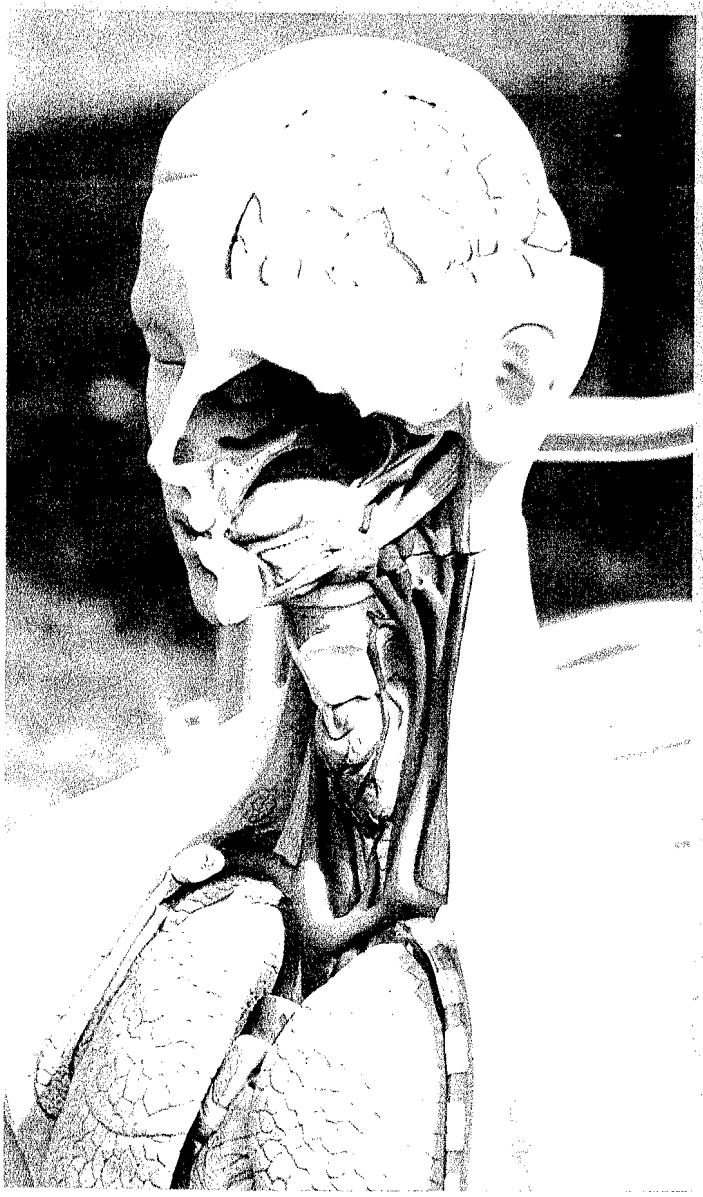
simulation comes

Medical education has, since the time of Hippocrates, :en based on the old "see one, do one, teach one" model of prenticeship.

Even with the emergence of simulation technology – such the Harvey mannequin, which mimics cardiac conditions – althcare training has largely been a process of learning theory llowed by supervised clinical practice. The result: practitioners th gaps in their procedural experience, and patients whose fety and lives are at risk because their healthcare providers are ll learning on the job.

Thankfully, this less-than-ideal status quo appears to finally changing as more educators, hospitals, and other althcare stakeholders begin to recognize the critical role of nulation in improving healthcare education and, ultimately, tient outcomes.



"Simulation is quickly becoming an extremely important tool in medical education and in many respects a cultural change engine in health care at large," says Dr. Amitai Ziv, founder and director of the Israel Centre for Medical Simulation. "The future is, finally, here and we're seeing simulation being adopted rapidly in various sectors of healthcare, including applied health professions."

Indeed the number of simulation centres in Canada and around the world has grown in the last decade from a scant handful to more than 100 in such countries as Canada, the United States, Australia, Germany, Israel and the United Kingdom.

A 2005 survey by the Canadian Patient Safety Institute (CPSI), a non-profit organization with offices in Ottawa and Edmonton, pegs the number of simulation centres in Canada at 17. Since that survey, at least one more simulation centre – the McGill Medical Simulation Centre at McGill University in Montreal – has been added to the total.

"We're definitely seeing more and more simulation centres worldwide," says Dr. Kathryn Parker, director of research at Michener. "What's also interesting is how these simulation centres are being used today; even though they were initially driven by the need to acquire profession-specific skills, a growing number of these centres are also being used for inter-professional learning involving practitioners from multiple professions."

