Simulation in Chicago

Ernest Wang, MD, Interest Group Chair and Newsletter Editor

It was great seeing all of you at the SAEM meeting in Chicago. As evidenced by the standing room only situation in the room, enthusiasm for simulation in our specialty continues to grow.

This issue will highlight the news from the Annual meeting, the upcoming 2008 AEM Consensus Conference, and the area of education.

It is clear that simulation is now entering the next phase of maturation, no longer a “novel” teaching method. It is up to us as a group to demonstrate, in a quantifiable manner, what we intuitively believe - that simulation, properly utilized, is an effective tool for learning and training.

Simulation Selected as Conference Topic

The big story in simulation at the meeting was the announcement that simulation was selected as the topic for the 2008 Academic Emergency Medicine Consensus Conference in Washington DC.

The proposal, spearheaded by James A. Gordon, MD, MPA, and jointly sponsored by the SAEM Simulation Task Force (now the Technology in Medical Education Committee) and the SAEM Simulation Interest Group, is titled “Simulation in Healthcare: Defining and Developing Clinical Expertise.”

On behalf of the Task Force, Bond et al. have recently outlined avenues of investigation for simulation in their recent paper, “The Use of Simulation in Emergency Medicine: A Research Agenda” (AEM 2007;14:353-64). The report argues that advanced simulation technologies will fundamentally alter the landscape of medical education and practice. It suggests that in the future, physicians (much like airline pilots) will not be able to practice medicine without having trained and demonstrated their expertise in a simulated environment.

The Consensus conference proposal outlined three tracks, each designed to concentrate on a key area of simulation and clinical expertise: individual cognition and critical thought; team performance and communication; and technical/action skills. MANUSCRIPT SUBMISSIONS FOR THE AEM SPECIAL TOPIC ISSUE ARE TYPICALLY DUE BY MARCH 1.
Highlight: Education

William C. McGaghie, PhD, from the Office of Medical Education and Faculty Development, Northwestern University, was the featured speaker at the interest group meeting, and also was the keynote at the Didactic Session on performance metrics (see below).

Dr. McGaghie’s lecture, entitled “What are the features and uses of high-fidelity medical simulations that lead to effective learning? A BEME systematic review,” reviewed the article of the same name (Medical Teacher, 2005) and provided a historical review and synthesis of the high-fidelity simulation literature over a 34-year period.

According to Dr. McGaghie, the three most important conditions that facilitate effective learning are:

1) Feedback is provided during the learning experience
2) Learners engage in repetitive practice
3) Simulation is integrated into the overall curriculum

The authors further reviewed a subset of the articles in the BEME review with adequate data for quantitative analysis (McGaghie et al. Medical Education, 2006) and discovered that a dose-response relationship exists between hours of simulation-based practice and standardized learning outcomes.

CORD Meeting Simulation

Dr. Teresa S. Wu and Dr. Salvatore Silvestri from Orlando Regional Medical Center conducted two simulation sessions at the 2007 CORD Annual Academic Assembly: a beginner’s track (So you want to start a simulation program? Tips, Tricks, & Potential Pitfalls) and an advanced track (Beyond the Basics: Bringing Simulation Theory & Technology Together).

Eduardo Salas, PhD, director and trustee chair of the Institute of Simulation and Training at the University of Central Florida and an expert consultant to the airlines industry, and his team have been working with Dr.’s Wu and Silvestri to develop the SMARTER Approach to Simulation Based Training (Simulation Module for Assessment of Resident Targeted Event Reponses).

The goal of their approach is to provide a validated and reliable method for linking and assessing EM resident performance and ACGME core competencies. Data from the SMARTER Approach is currently under review and pending publication.

In other news, Steve McLaughlin, MD has been named CORD Simulation Chair and will be working to arrange collaboration between CORD and SAEM to foster develop educational curricula and case.
Based on its work during the 2-year Task Force term (2005-7) the SAEM Simulation Task Force has been elevated to standing committee status, under the name “Technology in Medical Education.” Jim Gordon will remain the chair. A summary of Task Force work and simulation resources can be found on the SAEM website at www.saem.org, go to Education/Simulation.

