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.
Message from the Director

The Penn State Hershey Clinical Simulation Center has never been more active!

In 2015, we saw a twenty-five percent increase in the volume of Resuscitation Sciences Training Center courses thanks to the leadership of Tammi Bortner. She also greatly extended the CPR in Schools program. In other outreach activities, we’ve had a record number of conference presentations by simulation faculty and staff.

Our medical center runs 24/7 and the sim center is here to support it. The addition of a new technologist position gives us the flexibility to support more activities on evenings and weekends.

Our Simulation Instructor Course has continued to receive widespread acclaim from our internal faculty as well as faculty who travel to Hershey to participate. In 2015, we also provided our course for the Cleveland Clinic, Temple University, and the Veterans Administration System, as we help other systems develop their own instructor courses.

We have trained two Simulation Fellows. The first, Dr. Angel Diaz Sanchez, accepted a position as a full time educator with us. Our second Fellow is Susana Larbi Wumbee, a nurse, midwife and educator. She will serve as the first Director for the new Simulation Center at the Mountcrest University in Ghana upon her return to Africa. Our fellows allow us to reach out to the world and bring invaluable input into our sim center. They work alongside our staff and educators as they complete their own unique individual educational plans.

Courses aimed at improving the safety of our patients and staff include the central line placement curriculum and the Ebola preparedness program. By some reports Penn State Hershey was the best prepared health system in the state for Ebola patients. Dr. Cindy Whitener and Lisa Dietz have provided training to a core group of volunteer nurses and other healthcare providers to make us as ready as we can be for any patient in our system with a highly contagious disease.

In the coming year, look for new additions such as the RQI system, advanced surgical training technology, and new construction that better integrates the learning resources in the Simulation Center with the Library. Check in to see what we have to offer to your educational program.

Elizabeth H. Sinz, MD, FCCM
Associate Dean of Clinical Simulation Director of Patient Safety Simulation Professor of Anesthesiology and Neurosurgery Penn State College of Medicine
During 2015, 124 unique course titles were supported or presented by the Clinical Simulation Center. In all, the Center maintains nearly 150 courses in its course catalog. The Center impacts the entire cross section of health care provider education on the Penn State Hershey Campus, for both students and practicing clinicians. Consistent with national trends, Interprofessional Education (IPE) has become an important area of the focus for the Center.

Among the course highlights in 2015:

- The Central Venous Access Course, started in 2013, has been conducted 26 times with 299 participants.
- General Pediatrics started conducting monthly simulation sessions, including in-situ sessions in the Children’s Hospital.
- The Center hosted one day of an Anesthesia Technician conference that brought attendees from across the country.
- Ebola and infectious disease training continued to be a major program with 174 sessions and 441 participants in the Center in FY 2015.
- CRNA continuing education expanded with new scenarios.
- Orthopedic residency simulation-based education continued to grow with new scenarios and tasks.
- The College of Medicine continued to expand its simulation use, especially in the area of new OSCE programs.
- Undergraduate nursing programs from both Penn State Harrisburg and University Park expanded their use of simulation.
- Departments not thought of as traditional simulation users such as Pastoral Care and Environmental Health Services utilized the Center throughout the year for training purposes.
“This was a fantastic week. The group that I learned with was fantastic, encouraging, and fun. The instructors were very welcoming and supportive.”

*Simulation Instructor Course Participant*

“The hands on was great! Learning ultrasound techniques under no stress with no time crunch was beneficial.”

*CVC Insertion Course Participant*

“It helped me learn to work with my team members as an independent group.”

*First Four Minutes Course Participant*
Faculty and staff affiliated with the Penn State Hershey Clinical Simulation Center had 14 peer reviewed publications and abstracts during 2015. Other academic output from the Center included 24 conference presentations and 4 poster presentations. At year’s end, 29 active IRB protocols related to simulation were underway.

Among the major publications were:


Center director Elizabeth Sinz MD coauthored three articles in the American Heart Association 2015 Guidelines for Emergency Cardiovascular Care and CPR.

Posters and presentations were made at national and international conferences during the year. Among the major conferences the Clinical Simulation Center presented at were:

- Emergency Cardiovascular Care Update (San Diego)
- International Meeting on Simulation in Healthcare (New Orleans)
- International Pediatric Simulation Symposia and Workshops (Vancouver, Canada)
- National Association of EMS Physicians Conference (New Orleans)
- Latin American Simulation Congress: Asociacion Latin Americana de Simulacion Clinica 2015 (Santiago, Chili)
- American Heart Association Scientific Sessions: Resuscitation Sciences Symposium (Orlando)
- Society for Teachers of Family Medicine Medical Education Conference (New Orleans)
- Association for Surgical Education (Seattle)

Center director Elizabeth Sinz MD and manager David Rodgers presented at several American Heart Association Emergency Cardiovascular Care Regional Conferences during the year including Philadelphia, Columbus, Kansas City, and Dallas. Dr. Sinz also presented an AHA Guidelines Update in Hyderabad, India.

Simulation Education and Research Fellow

Susana Larbi Wumbee, MHP, MPA, BSN, RM, RN, FWACN, joined the Clinical Simulation Center for a six-month fellowship in Simulation Education. Ms. Wumbee is a native of Ghana where she is the director of the simulation center for Mountcrest University Medical School. Trained as both a Registered Nurse and a Midwife in addition to an extensive public health background, she has used her fellowship opportunity to learn about all aspects of simulation including curriculum design and integration, faculty development, technical operations, and administration. The staff of the PSHMC Simulation Center has been working with Ms. Wumbee to provide consultation services to Mountcrest University as they construct their new simulation facility near Accra, Ghana.
The Resuscitation Sciences Training Center (RSTC) continued to grow, delivering more American Heart Association training than ever before. In 2015, 6,201 learners received AHA training through the RSTC. This was a 26 percent increase over 2014.

