

The Center for Medical Simulation

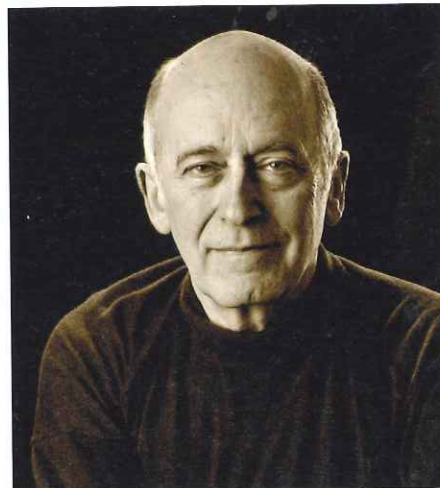
Entering its third decade of service to the international healthcare community the Center for Medical Simulation is expanding the simulation and training envelope for healthcare practitioners, reports Group Editor Marty Kauchak.

The Center for Medical Simulation (CMS), one of the world's pioneering simulation organizations, is this year celebrating its 21st anniversary. CMS has an array of simulation activities, all focused on its mission to use simulation to improve safety, quality and education in healthcare. Founded first to serve the main academic medical institutions affiliated with Harvard Medical School (HMS) (Massachusetts General Hospital, Beth Israel Deaconess Medical Center, Boston Children's Hospital and Brigham and Women's Hospital), CMS has expanded its reach over the past two decades and now serves an international community of simulation educators.

Jeffrey B. Cooper, PhD, the founder and executive director of the Boston-based CMS, has dedicated his career to patient safety, having won many national honors for his leadership. He founded CMS because he saw that simulation was a great way to train clinicians to be safer and improve the overall system safety, as well as the process of education and training. Cooper, a biomedical engineer, is also Professor of Anaesthesia at Harvard Medical School and faculty member in the Department of Anesthesia, Critical Care and Pain Medicine at Massachusetts General Hospital. Cooper completed a wide-ranging interview with Marty Kauchak, Halldale Media Group Editor, on August 15, 2014. An extract of the interview is provided.

Earliest Adopter of Simulation

CMS is an unusual healthcare simulation organization. It is an independent non-profit organization, with its own board of 14 trustees, who represent various Harvard Medical School-affiliated institutions. The Center's "employees" are actually em-



ployees of the Massachusetts General Hospital organization leased back to the non-profit.

CMS uses its status as an independent non-profit for flexibility in being a neutral source of expertise for the independent HMS organizations. But, CMS' status has also allowed it "to do things that were more broadly disseminated and not just local," Cooper said. That status also permitted the Center a helpful degree of entrepreneurial freedom. Indeed, this is the author's first instance

Above CMS is also focused on team training. Here, hospital non-clinical management team participate in simulation as part of the CMS Healthcare Adventure program.

Image credit: Jeffrey B. Cooper, PhD.

Left Jeffrey B. Cooper, PhD, founder and executive director of the Boston-based CMS.

Image credit: Jeffrey B. Cooper, PhD.

of a simulation center official attributing entrepreneurial freedom as important to his or her organization.

"While we are a complicated organization," Cooper said, "this is the way we bridge these really innovative, vibrant hospitals and the medical school, by working with all of them in creative ways."

When *MEdSim* spoke with Cooper, the Center was preparing to celebrate its 21st anniversary with what promised to be a festive party and learning experience (including juggling and salsa dancing) on September 19. Cooper, as the facility's founder and Executive Director, recounted three of many instances through the decades in which CMS helped introduce and advance learning technologies in the healthcare professions.

Cooper initially pointed out that CMS was one of the "earliest adopters of simulation in the modern era." It wouldn't have happened without the ideas and support of David Gaba, MD, a founding father and pioneer in healthcare simulation and now a close colleague of Cooper's. "We borrowed shamelessly from the concepts that David Gaba and his team developed at Stanford. I realized that by doing so, we sent a message: 'Hey, if the Harvard-affiliated hospitals are adopting this concept from Stanford, this is important.'" The community leader recalled that CMS "received the first mannequin off the CAE-Link production line."

Another of the Center's leading contributions to healthcare learning was establishing the Institute for Medical Simulation (IMS). "That came about from our recognizing that for simulation to be effective, the world needed teachers who could use simulation effectively." IMS was developed with support of a grant from the Josiah Macy, Jr. Foundation (<http://macyfoundation.org/>) which focuses its support on improving education and training of healthcare professionals.

Cooper believes that the Institute for Medical Simulation is "the world's premier simulation instructor program," now having more than 2,700 graduates. Indeed, instructor training has become an academic focal point for CMS. We've become an international organization with graduates representing over 30 different countries and instructor programs being offered in Spain, Australia, Hong Kong, Singapore and in South and Central America (via CMS' affiliated Hospital Virtual Valdecilla in Santander, Spain).

From a broader perspective, the Center also viewed simulation as an enabler for developing healthcare faculty of all types and interests. "Generally, healthcare educators don't take the time to get educated as educators, and then practice and train. Yet simulation created this feeling: We need to learn how to do that."