A brief summary of the Committee meeting in Chicago:

**Old Business:**
Summary of 2005-7 work, including
- SAEM/AAMC Simulator Case Collection
- Publication of research agenda paper
- Initiation of simulator consult service
- Informational papers for membership
- Website development

**Guest Reports**
- AEM Editorial Board/Consensus Conference
- CORD simulation committee

**New Business**
- **CONSENSUS CONFERENCE** (main topic)
- White paper on simulation in GME
- Collaboration with ACEP/CORD
- Continued development of case bank

**SAEM Simulation Didactic Session Discusses Metrics**


The keynote speaker was William McGaghie, PhD, Professor of Medical Education at Northwestern University, who provided a superb academic overview of performance assessment in medicine, and detailed the state-of-the art in simulation-based metrics.

**2008 AEM Consensus (cont.)**

**PROPOSED DRAFT OF CONFERENCE OUTLINE**

**Morning Plenary: Defining Clinical Expertise--The Metrics of Performance Assessment**
- **Keynote 1**: The Art and Science of Performance Assessment in Medicine
- **Keynote 2**: ABEM and the Board Examination in Emergency Medicine

**Concurrent Consensus Tracks: Simulation and Clinical Expertise (Defining Expertise)**
- **Consensus Track 1**: Individual Cognition and Critical Thinking--Individual High-Stakes Examinations to Certify Clinical Expertise
- **Consensus Track 2**: Team Performance and Communication--Crisis Resource Management: The Metrics of Group Performance
- **Consensus Track 3**: Technical and Action Skills: Overview--Procedure Labs and their Transference to the “Real World”

**Lunch Session: Does the Biomedical Paradigm Apply to Educational Research? The Role of Social Science in Studies of Clinical Expertise**

**Afternoon Plenary: Developing Expertise—How to Create and Maintain High Performance**
- **Keynote 3**: The Development of Expertise among Medical Professionals
- **Keynote 4**: High-Performance Team Training and Crisis Management in Medicine

**Concurrent Consensus Tracks: Simulation and Clinical Expertise (Creating Expertise)**
- **Consensus Track 1**: Individual Cognition and Critical Thinking—Creating and Maintaining Provider Expertise
- **Consensus Track 2**: Team Performance and Communication--Creating and Debriefing Expert Teams
- **Consensus Track 3**: Technical and Action Skills—Learning and Maintaining Procedural Competence

**Consensus Discussion and Summary**
**SIG Subsection Reports**

1) **Education Research and Methodology - Chair: Dr. Linda Spillane**

Drs. Spillane and Fernandez discussed issues related to assessment in simulation based on their study. Several points were discussed:

a) Make sure you know what your assessment tool is really measuring before starting your study;

b) Simulation evaluation may be a “moving target.” Over time, increased exposure to the technology may affect performance;

c) Teaching occurs in debriefing, not so much in actual simulation; Discuss group cognitive dynamics as part of debrief;

d) Utilize audience response system to assess real knowledge;

e) Standardize behavioral markers and critical actions while keeping scenarios flexible

2) **Simulation Technology - Chair: Dr. Nowecki**

A discussion was opened relating to the various technologies used in medical education and how to best categorize them. These range from High Fidelity Human Patient Simulators and virtual reality down to simple task trainers. The group discussed the development of a web based discussion thread that could serve as a resource for those planning/developing simulation based curriculum. This would allow the sharing of experience and opinions about current technology as well as assist in new technology development. A solicitation for subcommittee members from the interest group was made. Consensus was that this would be a good use of time.

3) **Patient Safety - Chair: Dr. Bond**

Dr. Bond presented a brief background on patient safety by Dr. Bond. This was followed by a presentation by Dr. Vozenilek on his AHRQ funded project looking at ED handoffs. Preliminary findings indicate that ED handoffs are often associated with significant gaps in information transfer. The significance of these gaps is unknown. The culture of the ED is the main impediment to good handoffs and simulation may be able to create insight that can lead to change in practice.

4) **Educational Product and Content Development - Chair: Dr. Lammers**

Dr. Richard Lammers, set two goals for the subcommittee: 1) Recruit more members; 2) Locate, evaluate, and catalog educational simulation products in at least 8 categories.

