

A Case Study



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Hartford Hospital incorporates Laerdal® MicroSim™ into training curriculum for more efficient use of time and resources

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The Challenge

The United States is facing a nursing shortage. The problem is expected to get worse as baby boomers leave the workforce. Some studies have found that 55% of nurses planned to retire between 2011 and 2020. Nursing programs are trying to expand enrollment, but are faced with limited instructors, space and budget for training. Schools of nursing are turning away qualified students because there is simply not enough faculty to teach them.

Because of these issues, some educators have started researching other options for educating students. One of these is self-directed learning.

Microsimulation

One type of self-directed learning program is microsimulation. In medical education, microsimulation is the use of a computer-based simulator in which realistic patient cases are presented, treatment is provided and a debriefing is given. This technology can greatly enhance the educational process.

Compared to eLearning, microsimulation does not follow a linear learning path, but rather opens up to all possible actions and results of the scenarios. If mistreated, the patient will follow the natural pathological route and might even die.

In order to bring such reality to the educational experience, microsimulation makes use of medical, physiological models. Used effectively, it can increase efficiency of instructor time and effectiveness of classroom time. It can be used outside of the traditional classroom setting for pre-class use for better preparation; post-class use to reinforce classroom instruction; and for remediation. Microsimulation provides for a multitude of clinical experiences to be presented.

The Customer

Hartford Hospital, one of the largest medical centers in New England, is located in the south end of Hartford, Connecticut. The hospital was founded in 1854 when a catastrophic explosion created the need to treat the many

injured. Today, Hartford Hospital is a major tertiary care and community health care center, serving a statewide patient population.

The Simulation Center at Hartford Hospital is the centerpiece of the hospital's quest to revamp the educational system and step into the future of how medical education will be delivered during the 21st century. It is responsible for training and maintaining the professional skill level of healthcare professionals across 12 divisions of Hartford Hospital. The healthcare professionals include patient care assistants, nurses, physicians, residents, respiratory therapists, massage therapists, as well as flight medics attached to the hospital's helicopter unit. About 90% of the students attending continuing education at the center are working at Hartford hospital.

The Journey

Classes are conducted with only one permanent staff at the center, and often an educator assigned to the specific student group participates in the instruction. This allows the center to train about 20-25 healthcare professionals a day with courses ranging from 2 hours to 8 hours.

Increased demand from surrounding hospitals/EMS programs put pressure on the already stretched staff resources to train more healthcare professionals. However, the healthcare professionals need to be systematically addressing patients, so the Director of the Simulation Center, Stephen Donahue, BS RRT, began researching innovative solutions to maximize their time.