MEdSim watches its sister publications examine simulation and training developments in other high-risk communities, *MS&T* for the military and *CAT* in civil aviation. One nexus among the healthcare, military and civil aviation communities is the effort to strengthen the feedback (debriefing) process following a learning technology-enabled scenario.

CMS has developed sophisticated models of debriefing for its training audiences – and with good reason. Cooper stated that debriefing effectively after simulation experiences is not a natural talent for most faculty. "If you aren't trained or have a lot of experience, many people start out with a very simplistic idea about how to tell the student what they have to do to perform



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better – that is not the best way for us adults to learn new behaviors,” he pointed out, and continued, “Doing a good debriefing is the toughest part of making simulation effective.”

CMS is also focused on team training, which it has done for years for various teams that work in areas requiring quick responses to critical situations. But, CMS has taken the state-of-the art beyond the healthcare teams in ORs, intensive care units and emergency rooms. To expand this learning focus, the Center has programs for administrators, leaders and managers in this field. “I am not alone in thinking that the key to healthcare working well, not just for patient safety but for all of healthcare, means healthcare teams working more effectively – moving beyond independent practice of people working on their own. Creating good teamwork is especially challenging in healthcare because physicians specifically have been trained to be independent and work on their own,” Cooper remarked.

Business Models

When asked how CMS obtained its funding through the years, Cooper said the organization has not been highly dependent on grants during its more than two decades of existence, but it had received key funding at pivotal points along the way with grants from the Fannie E. Rippe Foundation (<http://rippelfoundation.org>) and the Josiah Macy Jr. Foundation. In a broader discussion about the Center’s business model, Cooper pointed out that any simulation center, whether a non-profit, state-funded or organized otherwise, is a business.

While CMS has received important grants through the years and used the funds very effectively, Cooper reflected on the critical role of internal support of the anesthesia departments at the four hospitals affiliated with Harvard Medical School. They provided much of the support for CMS’s operations in the early years and have continued to be strong collaborators. “It wasn’t through a grant. Rather, the departments used their combined discretionary funds to pay for key faculty and staff. And, there was much volunteer effort from faculty as well. The key for us early on was really relying on internal, not external resources.”

The Center’s successful funding efforts from internal and external sources aside, Cooper gave some well-earned advice for the leaders of any simulation organization: “You constantly have to be networking and looking for opportunities and putting yourself out there for new ideas, and making all types of new connections and relationships – you never know when you will meet the right person where there is a connection to what you are trying to accomplish and what their interests are.” He added, “That’s where the opportunities are.”

Patient Safety and Beyond

CMS’s vision for the next five years is fairly simple Cooper said: the Center wants a healthcare system where nobody practices on patients until they are really competent to do so. “This is where simulation has its strongest utility – the deliberate practice can happen in simulation, beyond ever having to try things out in the real situation until you are really ready.”

Cooper further emphasized that CMS is a patient safety organization, with its basic vision that simulation is a strong element toward radically reducing adverse events of all types that can result from people not working at their maximum level of performance. He added, “We are constantly pushing ourselves toward better understanding of how simulation can best help people learn.”

To that end, CMS also operates as an innovation organization, avoiding high enrollments and small return on investments. Of little surprise, the Center’s focus on instructor training is one such high leverage effort. “If you teach one instructor, that person teaches many more people,” he reasoned. And Cooper revealed the Center wants to help other simulation centers train still other instructors, since it cannot itself train “all the instructors in the world.”

This author advised Cooper that returns on investment (ROIs) were becoming increasingly important in simulation and training portfolios in the military and civil aviation communities, and then asked about ROIs at CMS.

Cooper indicated the Center’s primary stakeholders, its board members, are not seeking financial ROIs. He was

quick to add that what the board is asking is, “Are we meeting our mission; are we doing good for the world; and are we financially sound? The answers are all ‘Yes.’”

One of CMS’s more intriguing constituents is CRICO, the provider of medical professional liability coverage, claims management and patient safety resources to the Harvard-affiliated hospitals. Cooper noted that the insurer provides lower premiums to anesthesiologists, obstetricians and surgeons in high risk specialties at Harvard medical institutions for completing CMS courses. “The insurance company is a stakeholder and looking for a return on investment. Its actuaries believe the courses we are sponsoring are sufficiently effective toward reducing adverse events to give substantial lower premiums to this very large class of physicians throughout the Harvard medical institutions.”

Eye on the Close-in Horizon

The Center’s major business focus is instructor training. Indeed, “there is going to be more of that. Our goal is to have every healthcare educator in every professional domain understand and use the concepts that we have been teaching for debriefing – and we’re expanding that to giving feedback, not just debriefing after simulation. This is about how teachers can learn how best to give feedback to their students of any kind in any setting. It’s about developing that relationship between student and teacher. We’re expanding our programs in that direction. We expect to keep innovating on how best to do this”. (Cooper planned to illustrate in his party presentation, which was to be posted on the CMS website, the future of how this might be done)

To establish lifelong learning and continuous self-improvement, CMS is also creating a community of practice among its graduates so they can interact and work peer-to-peer – online.

And finally, the Center’s core of programs on the clinical side (anesthesiology and others) will continue and be expanded into the community. “We use those courses to push ourselves – to continually innovate and to help people learn faster and better,” the executive director concluded. **medsim**