The Role of Simulation in Interprofessional Learning and Assessment

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Types of Simulation

• Mock procedures
• Role play
• Actors
  – Standardized patients
  – Standardized family members
  – Standardized health care providers
• Partial task trainers
  – “ResusciAnne”™
• Complex task trainers
  – IV arms
• Human patient simulators
  – Adult, pediatric, and neonatal simulation
  – High fidelity, full human body
  – Body parts
    • Mouth and jaw for dental simulation
    • Arm for blood pressure check, intravenous access, immunizations
Use of Simulation in Health Sciences Education

- Procedures
  - Intubation
  - Catheterization
  - Vascular access
  - Dental surgery
  - Physical examination
- High risk/low frequency events
  - Obstetrical delivery
  - Rescuscitation
  - Anesthesia
  - Disaster response
Use of Simulations in Pharmacy Education

- Injections
- Blood pressure
- Code team or emergency response
- Medication dosing and initiation (e.g. PCA)
- Patient interviewing
- Teamwork

WSU Community pharmacy emergency simulation, 2010, with permission

Expanding Our Horizons 2010 Annual Meeting and Seminars
Learning together using simulations

Opportunities

• Improves communication
  – speaking up against a perceived power gradient
  – making recommendations
  – receiving input
• Controlled application of classroom learning
• Skill development
• Demystifies “real world” stress
• Facilitates professional role appreciation and development

Challenges

• Finding common learning times in curricular schedules
• Curricular mapping is required to sync time availability between schools
• Simulator expense, prep, and maintenance
• Dedication of faculty or staff
Sharing Education

• **Common Competencies (39 for UW health science schools!)***
  – Team collaboration
    • TeamSTEPPS program for UW
  – Clinical competency
    • reasoning and critical thinking
  – Health systems, professionalism, ethics, legal
    • Professional identify and role development

• **Educational overlap between programs**
  – Experiential training
  – Coursework
    • Health and society
  – OSCEs, standardized patients, simulations

• **Faculty time and expertise**

*Participants are referred to the UW poster and presentation at AACP 2010*
Finding Common Ground for Learning Together

- Classroom
  - Common topics
- Clerkship
  - The patient
- Practice
  - The patient
  - Team-oriented care
    - Diabetes
    - Geriatrics
    - Intensive care
    - Emergency medicine
    - Disaster response
Simulation Assessment: Target your observation

• Behaviors, Attitudes, and Skills
  – Individual performance
  – Group performance
  – Teamwork

• Knowledge
  – Individual
  – Team

• Roles
Simulation Assessment: Preparation & Follow-up

– Set expectations for performance
– Control for factors you are not evaluating
  • Facilitate practice and comfort with simulator
  • Level the knowledge playfield
  • Clarify roles
– Debrief
Macy Simulation Assessment:
Short Form

<table>
<thead>
<tr>
<th>Overall Ratings</th>
<th>No</th>
<th>Yes</th>
<th>Yes, but</th>
<th>Yes, but</th>
<th>Comments?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Structure</td>
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<tr>
<td>Identifies goals, assigns roles/responsibilities, holds members accountable</td>
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<tr>
<td>Leadership</td>
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<tr>
<td>Utilizes resources, delegates tasks and balances workload, conducts briefs, huddles, and debriefs, empowers members to speak freely</td>
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<tr>
<td>Situation Monitoring</td>
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<tr>
<td>Includes patient/family in communication, cross monitors members and applies the STEEP process, fosters communication</td>
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<td>Mutual Support</td>
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<td>Advocates for the patient, resolves conflict using Two-Stage rule, CBS and DISE Script, works collaboratively</td>
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<tr>
<td>Communication</td>
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<tr>
<td>Provides brief, clear, specific and timely information, seeks and communicates information from all available sources uses SBAR, call-outs, check-backs and handoff techniques</td>
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**No:** Multiple critical behaviors absent or poorly performed.

**Yes, but:** Most critical behaviors present but some performed unacceptably.

**Yes:** All critical behaviors present and performed acceptably.
Sample Simulation Assessment:
Interprofessional Communication and Teamwork
Assessment Rubric
* adapted from ISIS Difficult Airway Tool or AHRQ Simulation Grant tool
** adapted from TeamSTEPPS Team Performance Observation Tool

<table>
<thead>
<tr>
<th>Assessment</th>
<th>1 = No</th>
<th>2 = Yes but</th>
<th>3 = Yes</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td><strong>Group</strong></td>
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<tr>
<td>1. All team members involved.*</td>
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<td>2. Duties negotiated appropriately.</td>
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<td>3. Resolved conflicts/disagreements.*</td>
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<td>4. Roles shifted appropriately and as needed.*</td>
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<td>5. Actively shared information.**</td>
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<td>6. Overall, team functioned effectively.</td>
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<tr>
<td><strong>Individual</strong></td>
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<td>1. Listened to team input.</td>
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<td>2. Interacted appropriately with team members.</td>
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<td>3. Advocated for appropriate care based on identified role, speaking up against a perceived power gradient, if necessary.</td>
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<td>4. Functioned as effective team member.</td>
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UW and WSU collaborative Draft Assessment, 2009
Macy Project Aims

• To **develop a simulation-based, team training program** to improve teamwork skills that include interprofessional communication, collaborative learning and leadership among health professional students and faculty.

• To **conduct a randomized, controlled validation study of the impact of a simulation**, based, team training program on students’ interprofessional teamwork skills as measured by an innovative Web-based assessment tool.

• To **disseminate this training program** to other health sciences schools by creating an exportable **“Interprofessional Training Toolkit”**.

• To **determine health professional students’ perceptions** of the value of simulation-based team training in their future practice “teamwork skills”
Lessons Learned...so far

• Pay attention to attitudes and preconceived notions of faculty
  – Faculty or clinicians are at different levels of interprofessional experience and attitude
  – Workshops or group facilitation are helpful for unpacking beliefs, correcting assumptions and providing “ground rules” for working together
  – Role modeling is a key influence

• Curriculum can lead or get in the way
  – Curricular mapping is a critical first step to interprofessional education
  – Curricular change requires top-down support
  – Champions in each school are vital
  – More than just the “early adopters” are needed to facilitate true curricular change
  – Non-practice faculty are an important part of the interprofessional education discussion

• Simulation
  – A great tool for facilitating practice
  – Practice is needed to be successful in the simulation
  – Well received by students and faculty
References