Building a Simulation Center: An Exercise in Teamwork or Build It and They Will Come

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Learning Objectives

• Participants will discuss key considerations prior to building a simulation center
• Participants will learn the nuts-n-bolts about building a lab, including location, equipment, personnel, technology, etc
• Participants will identify options for sustaining the lab such as marketing, funding
Disclosures

• I have no financial or other conflicts of interest to disclose
What Is Simulation

• Little confusing about what will be included
  – High Fidelity Mannequins
  – Low Fidelity Mannequins
  – Task Trainers
  – Standardized Patient Centers
  – Virtual World /Virtual Reality
  – Could be some..could be all
What is Medical Simulation Center

• Mimics a medical environment for clinical training, research, device development and evaluation

• Simulated testing involves collection of data (users) utilizing a device in realistic situations
So Let’s Think Ahead
Circle of Learning

- Knowledge acquisition
- Skills Proficiency
- Computer simulation or Self-directed learning
- Team simulation learning
- Clinical practice
What Will Center Provide?

• Innovative & interactive learning environments
• Research opportunities
• Self directed learning for students
• Facilitated group learning for students
Why Build the Center

• **Short Term Goals** *(6-24 mon)*
  – Meet inter-professional curriculum requirement
  – Accreditation
  – Reduce medical error

• **Long Term Vision** *(2+ yrs)*
  – Bring high quality medical care or personnel to area
  – Provide research facility for quality patient care
What Type of Center Fits Your Mission

- **Simulation Centers**
  - Hospital & University Simulation Centers
    - Student centers & clinical training
    - Typically evening & weekends
    - Costs 2-5K per day
  
- **Commercial Simulation Centers**
  - Open to public
  - High end mannequins & medical equipment
  - Competitive with research facilities
  - 2-10K per day

*Note: 84-90% owned & operated by med school or hospital*
What Currently Exists

- Think About... space, what they have
- What are the biggest challenges they face
- Will this impact your lab
- Will you work together
- Can we develop a consortium
Current Lab

• **Challenges/inadequacies in the current lab:**
  - ___ Space
  - ___ Storage
  - ___ Out-dated equipment
  - ___ Not enough equipment
  - ___ Inadequate training on equipment use
  - ___ Faculty-to-learner ratio
  - ___ Faculty Shortage
  - ___ Other

• **Obstacles we will face**
  - ___ Time
  - ___ Facilities
  - ___ Skills acquisition
  - ___ Limited Clinical sites
  - ___ Funding
  - ___ Need Certification
  - ___ Scenario Development
  - ___ Other
Let’s Embark on the Journey To Build a Center
Building A Successful Team

Steering Committee
Top-level *executives who provide guidance* on overall strategic direction

Project Coordinator
*Organizes* meetings, acts as liaison, implements decisions, keeps project on track

Core Project Team
- Architects, planners, administrators, engineers, specialists and end-users selected for their expertise, creativity, flexibility and reliability as well as ability to communicate and collaborate
- *Responsibility and authority for final decisions*

Expanded Project Team
- *Contractors & representatives* from other departments
Identify the Stakeholders

- Decision Makers
- Students
- Graduates
- Community Members
- Prof Associations
- Academic Staff
- Administration
- Donors/Foundations
- Med Staff/doctors/nurses
- Technology Dept

- Supportive
  - Y
  - N
  - Don’t Know

- Y
  - N
  - Don’t Know

- Y
  - N
  - Don’t Know

- Y
  - N
  - Don’t Know

- Y
  - N
  - Don’t Know

- Y
  - N
  - Don’t Know
Who Will Be Involved

• Build a database of this information
  – Contact Information
  – Best time to reach
  – Role in the process
  – Anyone else in the same facility

• This will be needed by the organizer to set meetings, presentations, etc.
Location of Lab

• Proximity to your constituents
• Parking
• Access issues...nights/weekends/days only
• Security issues

