Developing a Simulation Team: Challenges, Benefits & Opportunities
Objectives:

The participants will be able to:

• Define learning theories and concepts that impact simulation instruction and faculty development
• Discuss the different simulation models used and their benefits/challenges
• Describe students’ perceptions and needs in the learning environment
• Summarize why a developed cadre of faculty implementing simulations is so important
IOM Report Goal

Transform nursing field to prepare nurses to lead change and advance health for all Americans
Other Factors driving the use of Clinical Simulations

• Lack of quality clinical sites
• Competition of clinical sites
• Nurse residency programs using sites
• Fewer clinical opportunities for students – cannot do the interventions
• Need for new clinical sites in primary care, less acute care
• Units closing – shift in healthcare
• Culture of quality and safety
• Changing regulations and standards
• More evidence and research being published
Clinical Learning Experiences

• Regulating clinical experiences are compounded by the complexity of actual nursing  
  (Ebright, Patterson, Chalko, et al. 2004)

• A review of nursing curricula requirements and reports indicated little content related to workload management and managing complex healthcare environments  
  (Speziale & Jacobsen, 2005)
Opportunities for New Models of Clinical Education

Study conducted on clinical education concluded 4 themes indicating clinical education problem areas:

• *Missing opportunities for learning in clinical settings*
• *Getting the work done as a measure of learning*
• *Failure to enact situation-specific pedagogies to foster clinical learning*
• *Failing to engage as part of the team*

(McNelis, Ironside, Ebright, et al., 2014)
Current State of Simulations
## Simulations Run by All Clinical Faculty

<table>
<thead>
<tr>
<th>Advantages/Benefits</th>
<th>Simulation Team &amp; Students</th>
<th>Clinical Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perceived that this method is more economical</td>
<td>Only pay clinical faculty – no hires for a sim team *clinical faculty see students in both the real clinical and in sims</td>
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## Disadvantages/Challenges

|                     | Lack of a simulation team poses a concern to running quality, effective simulations – simulation team members refine their skills | *Training for all clinical faculty is a challenge; continual development because of # of adjunct faculty *No integrity of running the simulations – no common control *Costs for training part-time increases *Quality of simulations difficult to control *Unsatisfactory delivery of simulations and debriefing – too many accountable to do it correctly |
|                     | *Students do not develop a community of learning with the sim team if there is none |
Simulation Team only runs Simulations in Sim Center & Clinical Faculty run real-time clinical

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Simulation Team + Students</th>
<th>Clinical Instructors</th>
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</table>
|                                                      | *Simulation Team runs all the simulations for the students to ensure the integrity of the simulations and learning outcomes  
*Well trained simulation team  
*Bonding with Students and understand where their learning needs to occur  
*Cost savings from option one – you are paying less clinical hour time for the part-time clinical faculty | Clinical faculty are assigned only for the off-campus clinical days (hospital) – when students go to simulation lab the clinical instructors do not work these hours (cost savings) |
| Disadvantages/Challenges                             | *Simulation team need to develop a strong communication plan to communicate to clinical instructors  
*Fragmented evaluation of students                     | *Clinical instructors do not see what students are doing in simulation lab  
*Fragmented evaluation of students                                           |
## Simulation Team Model

<table>
<thead>
<tr>
<th>Advantages/Benefits</th>
<th>Sim Team members and students</th>
<th>Clinical Instructors and Students</th>
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<tbody>
<tr>
<td></td>
<td>*Ensures the integrity and quality of simulations</td>
<td>Clinical instructors can transfer knowledge of the student to the clinical setting to improve clinical education</td>
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<td></td>
<td>*Trained Simulation Team</td>
<td>Clinical instructors learn more about the debriefing pedagogy – can translate this skill into the clinical arena</td>
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<td></td>
<td>*Students connect with simulation team members – team can communicate and track problems with students and the learning outcomes</td>
<td>Clinical instructors can view what the students know and don't know then facilitate the student to improve the clinical performance</td>
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<td></td>
<td>*Simulation team works closely with the course coordinators and faculty</td>
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<td>*Premier model – simulation team and clinical instructors working together</td>
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<tr>
<td></td>
<td>*Training is only for the simulation team – conducting simulations is a different pedagogy – an activity one needs to learn, practice, and refine</td>
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<table>
<thead>
<tr>
<th>Disadvantages</th>
<th>Paying both the Simulation Team members and the clinical faculty</th>
<th>Resources: Paying both sim team members and clinical faculty</th>
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MacLean’s Brain Theory on Learning