The list of categories, which is expandable, includes:

a) mannequins & partial-task (or procedural) trainers,
b) Objective Structured Clinical Examinations (OSCE’s);
c) props & adjuncts to simulations;
d) courseware development products;
e) audio/video products;
f) computer-based (screen-based) simulations;
g) simulation-based assessment tools; and
h) courses, workshops, & curricula. Once identified and evaluated, these products will be posted on the SAEM Simulation Interest Group website. Emergency Medicine educators will be able to use this “library of simulation resources” to build their own curricula.

Dr. Lammers recommended four, widely-used simulation websites that are relevant to Emergency Medicine:

1) SAEM Simulation Interest Group website [http://www.emedu.org/sim/](http://www.emedu.org/sim/)

2) MedEdPORTAL [www.aamc.org/mededportal](http://www.aamc.org/mededportal)


5) Advanced Initiates in Medical Simulation (AIMS) [http://www.medsim.org/](http://www.medsim.org/)

Dr. Lammers reported on the MedEdPORTAL project and encouraged SIG to submit their work for review and inclusion in their website, and to utilize the work of others. Details of the AAMC MedEdPORTAL website can be found at the link above.
Academic Announcements

**James Gordon, MD, MPA**, Director of the Gilbert Program in Medical Simulation at Harvard Medical School and Assistant Professor in the Department of Emergency Medicine at Massachusetts General Hospital, is currently serving the second year of his elected term as Treasurer of the Society for Simulation in Healthcare, having been on the Board of Directors since the society's inception.

**John Vozenilek, MD**, Assistant Professor at Northwestern University was appointed the Director of the Northwestern McGaw Simulation Network, Feinberg School of Medicine.

**Elliot Rodriguez, M.D., F.A.C.E.P.**, Assistant Professor at SUNY Upstate Medical University was awarded a two-year grant by the American Geriatric Society to develop a geriatric curriculum.

2007 EM Simulation Abstracts

**SAEM Abstracts**


**Simulation in Healthcare Abstracts**

(T Presented at the 7th Annual International Meeting on Simulation in Healthcare: January 14-17, 2007 * Lake Buena Vista, Florida.)

Teresa S. Wu, MD; Salvatore Silvestri, MD, FACEP. Emergency Medicine High Fidelity Simulation Case Selection: Who should decide?: Research Abstract: 16.

Rosemarie Fernandez; Dennis Parker; James Kalus; Douglas Miller; Scott Compton. Use of Human Patient Simulation-Based Training to Teach Interdisciplinary Team Skills in a Doctor of Pharmacy Curriculum.: Research Abstract: 30.

Salvatore Silvestri, MD, FACEP; Teresa Wu, MD. How does Varying the Scenario Strategy Change the Case Selection Utilized in High Fidelity Simulation Training for Emergency Medicine Residents?: Research Abstract: 50.

James A. Gordon; Steven W. Lockley; Erin E. Evans; Christopher P. Landrigan; Charles A. Czeisler; Erik K. Alexander. Correlation of Physician Performance in a Simulator-Based Environment to Actual Error Rates in the Intensive Care Unit (ICU).: Research Abstract: 43.

2007 EM Simulation Publications


Anil Shukla, BS; Daniel Kline, BA; Ajith Cherian, BA; Ashley Lescanec, BS; Adam Rochman, MD; Claire Plautz, MD; Mark Kirk, MD; Keith E. Littlewood, MD; Cathy Custalow, MD, PhD; Rajagopalan Srinivasan, PhD; Marcus L. Martin, MD. A Simulation Course on Lifesaving Techniques for Third-Year Medical Students. Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare. 2(1):11-15, Spring 2007.

Ernest E. Wang, MD; John A. Vozenilek, MD; John Flaherty, MD; Morris Kharasch, MD; Pam Aitchison, RN; Abra Berg. An Innovative and Inexpensive Model for Teaching Cricothyrotomy. Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare. 2(1):25-29, Spring 2007.


2007 EM Simulation Presentations and Educational Sessions


Society for Simulation in Healthcare, 7th Annual International Meeting on Simulation in Healthcare, Orlando, FL, Jan 14-17, 2007
Jessie Nelson, MD, Beth LaVelle, “Applying Basic Educational Theory to Simulation - AKA A Rookies’ Guide to Teaching With Simulation” and “They Don’t All Code - Using High-Fidelity Simulation To Train Rapid Response Teams”.