The Discovery

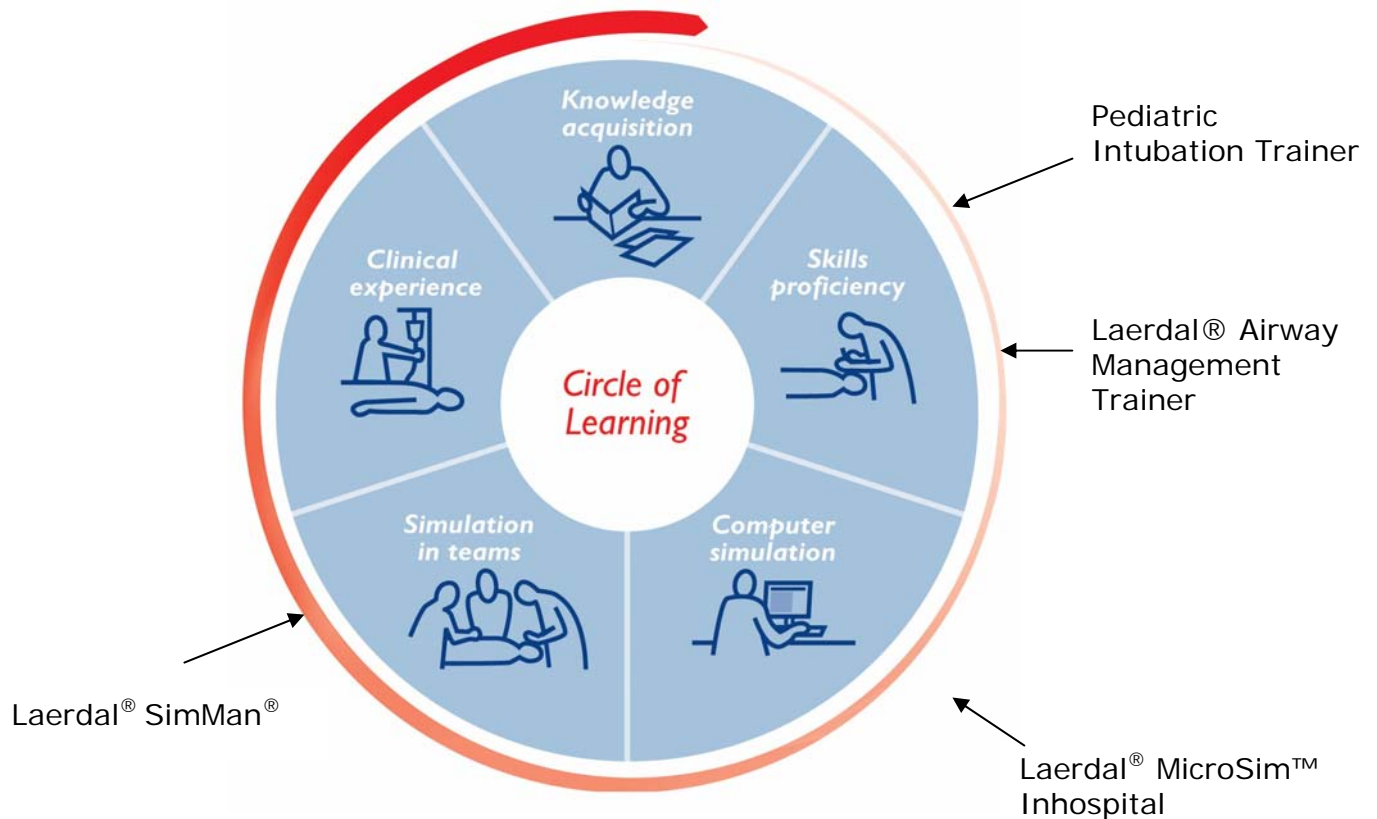
Laerdal® MicroSim™ was presented to Stephen Donahue at a Simulation User Group Meeting in 2004. He was given a 90-day license during which he tried the program. After the trial, he was ready to purchase.

The Solution

After getting approval from Hartford Hospital, Donahue decided to incorporate MicroSim™ Inhospital as an integrated part of all their courses. It is used:

- as an assessment tool to profile strengths and weaknesses of the students.
- to alleviate students' tension and raise confidence level before going to the Laerdal® SimMan® simulation room.

MicroSim is just part of a complete training curriculum within the Circle of Learning. Along with classroom instruction, Donahue uses a variety of task trainers for skills proficiency.



The Implementation

MicroSim has been used since 2004 on six computers in the Center's computer lab before every simulation. For 15-20 minutes the healthcare professionals are instructed to complete two cases within a module. Each participant is assigned different cases within the same module in order to minimize interaction between them. Upon completion of the cases, the instructor

reviews the debriefings and learning experience with each healthcare professional before the Laerdal® SimMan® simulation starts.



The Results

Donahue experienced the following results by incorporating MicroSim into the curriculum:

- Happier, better prepared, and more confident healthcare professionals
- Competitive nature of healthcare professionals engaged to do better
- Faculty spending less time teaching basics and addressing individual skill levels
- Faculty is experiencing more compliant healthcare professionals
- Faculty resources are being used more efficiently
- Healthcare professionals better understanding and applying AHA guidelines
- More healthcare professionals are being trained with the same resources

Donahue says, "I believe MicroSim is a vital addition to any simulation program."

Student Matthew Farnham says, "It was an invaluable experience. It really helped improve my critical thinking skills."

Laerdal® MicroSim™

Laerdal MicroSim provides self-directed learning through the simulation of realistic patient scenarios. It is a computer program that simulates medical emergencies and procedures to help learners develop decision-making skills. The technology uses medical models to bring reality to the educational experience with automated intelligent debriefing for immediate medical feedback. The program is configurable to the needs of the educator.

MicroSim Inhospital presents cases that are set to the hospital environment. The learner can use tools and drugs that are available in the hospital. The case below illustrates how MicroSim can solve educational and economic needs for a hospital setting.

Laerdal® MicroSim™ comes in three versions: Inhospital, Prehospital and Military. All provide an easy-to-use interface, realistic patient scenarios, a highly configurable system and automated, intelligent debriefing. The In-hospital version is fully AHA compliant.

Laerdal is currently offering a free upgrade of MicroSim In-hospital to follow the new 2005 Guidelines. This is good for those who purchased the product after August 25, 2005. This free upgrade is good through June 30, 2007.

For more information or a free product demo CD, call 877-523-7325 or visit our website at www.laerdal.com.

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