In-Situ Simulation: Weaving Safety Culture into Interprofessional Education

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OBJECTIVES

1. Provide an overview of interprofessional clinical simulation
2. Highlight evidence base that supports simulation
3. Discuss evidence based guidelines necessary for simulation
4. Review various methods of simulation
5. Describe simulation modalities utilized by the NorthShore-Long Island Jewish Health System
6. Share lessons learned to promote successful interprofessional simulation
7. Implications of interprofessional simulation on patient safety
Overview of Simulation

Simulation should:
1. “…aim to imitate real patient’s anatomic regions, or clinical tasks, or to mirror the real-life situations in which medical services are rendered”

2. “…mimic the reality of a clinical environment and are designed to demonstrate procedures, decision-making, and critical thinking through techniques such as role playing and the use of devises such as videos or mannequins”
Patient Safety: Practice Without Risk; Early exposure and demonstration of basic competence

Training for a new paradigm in clinical practice
- Multidisciplinary teamwork training
- Crisis Resource Management Skills

Education on Demand:
- Create a standardized curriculum
- Reduce reliance on chance for experiential education

Acceleration of expertise
Why Simulation…
The Circumplex Model of Affect

ACTIVATION

alert

excited

elated

happy

contented

serene

relaxed

calm

DEACTIVATION

fatigued

lethargic

depressed

sad

upset

stressed

nervous

tense

UNPLEASANT
Evidence for Simulation


Contribution to the Evidence

• International Network for Simulation-Based Pediatric Innovation, Research and Education (INSPIRE) Network

ImPACTS Simulation Research Group
Fundamentals of Simulation Based Education

Setting the Foundation:

• Fundamental Belief/Basic Assumption
• Safety Contract
  • We’re in Vegas!
• Participant orientation and buy-in
  • Formative assessment approach

People who choose to participate in simulation based training exercises are mature, intelligent, well-trained adults who want to improve and grow.
Fundamentals of Simulation Based Education

Setting the Foundation:
• Preparing for Simulation Based Education (SBE)
  • Curriculum/Learning Objectives
    • Match objectives with learning outcomes
    • 1-4 key objectives that should be specific, relevant, and appropriate to the learner
  • Simulation scenario design
    • Always keep the objectives in mind
    • Relevant
    • Realism vs theater
    • Map scenario pathways
    • Use a template
Fundamentals of Simulation Based Education

Setting the Foundation:
• Simulation
  • The Team
    • Who they are
    • Where are they
    • What is their mission
• Patient Care
  • History
  • Physical
  • Procedures
• Team Work
• Communication

Remember the Learning Objectives
Fundamentals of Simulation Based Education

Setting the Foundation:
• Debrief
  • Participant learning
  • Organization learning/latent safety errors
• Models
  • Plus/Delta model
    • What went well/What would you change
  • Advocacy/Inquiry (Debriefing with good judgement)
    • Advocate for objective data, follow with inquiry
  • Rapid Cycle Deliberate Practice
    • Correct behaviors as they occur
• Review Objectives and Take-Aways
• Evaluations
Types of Simulators

- Task-Training
- Low-fidelity simulators
- High fidelity simulators
- Standardized Patients
- Hybrid simulation
Types of Simulation

- Simulation Center (Corporate University)
- In-Situ Simulation
- Profession specific
- Interprofessional
Types of Simulation Based Education

• Simulation Center (Corporate University)
  • PASS$^{11}$
  • PEDS Communication$^{12}$
  • PEDS Clinical Scenarios$^{12}$
  • Pediatric Critical Interventions$^{11}$
  • Southside Family Medicine
  • Recognition of Contrast Media Reactions
  • Responding to Sedation Emergencies for OMFS Residents
  • Crisis Resource Management
  • Orientation to Clinical Responsibility
Types of Simulation Based Education

• In-Situ Simulation
  • Pediatric Trauma In-situ Program
  • Hospital Based In-situ programs
    • Unannounced simulations in different care areas in the hospital during day and night hours every other week
    • Data collection of consistent systems and equipment issues common to all resuscitation scenarios
    • Assess specific systems issues that impact delivery in different clinical areas of the hospital
Simulation Approached

**Simulation Center**

**Positives**
- Captive attention of participants
- Resources for planning and debriefing - Rooms, large monitors

**Drawbacks**
- Participants who attend self-select
- Teams do not assemble or function as in the clinical setting
- Equipment, setting can add to the artificiality of the scenario
- Reduce participant buy-in
- Expensive - Dedicated non-clinical time

**In-Situ Simulation**

**Positives**
- Capture practitioners in their normal work environment and with their usual clinical colleagues
- Capture the important dynamic between care delivery systems and equipment and practitioners

**Drawbacks**
- Potential resources pulled from patient care
- Potential for large audience
- Limited time for multiple scenarios
“occasions when two or more professions learn from and about each other to improve collaboration and the quality of care”
Interprofessional Simulation

Interprofessional Collaborative Practice Domains

Community and Population Oriented
- Interprofessional Teamwork and Team-based Practice
- Interprofessional Communication Practices
- Values/Ethics for Interprofessional Practice
- Roles and Responsibilities for Collaborative Practice

Patient and Family Centered

The Learning Continuum pre-licensure through practice trajectory
## Implications for Patient Safety

- TeamSTEPPS™
- Escalation strategies
- Crisis Resource Management

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<tbody>
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<td>1</td>
<td>Know The Environment</td>
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<td>2</td>
<td>Anticipate and Plan</td>
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<td>3</td>
<td>Call for help early</td>
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<td>Exercise leadership and followership</td>
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<td>5</td>
<td>Distribute the workload</td>
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<td>Mobilize all available resources</td>
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<td>Communicate effectively</td>
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<td>Use all available information</td>
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<td>9</td>
<td>Prevent and manage fixation errors</td>
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<td>10</td>
<td>Cross (double) check</td>
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<td>11</td>
<td>Use cognitive aids</td>
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<td>Re-evaluate repeatedly</td>
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<td>Use good teamwork</td>
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<td>Allocate attention wisely</td>
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<td>Set priorities dynamically</td>
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Implications for Patient Safety

1. The difficulty of the simulation scenario was a good match for my level of experience.
   - "The scenarios were very familiar to my clinical setting."

2. The debriefing session provided adequate time for discussion of key issues.
   - "In-depth, productive discussion occurred with each scenario."

3. When you reflect back on the simulation-based program, what were the 3 most important things you learned?
   - "Call for help sooner, introduce and answer parent questions, timely management of symptoms."
   - "Importance and effectiveness of closed-loop communication, strategies to deal with family members, improving leadership skills."
   - "The tendency for people to fixate on the easiest or most comfortable problem to solve. How important recapping and knowing the algorithms are."
Implications for Patient Safety

4. What did you learn about how you work with others in a team?

- "reinforced communication between RNs and MDs and between RNs"

- "I tend to let the physician take the lead, offer suggestions in a polite and calm tone and try to keep the group focused."

- "It is important to actively seek team member's input when there are team members who are newer in their training/careers because they may not feel empowered to make suggestions."
Challenges in Simulation Based Education
References