• Note: 60-75% centralized at the med school or hospital
Who Will Use the Lab

• ___ Nursing
• ___ Medicine
• ___ Respiratory Therapy
• ___ Physical Therapy
• ___ Allied Health
• ___ EMS
• ___ Healthcare
• ___ Military
• ___ Occupational Health
• ___ Other
General Ideas About Lab

- Check in area for participant arrival
- Lobby or waiting area for pre-sim explanation
- Additional conference rooms for debrief?
- Control room...
- Sinks/water
- Storage areas
- Lab rooms...how many, sizes, access
- Sound proof
- Observation area
Details About the Facility Area

• Current Need
  # of beds/workstations
• Square footage
• # of faculty
• # of learners
• AV per bed/room
• Manikins
• Simulators
Facilities & Funding

- **Current Need**
  - Ratio stations to teaching
  - Ratio of beds to manikins
  - Locked storage
  - Other storage
  - Maintenance of Lab
  - Laundry
  - Sharps disposal
  - Security equipment

- **Future Needs**
Audio/Visual/IT

- Cameras....how many, zoom, pan, placement
- Microphones...lapel, overhead
- Telephone...control room or sim room
- Mounted medical equipment on wall
- Portable supply storage
- Laptop/iPad & Wave Form Screen
- Infrastructure Technology...
General Staffing Ideas

- Sim Lab Director
- Case developers----physicians/nurses?
- Sim Coordinator..logistics, clerical support
- Sim Tech
- Do you need a manager...run numbers, markets the lab, promote lab, get $
## Details: Teaching Faculty & Other Personnel

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<th>Title/Role</th>
<th># of Staff</th>
<th>Frequency</th>
<th>Schedule</th>
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<tr>
<td>Sim Facilitator</td>
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<td>Sim Support</td>
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<td>Other Teaching Staff</td>
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<td>Other</td>
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</tbody>
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Equipment Considerations

- Adequate Storage
- Expertise in using equipment
- How often simulators used?
- Pre-packaged scenario use?
- Scenarios on the fly?
- Write Scenarios to align with curriculum
- Need instruction in programming?
Equipment List

• Basic Simulators/Task Trainers
• Patient Simulators...baby/child/adult/OB?
• Web-based Simulation
• Self-Directed Learning
• Virtual Reality
Curriculum of the Lab

• Look back at your users
  – What do they need
  – What could you offer to enhance their programs/courses
  – What is primary focus on the learners
Programs/Courses/Disciplines

• ___ Certified Nursing Assistant (CNA)
• ___ Certified Registered Nurse Anesthetist (CRNA)
• ___ Dental Hygiene (Assistant or Hygienist)
• ___ EMS (Basic, Intermediate, Paramedic)
• ___ Fire / Rescue / Law Enforcement
• ___ Nursing
  – LPN
  – APN
  – BSN
Programs/Courses/Disciplines

• Graduate /Professional
• ___ Allied Health
• ___ Physicians/Residents/Medical Students
• ___ Pharmacy
• ___ Respiratory Therapy
• ___ Surgical Technology
• ___ Other
Curriculum

• Integrate into existing courses
• Comfort level of faculty
• Need curriculum development
• When in curriculum will be introduced
Assessment & Evaluation

• What measurements for outcomes
  – Decision making
  – Communication
  – Teamwork
  – Critical thinking
  – Skill Acquisition
  – Core Competency Assessment
Simulation Funding

• Has a budget been determined
• How will the current project be funded
• What %age of budget has been allocated for:
  – Equipment and furnishings
  – Personnel
  – Faculty Development
  – Initial Training Costs
  – Sustainability planning (ongoing funding)
  – Projections for growth
Where Does Money Come From

• Need grant writing or fundraising to sustain
• Research opportunities to help fund
• Need to develop income stream
  – Dept. pay for services
  – Salary coverage come from institution
  – Can you build courses to offer for money
  – Donor relations opportunity
Summary

• Why Building a Lab
• Team of Stakeholders
• Considerations about
  – Location of Lab, Space, Equipment, Personnel, Curriculum & Funding
Thanks for Sharing Your Knowledge

QUESTIONS/COMMENTS