Brain has 3 parts for Learning
• The Base – R Complex (basic survival)
• The limbic (middle) – for memory and emotion
• Neocortex – associated with higher order learning

• Emotions are a powerful tool for learning

• Adult educators can expect many adult learners to be in the survival mode (Caine & Caine, 2006)

• Through positive talk, learners can move themselves out of the R-complex
“Downshifting”

• Learning occurs in the limbic system (positive emotion can pave the way for memory and higher order of learning)

• Fear and intimidation can cause the learner to go from neocortex to the R-complex (survival mode)

• Implications for faculty and learning environments?
Qualities Students Desired in Clinical Educators

Most Helpful Qualities:

• Modeling – displays confidence
• Humanistic Orientation
• Manages clinical emergencies well
• Provides opportunities for students to practice
• Will admit if he/she doesn’t know something
• Discusses practical applications
• Remains accessible to students
• Communication of expectations
• Listens attentively
Other Considerations Impacting Learning

• Make learning active and help me to make meaning of it....”
• Dunn and Dunn (1978) – Make learning auditory, visual, or kinesthetic.
• Reflection is the most important component of transformative learning
• Educators foster critical reflection from the experiences and challenges of learner assumptions by serving as “facilitators of reflection.”
• This theory justifies “cooperative learning” learners have to transform the “frames of reference.”
Learning Environments and Conditions

(Taylor, 2000)

• Ideal conditions foster transformative learning
• Providing a safe and trusting environment promotes collaboration and can incorporate activities that encourage exploration of alternative personal experiences and critical reflection
• Instructors need to develop trust with their students – a violation of trust jeopardizes the experience
Based on learning theories: Implications for Simulation Educators

• Educators should be alert to various perceptions held by learners and facilitate any support or scaffolding that may be necessary.

• Simulation Center expectations – produce a confidential, safe environment where students can make mistakes and expect confidentiality without fear of intimidation.

• Ask what keeps the adult learner wanting to return to your center for more learning experiences?

• The facilitator of learning provides an objective perspective on the experience to help the learner to identify strengths.
Student Perceptions of Simulations: Note the learning comments

• Using the SIM man so we had a "safe" place to make mistakes

• I really liked the simulations - they were realistic and gave me confidence with interacting with patients.

• The most helpful thing about the course is being able to practice in SIM lab and get more comfortable in the nursing setting.

• Interacting with the simulations helped remove some of the awkwardness from real clinical situations.

• The sim labs were helpful in practicing skills we were learning in other class

• The SIM labs were wonderful I really really enjoyed sim!

• The debriefings were the most helpful!
At the beginning of this simulation, the instructor set the stage for an engaging learning experience.
During the debriefing, the instructor maintained an engaging context for learning.
The instructor structured the debriefing in an organized way.
The instructor provoked in-depth discussions that led me to reflect on my performance.
The instructor identified what I did well or poorly — and why.
Summary of the NCSBN Study
Qualifiers

These results were achieved using:

• INACSL Standards of Best Practice
• High quality simulations
• Debriefing method grounded in educational theory
• **Trained and dedicated simulation faculty**
Recommendations for Educators and Regulators

• **Formally trained faculty in simulation pedagogy**
• Use of theory-based debriefing methods using subject matter experts
• Adequate numbers of simulation faculty to support the learners
• Equipment and supplies to create a realistic environment
Certification through SSH

• Certified Healthcare Simulation Educator (CHSE) is a formal professional recognition of specialized knowledge, skills, abilities & accomplishments in simulation education.

