A loop montage of images, questions and statements related to the subject of simulation and education. This piece is to run while attendees are getting settled in their seats prior to the start of the session.

**As Real As It Gets: Simulation and Education**
October 2, 2012
10:00 AM – 11:00 AM

**Presenters**
- CDR Lisa Baker  
  Head, Education, Lovell FHCC
- Dr. Norman Lee  
  Medical Director, Simulation Center, Lovell FHCC
- Lawrence Doyle  
  Architect, Lovell FHCC
- Casey Frankiewicz, AIA  
  Principal, Director of Healthcare, Legat Architects, Inc.
- L. William Nattress III  
  Associate Principal, Shen Milsom & Wilke

**Disclosure Statement**
The presenters do not have any financial, professional or personal conflict of interest to disclose regarding the content of this presentation.
Session Objectives

- **Describe** the role of simulated environments in medical professional training for civilian and military scenarios
- **Identify** innovative methodologies to enhance knowledge, validate expertise, and promote safe patient outcomes while enhancing staff development
- **Resolve** challenges that health care providers face when bringing new layouts and technologies into dated spaces
- **Transform** obsolete facilities into centers that bridge educational and clinical programs with spaces that are realistic, adaptable, and recordable

Simulation: As Real As It Gets

- Movie clip to demonstrate the final phase of the Tactical Combat Casualty Care Course in which we train deploying health care team members to care for patients in a simulated battlefield condition

Lovell Education Center of Excellence

- Creating the future of health care through our unique partnership and combined focus of “Readying Warriors and Caring for Heroes”
- How did we identify the needs of our combined federal facility?
  - Active Duty and Reserve Communities
  - VA Civilians
  - Military and Civilian Academic Affiliations

Innovative Possibilities

- Create an Education Center of Excellence to support
  - Information Resource Center (Medical Library) / Café lounge
  - Academic Affairs (Graduate Medical Education)
  - Simulation Center
  - Computer Resource Center
  - Lecture Halls / Multi-purpose Training Spaces
  - Expressive Arts / Virtual Recreation Center
• Medical simulation is becoming critical to the health care field
• Need to identify cost-effective solutions for an interdisciplinary health care team
• Identify a centralized approach to GME simulation training requirements
• Failure to invest has an impact on
  – Patient safety
  – Quality of staff
  – Retention

• Traditional clinical simulation environments
  – Medical Surgical Unit
  – Rapid Response
  – Telemetry
  – Code Blue training
  – Critical Care
  – Invasive monitoring
  – Critical Care Management
  – Code Blue training

• Emergency Department
  – Team training
  – Code Blue
  – Patient Flow

• Operating Room
  – Airway Management
  – Virtual Reality
  – Part Task Skills Lab
  – Procedural Training
  – High Risk – Low Volume

• Facility Specific Needs
  – Prehospital Care (Apartment)
  – Home Health Nursing Care
  – EMT Partnerships
  – Green House & Homes

• Dental Suite
  – Moderate Sedation
  – Airway Management

• Debrief Conference Rooms
  – Critical post event debrief sessions
Lovell Education Center of Excellence

- Military Medicine
  - Battlefield conditions
  - "Stressed" and "Unsterile" conditions
  - Temperature variations
  - Acoustical Envelope
  - Visual Enhancement
  - Audio Stimulation and Distraction

About the Capt. James A. Lovell FHCC

The first fully integrated joint facility of two separate departments of the U.S. Government

James A. Lovell FHCC – The Campus

- 40 miles north of Chicago
- 40 miles south of Milwaukee
- 1 mile west of Great Lakes Naval Base and Lake Michigan

James A. Lovell FHCC - Building 4

Physically and programmatically Building 4 is the:
- "Central hub for the campus"

The new vision for a Center for Education reinforces building 4’s role to an even greater extent.
The Canvas

• **History**  (always offering something for everyone)
  - Original building dates back to 1920s and housed the library and recreation services
  - A large addition was added in 1958 and provided the following services:
    - 750 seat theater with full performance stage &atern bowling alley, chapel, credit union,
    - barber shop, a music studio with individual practice rooms, a canteen, and retail stores

• **Physical conditions**
  - Deteriorating infrastructure and obsolete technology
  - 'Old School' environments that are inadequate/ill-suited to support modern day training

• **Construction challenges**
  - Portions of existing programs to remain operational during renovation

James A. Lovell FHCC - **Building 4**

- **Existing configuration and its historical evolution:** 81,697 S.F.

