

*Patient Safety Starts Here*  
2012 Year in Review



PENNSTATE HERSHEY



Clinical Simulation  
Center

# Our Mission

The mission of the Penn State Hershey Clinical Simulation Center is to improve patient outcomes with effective programs that promote and enhance practitioner skills, clinical competence, teamwork, and interdisciplinary collaboration. To advance the field of healthcare simulation, the Center conducts innovative research into simulation theory, practice, and technology.

[www.pennstatehershey.org/web/simulation/home](http://www.pennstatehershey.org/web/simulation/home)

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*Message from the Simulation Center Director*

## Calling all Simulation Enthusiasts...



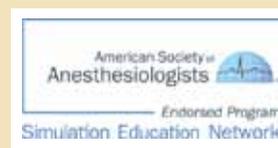
Since its inception three years ago, the Penn State Hershey Clinical Simulation Center has been a leader in state-of-the-art simulation to improve healthcare skills and advance patient safety. This past year, the center again set high standards for the development and implementation of simulated clinical settings for research, training and education.

Sim Center research projects continue to break new ground with studies such as an evaluation of a new training mode to improve hand-motion skills for ultrasound-guided regional anesthesia (Sanjib Adhikary, Anesthesiology) and using simulation to practice end-of-life discussions for pediatric patients (Robert Tamburro, Jr., Pediatric Critical Care).

New training opportunities were added as the Sim Center formally welcomed the Resuscitation Science Training Center (RSTC) as part of the team. RSTC classes in ACLS, BLS and PALS are now taught at the Sim Center. Other teamwork scenarios, such as the First 4 Minutes exercise, have spread beyond Hershey to workshops around the country.

On the education front, we have recruited a nationally recognized educator, Dave Rodgers, to serve as Operations Manager. Dave brings management experience as well as curriculum design expertise that will serve our simulation faculty well.

Reflecting our commitment to excellence, the Sim Center has achieved the highest standards as evidenced by our international accreditation with the Society for Simulation in Healthcare. Our center also is endorsed by the American Society of Anesthesiologists and recognized as a Level 1 Accredited Education Institute by the American College of Surgeons.



The following pages offer a glimpse of the Clinical Simulation Center's many achievements and innovations in 2012. I am excited to share them and welcome your comments.

Regards,

**Elizabeth Sinz, M.D.**

Associate Dean of Clinical Simulation  
Director of Patient Safety Simulation  
Professor of Anesthesiology and Neurosurgery  
Penn State University College of Medicine





## Research

### *Expanding the Frontiers of Knowledge*

The Sim Center is home to a number of research projects aimed at solving complex problems in health care and advancing patient procedures and practices. These projects, only a few of which are described below, range from evaluating a new training model to improve hand-motion skills to assessing a training program for radiology residents.

#### **Visual Assessment of Blood Loss in Caesarean Delivery—A Simulated Study**

Sonia Vaida, Anesthesiology, assessed how three different groups—obstetricians, anesthesiologists, and midwives—visually estimate blood loss during caesarean delivery.

#### **Improving New Graduate Nurse Competency: The Effects of Simulation and Didactic Learning on Critical Thinking Ability in a Hospital Orientation Program**

Sally Rudy, Nursing Education, explored the effects of a critical thinking intervention, which combined classroom teaching and high-fidelity simulation, as part of a hospital-based new nurse orientation program.

#### **Fiber Optic Exchange of the King Laryngeal Tube—Comparison of Two Techniques in a Manikin**

Arne Budde, Anesthesiology, is studying two different procedures of fiber optic-guided airway exchange to determine the time needed to achieve an effective airway.

## *Publications, Presentations of Simulation Research Projects*

**Effect of a First 4 Minutes-BLS Session on Medical Students' Basic Life Support Skill Acquisition & Retention:** Medical student Mehdi Draoua presented this study at the November 2012 American Heart Association meeting.

**Use of a Simulation Laboratory to Train Radiology Residents in the Management of Acute Radiologic Emergencies:** The American Journal of Roentgenology published an abstract by Nabeel Sarwani, Radiology.

