Simulation in Health Care Education

Education Grand Rounds
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Disclosure

Neither Roger or Barbara have any commercial relationships to disclose.
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Disclaimer

We are not experts
We are students, only a bit farther along than the rest of you (and significantly behind some of you.)
We want to spark discussion and sharing
We reserve the right to ask you questions
  – Who has experience in medical simulation
  – Who hopes to add medical simulation to the “toolbox”

We had 5 ½ long days of simulation and stimulation. (47.25 Category 1 credits)

Led by Jeffery Cooper, Robert Simon, Dan Raemer, Jenny Randolph, Jim Gordon, Peter Weinstock, John Cannon.
The Institute for Medical Simulation was born out of the Aviation Industry (Flight Simulators/Crisis Resource Management) led by the Harvard Anesthesia Department. It inherited an emphasis on error prevention and prompt response to emergencies (from aviation).
It now includes MIT and BU faculty and extends to all 5 Harvard Affiliated Hospitals and most clinical departments, especially Anesthesia and OB, both of which get 10% discounts on malpractice coverage.

Simulation can be seen as including standardized patients in office settings—interview, exam and people skills.

We will not include that aspect here today.
Medical Simulation as conceived by the IMS is oriented more to procedures and emergency-responses

OR/Anesthesia, ICU and ER scenarios are typical; equipment malfunction and stress are routine.

They recommend (and practice) strict verisimilitude—in costume, equipment and action

They attempt to stay in character throughout the simulation—until the voice of God calls an end to the simulation
They try not to let the “patient” die

It’s amazing how involved you can get with a plastic mannequin.

It’s all on video for debriefing and review.

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Crucial Elements

- Objectives thought out, but not too rigid
- A Scenario leading to intended objectives
- Ground rules for the center and its rooms
- Stress, reality, but not too much
- Skillful debriefing—this is where the lessons are teased out, solidified, and generalized.
- Judgmental, but with good judgment.
Debriefing

**Goals**
- Participants make sense of, learn from, and apply simulation experience to change frames and actions
- Maintain psychological safety and give accurate evaluative feedback

Debriefing

**Process**
- Reactions

- Understanding

- Summary
Debriefing

Reactions—clear the air and set the stage for discussion

- Feelings
  - How to deal with upset reactions

- Facts

Debriefing

Understanding—understand what happened and explore deeper meaning

- Exploring using techniques of advocacy/inquiry—be curious!
- Applying
- Generalizing
Debriefing

Summary—review what was learned and ensure the single scenario is put into a larger context

Big messages of the CMS course

Using simulation, we can teach skills AND communication, personal interactions, professionalism, and teamwork—some of the most difficult competencies.

All trainees can experience/manage low-frequency, high risk situations without threat to the patient. No need to accidentally be on call the night this situation occurs.
Big messages of the CMS course

- Trainees learn better when “activated”, “unfrozen”, even upset.

- Trainees can learn faster-not dependent on which patient you saw (or didn’t see), more uniform experiences across the “class”.

- Using simulation, we can evaluate our trainees more uniformly, but not without stress and pressure on them.

Big messages of the CMS course

- We can teach patient safety/error prevention/QA based on our own recent mishaps

- We must pick our lessons; not all topics lend themselves to simulation—we can/should animate the appropriate parts of the existing curriculum and the QA process.
Additional Audiences

- Residents—Surgical programs
- CME audience (Perinatal group first)
- Faculty—learn how to use it; get discount
- Nurses and other allied health professionals—in real-world teams
- OUMC Quality group, Enterprise Leadership Council

CSETC
The Dr. Sheila M. Crow and Dr. Richard D. Husband Clinical Skills Education and Testing Center

- Where we stand
- Floor plan/utilization
- Recording/debriefing
- Funding
- Who is going to use it for what?
- Needs for the short and long term
Topics for discussion

- Mannequins: it’s not the dummy, dummy!
- Floor plans
- Stationary vs. portable equipment
- Digital video, archiving software
- Backstage and storage space. etc.
- Standardized patients

Debriefing as the central learning tool of simulation;
- Reaction, decompression, emotional response
- Understanding what happened
- Summary--Synthesis/generalization

Judgmental but with good judgment.

Do we use it for evaluation?

Pass/Fail vs. less threatening models
Topics for discussion

- Mobile possibilities (movable equipment, based in the center, allowing simulations to be run elsewhere)

- How to incorporate the standardized patients (or hybrids of people and mannequins/monitors) into the floor plan and video system.

Topics for discussion

- Resources we need relating to the various capabilities, especially staffing

- Research opportunities

- Effect of stress on trainees and our preparation for it