</tbody>
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Curriculum Integration

**Health Assessment** – 0.5 lab cr (2 hrs/week)
- Interviewing skills
  - Focused systematic history and physical
  - Understanding the NEXT question
- Vital Signs
- Head to Toe Assessment

**Pharmacology** – 0.5 lab cr (2 hrs/week)
- Physiological response to medications
  - Early identification
- Safety
- Routes
Curriculum Integration

- **Fundamentals** – 2 cr (8 hrs/week)
  - Medication Administration
  - IV/Phlebotomy
  - Glucose Monitoring
  - Airway Management
  - Restraints
  - Wound Care and Management
  - NG
  - Foley Catheterization
  - Electronic documentation (MAR)
  - Therapeutic Communication
Curriculum Integration

- **Adult Health I** – 2 cr (8 hrs/week)
  - CHD
  - MI
  - Pain
  - Diabetes

- **Adult Health II** – 4 cr (16 hrs/week)
  - Sepsis
  - Shock
  - Burns
  - Neurological Deficits
  - Oncology Emergencies
  - Transfusion Reaction
  - Patient Management
  - Interprofessional Simulation
Curriculum Integration

- **Psych/Mental Health** – 1 cr (4 hrs/week)
  - Safe Assessment and Intervention
    - Combative, addicted, abusive
    - Suicidal, delusional
  - Maintaining airways during ECT and withdrawals

- **Women’s Health** – 1 cr (4 hrs/week)
  - Normal delivery
  - Maternal/New Born Assessment
  - Post partum hemorrhage
Curriculum Integration

- **Nursing of Children** – 1 cr (4 hrs/week)
  - Asthma Management
  - Dog bite
  - RSV
  - Viral Meningitis and Rapid Intervention
  - Assessment and Intervention during seizures

- **Public/Community Health** – 1 cr (4 hrs/week)
  - Safe Intervention in Abuse Situations
  - Disaster Preparedness
  - Intervening in the Infectious Disease Outbreaks or Bio-terrorist Attacks
Let’s break it down
FAQ’s: simulation replacement and clinical hours

One Hour Simulation = 3 Clinical Hours

- **5-10 minutes:** Introduction and orientation to situation, review outcomes, learning objectives, explain set up, assign roles
- **5-20 minutes:** scenario
- **20-30 minutes:** DEBRIEF:
  - FACULTY Facilitate
  - Resources: de-briefing guide
- **5-10 minutes:** repeat scenario
- **10 minutes:** DEBRIEF:
- **5 minutes:** repeat specific part of scenario
- **5 minutes:** DEBRIEF: RECAP Learning Outcomes

TOTAL TIME DEVOTED to one scenario: 55-90 minutes
Now it’s your turn

• Find a partner, and take the next 10 minutes to think about the class(es) you teach, and how have/are/could/should/want to/dream of integrating simulation
• How could you tweak ideas that we’ve talked about today? Make them your own? Improve?
Discussion

• Share what you developed
Evaluation: Measuring Outcomes for Success

• Simulation Evaluation Form
• Student Engagement Survey
  – Completed each term
• Student Exit Interview
  – Includes simulation component
<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Mean Score 2009</th>
<th>Mean Score Summer 2009</th>
<th>Mean Score Fall 2009</th>
<th>Mean Score Spring 2010</th>
<th>Mean Score Summer 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I was an active participant in the scenario</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>2</td>
<td>The scenario was realistic</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>3</td>
<td>The environment was realistic</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>4</td>
<td>I was able to identify patient problems and initiate the interventions</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>5</td>
<td>I was able to incorporate theory into hands-on practice</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>6</td>
<td>This experience has enabled me to identify areas of practice that I feel comfortable with and areas that I feel I need more practice</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
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<tr>
<td>7</td>
<td>I was prepared to participate in the scenario</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>8</td>
<td>The simulation environment was a safe place for learning to take place</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
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<tr>
<td>9</td>
<td>Everyone was respectful of each other during the debriefing process</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
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<tr>
<td>10</td>
<td>The debriefing/reflection session provided valuable feedback</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
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<tr>
<td>11</td>
<td>This was a valuable learning experience</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>12</td>
<td>I am more confident to practice in an actual clinical environment</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.5</td>
<td>4.4</td>
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Tools for Success

  – Simulation Forums
  – Pre-programmed scenarios
  – Course 100 Training for faculty/simulation support staff


• AACN Toolkit

• List Serves (membership fees may apply)
  – SSIH
  – INACSL

• Journals

• Books
Interprofessional Simulation Opportunities

- WUSM MD/GSON RN Students: Interprofessional Communication
- Interprofessional Mock Code
- Safe Medication Delivery
- WUSM OT
Contact Information

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Questions?