**Using Simulation to Enhance Pediatric Resident Communication Skills with End-of-Life Discussion:** This research on a program developed by Robert Tamburro, Jr., was presented at the International Meeting of Simulation and Healthcare in January 2013.

**Project REDSTAMP and Video Laryngoscopy Library: A Novel Approach to Teaching Airway Management:** Kenji Hamanaka, Emergency Medicine, presented these two projects focused on providers' airway management skills at the October 2012 American College of Emergency Physicians (ACEP) Research Forum.





## Earning Credentials, Assessing Competencies, and Training

### *Advancing Patient Care, Ensuring Patient Safety*

The over-arching goals of the Clinical Simulation Center are advancing patient care and ensuring patient safety. Simulations are key to those goals as they provide opportunities to sharpen skills, build new knowledge, and improve communication. Physicians participate in simulations to obtain credentials required to maintain board certifications. Simulations also can help identify competencies of newly hired therapists and nurses.

The American Board of Anesthesiology requires physicians to participate in an endorsed simulation program for maintenance of board certification. Many of our faculty also teach in the Maintenance of Certification for Anesthesia (MOCA) simulation course offered at the Sim Center.

Faculty in the Emergency Department must demonstrate their intubation skills in the Simulation Center every year to maintain their airway credentials at the Penn State Hershey Medical Center.

Resident-led assessments of mock pediatric codes and their outcomes test emergency systems and preparations for a real code.

Simulations enable residents in family medicine, anesthesiology, and internal medicine to gain communication, procedural and technical skills as well as identify areas for improvement.

To maintain the hospital's Level 1 Trauma Accreditation, all trauma nurses must participate in the Trauma Nurse Simulation Course.

# FIRST 4 MINUTES

The First 4 Minutes is a teamwork-based simulation focused on emergency care that Penn State Hershey requires all residents, nurses, and respiratory therapists to undergo every two years.

The Respiratory Care department has developed a simulation to evaluate the competencies of newly hired pediatric-trained respiratory therapists so as to provide precepting and mentoring.



In 2012, the Central Line Validation Course for hospitalists was refined and expanded to allow for additional practice and a validation certificate.

The Nursing Department addresses hospital-wide and unit initiatives with simulations that assess competencies.

[www.pennstatehershey.org/web/simulation/home](http://www.pennstatehershey.org/web/simulation/home)



## Education

### *Teaching the Nation's Future Healthcare Professionals*

The possibilities for healthcare simulations are vast, limited only by the imagination. The Sim Center supports faculty across every department and discipline in exploring innovative ways to transform their ideas into simulation-based education courses. Below are descriptions of some of 2012's innovations.

The Family and Community Medicine Program developed simulations to promote effective interaction between a standardized patient—that is, a person acting as a patient—diagnosed with diabetes and his family physician regarding the patient's needed lifestyle changes.

Through a simulated-based gastroenterology block, second-year medical students encounter a patient with gastrointestinal bleeding.

Using pediatric manikins, the Pediatric Central Line Course teaches residents the skills required to insert a central line before they perform the procedure on an actual patient. Mary Santos, Pediatric Surgery, developed this simulation.

In the Medication Reconciliation Simulation, third- and fourth-year medical students learn how to work with a standardized elderly patient who “interrupts” a classroom session to request help figuring out the medications her doctor has prescribed. This case, developed by Kelly Karpa, Pharmacology, has been accepted for publication.

The First Three Days, part of orientation, enables residents in Surgery, Family Practice, or Obstetrics, Gynecology and Women's Health, to experience simulated patient care before engaging in actual patient care.



Nursing Education expanded a simulation promoting teamwork and team communication designed for Nursing Education graduate nurses in critical care areas and nurses learning the role of Charge Nurse.

Medical students in “Using Metaphor to Teach Communication Skills: Jazz and the Art of Medicine,” an innovative course designed by Paul Haidet (Internal Medicine), explored new ways to communicate in simulations involving a standardized patient and jazz.