Michener, which has been using simulation in education for years, is already on the CPSI list. But its presence on the list will take on a greater significance in 2009 when construction on the new Michener simulation centre is expected to be finished.

While educational institutions around the world have been busy building simulation centres, researchers have been prodigiously compiling evidence on the effectiveness of simulation, says Parker.

"Research in the area of simulation has also grown in recent years," she says. "I think this speaks to the growing recognition that simulation is effective on so many levels."

Experts agree that simulation-based education, which involves the use of tools and technology to simulate various patient conditions and responses to medical intervention, delivers far better results than the traditional apprenticeship model when it comes to teaching profession-specific skills.

Where anesthesia residents used to make up the large majority of simulation users in Canada, many students from other healthcare disciplines are now seeing simulation integrated into their school's curriculum. In fact, the CPSI found that 64 per cent of these centres offered training for programs

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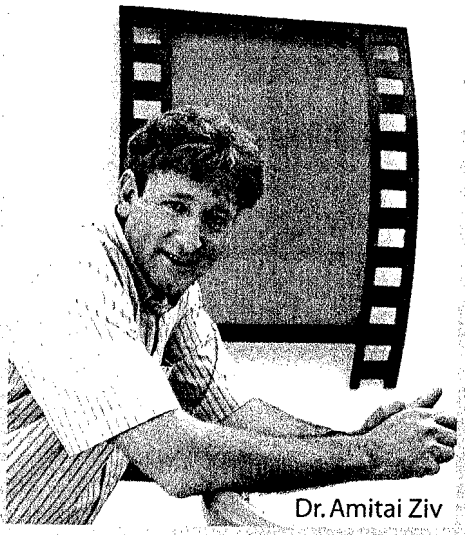
such as practical nursing, respiratory therapy and technology, paramedic, air ambulance, quality assurance.

But its value extends beyond the acquisition of hard skills. At Michener, for instance, simulation is also used to recreate real-life scenarios where students would be working with practitioners from other professions, thus arming them with collaborative skills within an inter-professional environment.

Michener also uses simulation to assess students' competency and ensure a standardized learning experience for everyone.

While simulation has come a long way in medical education, it still has quite the journey ahead of it, says Dr. Ziv.



Dr. Amitai Ziv

For simulation to fully deliver on its value as an integral part of healthcare training, it needs to be fully embraced by all industry stakeholders, including health ministries and regulators.

The latter group needs to start incorporating simulation-based learning as part of licensing exam requirements, says Dr. Ziv.

"The healthcare industry needs to fully embrace simulation as a must-have and must-use component, instead of seeing it as – a nice-to-have experience," he says. "That's where we need to be with simulation, and we're getting there."

The payoff at the end of the journey will be more healthcare practitioners who will be more competent and, consequently, also more confident. But, ultimately, it is patients who stand to win the most, says Dr. Ziv.

"By applying simulation-based training, we will be allowing students to make mistakes while they train without compromising patients' safety," he says. "When all is said and done, this really is the most important goal of all." – Marjo Johne

Dr. Amitai Ziv is a world renowned expert and pioneer in the fields of medical simulation and healthcare competency assessment. In 2001, Dr. Ziv founded and is currently Director of the Israel Center for Medical Simulation at Chaim Sheba Medical Center. Dr. Ziv was first exposed to simulation-based training when serving as a combat pilot, and later instructor, for the Israeli Air Force. A collaboration between Dr. Ziv and Michener led to the development of the first Ultrasound simulator and the launching of MedSim©, a company dedicated to the development of simulation technology.

Dr. Ziv trained as a Pediatrician at Hebrew University – Hadassah Medical School in Jerusalem with sub-specialties in Adolescent Medicine (University of Pennsylvania) and Medical Management. Dr. Ziv has served as a consultant for the Educational Commission for Foreign Medical Graduates International Clinical Skills Assessment (CSA) programs worldwide.

In May 2007, Dr. Ziv was awarded the 2007 Charles Bronfman Humanitarian Award. The award celebrates the vision and talent of an individual or team under 50 years of age, whose humanitarian work has contributed significantly to the betterment of the world.

Amitai Ziv (C) accepting his Honourary Diploma from Paul Gamble, President & CEO (L), and Cathy Fooks, Chair, Board of Governers (R)