• Over 300 Certified Healthcare Simulation Educators

• Certified Healthcare Simulation Educators-Advanced (CHSE-A) opened this summer
# CHSE High Level Blueprint

<table>
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<tr>
<th>Domain</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Display Professional Values and Capabilities</td>
<td>4%</td>
</tr>
<tr>
<td>Demonstrate Knowledge of Simulation Principles, Practice, and Methodology</td>
<td>34%</td>
</tr>
<tr>
<td>Educate and Assess Learners Using Simulation</td>
<td>52%</td>
</tr>
<tr>
<td>Manage Overall Simulation Resources and Environments</td>
<td>6%</td>
</tr>
<tr>
<td>Engage in Scholarly Activities</td>
<td>4%</td>
</tr>
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Strategies to consider to diminish costs of clinical education using simulations

• Change the course credit ratio for clinical and laboratory
  Some programs have a laboratory 1 credit hour ratio at 1:4 – across the US most ratios for lab is 1:2, in other words one credit hour to two hours of lab time

• Look at the clinical hour ratio - have a clinical 1 credit hour of ratio of 1:3 – across the US most ratios for clinical education is 1:3, in other words for one credit hour of clinical it is equivalent to 3 hours of clinical time
Funding Opportunities

- Change the ratio of simulation time ratio to 1 hour of simulations = 2 hours of clinical
  - There is no evidence on this, however many schools are beginning to count simulation time twice as much as clinical time in pre-licensure education because of the intensity of the time in simulation. Example schools doing this include NYU.
  - If this is done, the ratio needs to be done across the courses not just sporadic and intermittently
Other Funding Ideas

• Most institutions are charging students a technology fee for simulations – simulations are integrated in health professional programs across the nation – all are doing this and trying to figure out a way to cover the costs.

• Costs are delivered to the student

• Costs are figured by developing revenue models from the simulation centers for the week-ends, for deliverables such as training, curriculum models, competency testing, etc.

• What is your approach in your nursing program? How can you be strategic, fund, and promote the best?
Types of Simulations you can expand and incorporate in your simulation space

- Teamwork
- In-situ simulations
- Virtual – second life
- Deliberative practice
- Unfolding cases
- Real life patients
Teamwork Collaboration

- Team skills such as a mega code, ACLS training, and other types of scenarios that are team-based can be done in a simulated environment using high-fidelity simulations.
- Example AHA grant – training teams for ACLS
In-Situ Simulations

• In-situ simulations: Simulations occurring in a real-life work setting
• Examples: in BLS in a neonatal unit; emergency situation occurring in an ED
• Kneebone, et al, (2005) recreated real world pressure by conducting simulated scenarios within an authentic clinical space
• In situ-simulations reproduce the condition of real practice
Moving Out Of The Classroom:
In Situ Education
Simulations in-situ
Deliberative Practice Curriculum

6 Essential Components:

• Highly motivated learner
• Good coach/teacher
• Perform well-defined tasks
• Appropriate level of difficulty
• Receive immediate feedback
• Opportunity to repeat performance to address and correct errors

*Ericsson & Lehmann, 1996, pp. 278-279
Research Using a Deliberative Practice Model

Can APNs perform accurate cardiovascular assessments after completing the Harvey curriculum?

Is there a significant difference in nursing skill performance and clinical diagnostic reasoning pre-post testing?
Unfolding Simulations/Cases

- Cases unfold at different times, in the same course, across the course, or across a nursing program.
- This type of case realistically simulates the real life patient interaction because learners experience the uncertainty and unpredictability of an actual, evolving clinical case (Karini, et., al., 2004).

Examples:
- Patient admitted to E.D. – sepsis
- Patient on the unit – hypotensive
- Patient transferred to ICU
- Patient discharge
Unfolding Cases – Teaching Students Differently
Unfolding Simulation Cases STAGES

Template for Unfolding Cases

Monologue 1
Monologue 2
Simulation Scenarios
Finish the Story
Instructor Toolkit
Hello, my name is Millie. I live in Minnesota in the same house for the last 50 years. Harold and I raised Dina here and we had many good years together as a family. Harold passed last year. He was 91 you know, and I miss him terribly. I think about him every day. Snuggles, my cat, keeps me company.
Real Life- Patients, Interactions

• Teacher as the Patient
• Interacts with students in real-time
• Masks-up; so real life, students don’t focus on the instructor as the patient

Cyril Smith Video
Instructor as Standardized Patient
Summary

• There are many different approaches to conducting clinical simulations
• Select an evidence-based approach – understand why we do what we do.
• Consider different strategies to fund clinical simulations so they can be integrated in your nursing program
• Faculty development to create and implement simulations is necessary (this has policy implications after the NCSBN study results)
• Evaluate what is going on in your simulation center – is it working? Is the environment being set-up for optimal learning and outcomes?
Goal for Using Simulations: Optimal Student Learning for High Quality Patient Care


References


Questions & Answers