For a complete listing of stimulation-based education innovations, visit our website at:<http://www.pennstatehershey.org/web/simulation/home>



## Outreach

### *Introducing Simulation to the Community*

The Sim Center's annual outreach initiatives reflect its commitment to teaching the broader community about the benefits and potential of simulation-based research, training, and education to advance patient care and improve healthcare skills. In the past year, the Sim Center partnered with local schools, community organizations, state departments, and national associations as part of the following events and programs:

**“Hands-Only CPR Training”**—With instruction by Sim Center faculty and staff, more than 300 community members practiced infant resuscitation and adult CPR using feedback manikins as part of this free event supported by local soccer club Hershey Impact.

**South Central Pennsylvania Resuscitation Academy**—More than 60 regional EMS managers attended this day-long program coordinated by the Resuscitation Science Training Center to teach high-performance CPR and implement the Heart Rescue Project.

**Spartan Academic Medical Experience (SAME)**—Milton Hershey School students, interested in careers in medicine, experienced simulated clinical settings as part of this five-week program coordinated by Harjit Singh, associate dean for diversity.



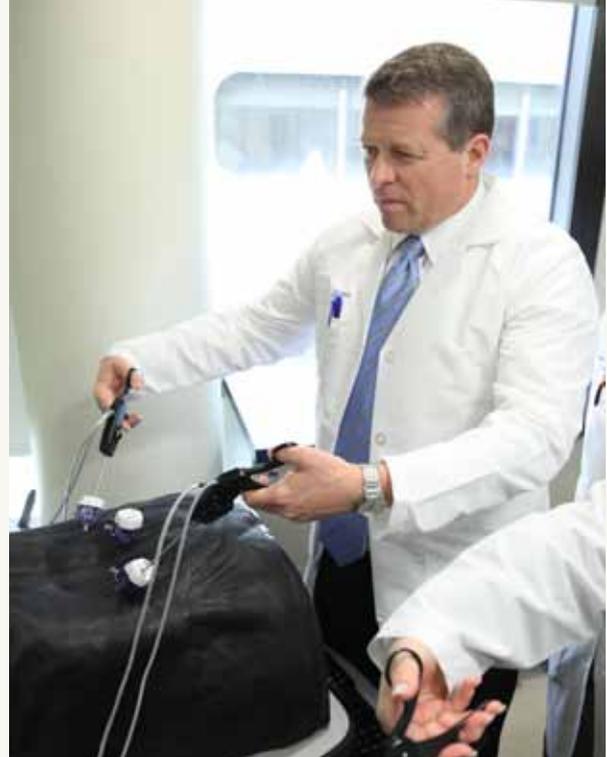
**Penn State Hershey Project Medical Education Program**—Fifteen state and federal policy makers and their staff saw firsthand how simulations are helping to train the nation's future doctors.

The Sim Center also is part of the **Pennsylvania Youth Apprenticeship Program**, a two-year program involving a select group of high school juniors and seniors who rotate throughout the hospital and have internships with various departments.

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*The Sim Center hosts artwork by local students, Penn State Hershey faculty, and professional artists.*



*U.S. Congressman Charlie Dent at the controls.*

*Pennsylvania Youth Apprenticeship Program*



## Curriculum

### *Taking Simulation Beyond Penn State Hershey*

Besides providing education and training to Penn State Hershey staff, the Sim Center also makes four courses available to other healthcare professionals. These programs are taught at Hershey or at requested locations.

**Introduction to Simulation**—This four-hour course introduces participants to the fundamentals of how simulators and clinical simulations work and how to access and use the simulation resources available at the Penn State Hershey Clinical Simulation Center.