<table>
<thead>
<tr>
<th>Ground Floor Plan</th>
<th>First Floor Plan</th>
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</thead>
<tbody>
<tr>
<td><strong>1926</strong></td>
<td><strong>1958</strong></td>
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<tr>
<td><strong>1958</strong></td>
<td><strong>1926</strong></td>
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**Existing services and program spaces**

- Education & Training
- Theatre
- Bowling Alley
- Chapel
-VRU

**Physical Conditions**

- **Exterior**
  - Original 1926 Building (Bourke Hall)
  - 1958 Addition

**James A. Lovell FHCC - Building 4**
Physical Conditions
- Learning environments

Physical Conditions
- Infrastructure and technology

The Canvas
- Scope: New vision for Campus Services/ Education
- Budget: < $10 M
- Timeline: 6 Months

Planning Precepts
- Create: “a new image and feel for adult learning”
- Establish: “a continuity and quality of design”
- Express: “the diversity of the learning environments”
- Integrate: “real world experiences and flexibility”
- Ensure: “design supports the technical program”
- Apply: “sustainable practices”
• Discuss, analyze and assimilate the “Vision”
• Detail the space program encouraging *wish list ideas*
• Balancing a multiple perspectives and conflicting priorities
• Clarify the limitations of the existing building
  • Circulation (integral to the extensive tramway system of the campus)
  • Structure and infrastructure
  • Accessibility
  • Sacred spaces 2 (OK-limits / cosmetic changes only)
★ Free the stakeholders of any preconceptions
Process Development

- Conceptual Plan
  1. Appropriate re-definition of facility 'Front Door'
  2. Clear and direct 'way finding'
  3. Learning zones that promote interaction
  4. Celebrated access points for key programs
  5. Containment with visual connectivity

The Education Center of Excellence

- Development plan
  - Marriage of educational & health care environments
  - Connectivity between program components
  - Supports a comprehensive continuum of learning
  - Responsive and flexible to shifts in the industry
  - An advanced technology infrastructure
  - A trainee focused facility that will engage and encourage those who come here to learn new skills, re-certify existing qualifications and further their education

The Education Center of Excellence

- Notable Sustainable Features
  - Water efficient landscaping
  - Water efficient plumbing fixtures
  - Repurposed bowling alley flooring as wall material in VRC
  - Energy efficient Lighting
  - Recycled materials
  - Low-emitting materials
  - New energy efficient mechanical system

The Education Center of Excellence

- Design Development
- Final Development
Part Task Skills Lab

Critical Care Simulation

Dental Simulation

Surgery Simulation
The Purposes of Simulation

- Enhanced learning of job functions
- Process Evaluation
- Procedural Preparation
- Research

Simulated Patient Data

Capture of Room Events
Debrief the Event

Virtual Tour Map

1. Entrance
2. Arena entrance
3. Café & medical library
4. Biomedical Laboratory
5. Gym
6. Gymnasium, Theater
7. Retail, Recreational Center
8. Gymnasium, WC
9. Simulation Center Reception
10. Exam / Oral Examination
11. Exam / Oral Examination
12. Oral Examination
13. Critical Care Unit
14. Critical Care Unit
15. Oral Examination
16. Oral Examination
17. Oral Examination
18. Oral Examination
19. Oral Examination
20. Oral Examination

Virtual Tour Video

Questions