CORD Academic Assembly, Orlando, FL, March 2007
Sal Silvestri, MD, Teresa Wu, MD and Eduardo Salas, PhD. “So You Want to Start a Simulation Program? Tips, Tricks, and Potential Pitfalls” and “Beyond the Basics: Bringing Simulation Theory and Technology Together.”
Ernest Wang, MD, “Increasing the Realism of Simulation Training.”
Jessie Nelson, MD, Regions Hospital, “Combined Conference on Communication Skills.”

Lawrence Proano, MD, clinical associate professor of emergency medicine, Robert Partridge, MD, associate professor of emergency medicine, David Lindquist, MD, of the Rhode Island Hospital Medical Simulation Center and assistant professor of emergency medicine, and Peter DeJager, MD, senior resident in emergency medicine, conducted lectures and advanced medical simulations in Dublin, Ireland to train Irish clinicians in acute care, airway management and teamwork behaviors at the Royal College of Surgeons in Ireland (RCSI) “Updates in Emergency Medicine” course on April 18-20, 2007.

New York Simulation Symposium in Medical Education: The Emergency Medicine Experience
May 9th, 2007
Simulation in Medical Education: New Horizons
Haru Okuda, MD, Director of Simulation, Department of Emergency Medicine, MSSM
Starting a Simulation Center: Experience after 10 years
Adam Levine, MD, Director of HELPS Center, Department of Anesthesiology, MSSM
Creative Funding Strategies: Money and time
Andy Godwin, MD, Director Simulation Training Center, Dept. EM, University of Florida
Integrating Simulation into the Curriculum
Charles Pozner, MD, Director Stratus Center, Harvard Medical School
The Interdisciplinary Approach
Leo Kobayashi, MD, Director, Rhode Island Hospital Medical Simulation Center, Brown School of Medicine

Frank Overly, MD, assistant professor of emergency medicine and co-director of the Rhode Island Hospital Medical Simulation Center, conducted advanced medical simulations during the Ambulatory Pediatrics Association national meeting in Sturbridge, MA on May 13, 2007.

2007 SAEM Annual Meeting Didactic Session, Chicago, IL, May 19th, 2007
Simulation as a Training Tool: Where are the Metrics?
Andy Godwin, MD, University of Florida College of Medicine/Jacksonville
James Gordon, MD, MPA, Massachusetts General Hospital/Harvard Medical School
Michelle Sergel, MD, Assistant Professor of Emergency Medicine, Rush Medical College
William McGaghie, PhD, Northwestern University Feinberg School of Medicine
2007 EM Simulation Upcoming Events

Steve McLaughlin, MD, University of New Mexico, will be conducting the simulation curriculum at the ACEP 2nd annual Advanced Teaching Fellowship (ATF) this year on September 8th-10th, 2007 at the University of New Mexico. The ATF is targeted at graduates of ACEP’s core teaching fellowship. The ATF focuses on expanding the educators skills set outside of the basic lecture/small group discussion. The curriculum includes sessions on bedside teaching, curriculum development, web based teaching, and a seven hour introduction to human simulation. The simulation curriculum includes an overview of the history of simulation, foundations of adult learning, and simulation research. The learners also have time for hands on programming with both METI and Laerdal systems and intensive instruction in scenario development and debriefing. This course is a great way to develop advanced skills in education including human simulation, and to network with other EM educators. More information can be found on the ACEP website, www.acep.org, or contact Dr. McLaughlin at SMcLaughlin@salud.unm.edu.

8th Annual International Meeting on Simulation in Healthcare
Fostering Excellence through Innovation and Collaboration
Marriott San Diego Hotel & Marina, San Diego, CA
January 13, 2008 - Pre-conference and Post-graduate courses
January 14-16, 2008 - General Sessions, Workshops, Exhibits

2008 AEM Consensus Conference
SAEM Annual Meeting
May 29-June 1
Marriott Wardman Park Hotel, Washington DC.

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Got something to announce? Want to write an article? The deadline is December 1, 2007!

Contact me: ernestwangmd@yahoo.com

Disclaimer: I realize that this is only a partial listing of all of our simulation endeavors. My apologies for any inadvertent omissions.

If you have any abstracts, presentations, or articles you would like to announce, please email me so you can be recognized!