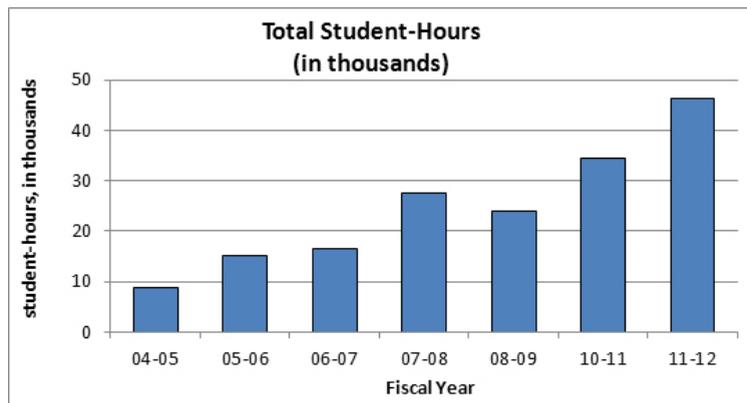
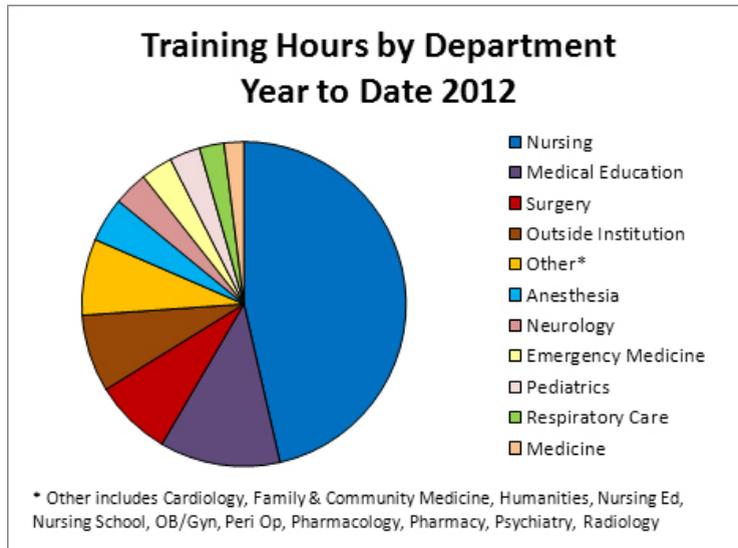
**Teaching with Simulation: An Instructor Course Certification Program**—Offering 30 CME and PSNA credit hours, this comprehensive course offered at Hershey or at requested locations teaches participants the basics of using simulation for healthcare education.

**Using Simulation for Assessment: High Stakes-Low Stakes**—This two-day course is designed for professional staff and advanced simulation educators who want to develop robust simulation-based assessment tools with a focus on Observed Structured Clinical Exams (OSCEs).

**Simulation Technician Training**—As the use of clinical simulation grows, so does the need for trained technicians to coordinate and facilitate simulations. This course provides hands-on training for individuals interested in working with simulation.



# Achieving Objectives



The Sim Center is home to an experienced and dedicated staff who are committed to innovation and excellence.



*Stephanie McCartney, Project Coordinator, and Lisa Mackley, Technologist.*



*Chris Mulvey, Research Coordinator, and Sally Rudy, Simulation Nurse Educator.*



*Lisa Sinz, Associate Dean for Clinical Simulation and Mike Bahry, Administrator.*



*Kelly Anoka and Jennifer Saylor, Technicians.*



*Gowri Reddi, Technician, and Bev Whitman, Record Specialist.*



*Rob Shotto, Lead Coordinator.*

*Monica Griffe and Ann Marie Schupper, Resuscitation Science Training Center, with Tammi Bortner, RSTC Manager.*



*Lisa Mackley, and Jody Wood, Technologists.*



To learn more about the Penn State Hershey Clinical Simulation Center, see our website at:

[www.pennstatehershey.org/web/simulation/home](http://www.pennstatehershey.org/web/simulation/home)

or call: (717)531-4099

To learn about opportunities to support the Sim Center, please contact Kristen Rozansky at [krozansky@hmc.psu.edu](mailto:krozansky@hmc.psu.edu) or call (717) 531-1315.



**Penn State Hershey Clinical Simulation Center**

500 University Drive  
Hershey, PA 17033

The Sim Center is located on the second floor above the George T. Harrell Library, Room C2630D.

To explore opportunities to support the Sim Center, please contact Kristen Rozansky at [krozansky@hmc.psu.edu](mailto:krozansky@hmc.psu.edu) or call (717) 531-1315.

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