The training numbers included:

- 4,497 in Basic Life Support (BLS)
- 1,112 in Advanced Cardiovascular Life Support (ACLS)
- 592 in Pediatric Advanced Life Support (PALS)

188 AHA instructors maintain their certification through the RSTC. This includes:

- 143 BLS Instructors
- 88 ACLS Instructors
- 50 PALS Instructors
RSTC growth has been steady for the past several years. Considering the two-year certification period for most AHA certifications cards, 11,108 individuals had current AHA certification provided by the RSTC at the end of 2015 compared to 7,565 individuals at the end of 2011.

CMN Grant Helps RSTC Expand “CPR in the Schools” Program

A Children’s Miracle Network grant administered by the RSTC helped start American Heart Association CPR in the Schools programs in 12 area schools. The program was highlighted by a training session for school nurses and staff conducted on August 7, 2015.

At right, school nurses from Lebanon practice with one of the new CPR manikins provided in the CPR in Schools kit.

Above, representatives from 11 of the schools pose with one of the training kits. Each kit contains 10 CPR manikins and is supplemented with an AED trainer.
The Standardized Patient Program continued to grow as more courses took advantage of these specially trained patient actors. With over 110 SPs enrolled and over 100 custom designed patient cases, these “simulators” offer highly realistic learner experiences for communications and assessment.

The College of Medicine Regional Campus in State College continued to grow their SP program, adding new patients and courses.

While most commonly associated with the undergraduate medical education and other prelicensure programs such as the PA program, SPs are also involved in resident education, professional nursing education, and allied health professionals education.

Hybrid Simulation Adds Realism

Combining a Standardized Patient and a task trainer simulator, hybrid simulation adds an extra level of realism and context to simulations. Rather than just practice the skill with the task trainer, the learner now needs to interact with a patient while doing the procedure. The task trainer is integrated into the scene and is often disguised as a part of the SP’s body.

At left, SP Eva Lynch looks like she is actually letting the learner insert a needle into her knee. In actuality, the knee is a task trainer partially hidden under the sheets to make it look like the SP’s leg. Now the learner must not only do the procedure, but also respond to the patient’s questions and concerns.
Trauma Simulation Realism Depends on SP’s Talents

The Clinical Simulation Center hosted a large-scale trauma simulation with over a dozen patients, including both manikins and patient actors. Under the direction of trauma surgeon Justin Chandler MD, the simulation occupied all three of the large simulation bays in the Center and spilled over into the hallway.

The Standardized Patient program assisted by managing the application of makeup to patient actors to match each actor’s injuries. This added realism contributed to the immersive nature of the event.

At right, SP Roger Lentz lends his makeup artistry to preparing medical students to serve as mock patients during a large-scale trauma simulation.
Community Service and Outreach

The Clinical Simulation Center continues to deliver services to the Hershey community in a variety of ways. The Center hosts formal programs from several area school systems in addition to providing informational tours for high school students looking at health professions careers. The Center also provides tours and interactive programs for many area service and community groups to better demonstrate how the health care system works. Many of these tours include opportunities for the visitors to interact with medical simulators and try their hand at medical procedures.

Above, Project Medical Education is a Penn State Hershey program for legislators and their staff to learn about medical education. Above, Representative Keith Gillespie (left) and Representative Russ Diamond (right) assess a mankin in the Clinical Simulation Center.

Project Medical Education Gives Lawmakers Healthcare Experience

As part of a larger Penn State Hershey program, several state and federal lawmakers and staff participated in activities in the Clinical Simulation Center that gave them hands-on clinical experiences. The group participated in simulated patient care activities including rescuing a patient in cardiac arrest, starting an IV, and doing a bronchoscopy.

Above, respiratory therapist Kim Group discusses a neonatal simulation with Simulation Educator Angel Diaz Sanchez MD (center) and Antonio Rodríguez Núñez MD (right), a visiting simulation educator from the University Hospital of Santiago in Santiago de Compostela, Spain. The Clinical Simulation Center hosts visitors from other simulations centers and provides tours and advice on simulation center operations.
Project SEARCH Internship Starts at Simulation Center

Project SEARCH, an international program that places students with disabilities in the workplace, was initiated at Penn State Hershey Medical Center in 2015. First started at Cincinnati Children’s Hospital in 1996, Project SEARCH immerses final year high school students into a transitional year of work and school designed to get them ready for independent living and working.

The Clinical Simulation Center volunteered to be in the first group of departments at Penn State Hershey to take a Project SEARCH student. The experience proved to be valuable for both the intern and the Clinical Simulation Center.

Medical Students Participate in Global Health Program

PSU medical students participated in an outreach program with school students in Ghana via a remote video link. Using models and simulators supplied by the Clinical Simulation Center, the medical students conducted several distance learning classes with the Ghanaian students.

Simulation Fellow Susana Larbi Wumbee provided assistance to the group as they interacted with the students from her home country.
The Clinical Simulation Center has expanded its programs and offerings well beyond Hershey. The Center provided custom education and consulting services to many organizations. Simulation instructor training programs were provided to several clients including the Cleveland Clinic, Temple University, and the Veterans Administration national SimLEARN program. Additionally, the Center organized and conducted a simulation faculty development program that spanned all of Penn State’s campuses providing baccalaureate nursing education.

The Center also provided consultation services on center design, operations, staffing, and budgeting to several clients.

Combining this experience with a record number of conference presentations, the Penn State Hershey Clinical Simulation Center is a recognized world leader in simulation based education.

With 24 conference presentations by Center faculty and staff, the Clinical Simulation Center makes an impact at conferences world wide. Above, Center staff and faculty including Elizabeth Sinz, Sally Rudy, Margaret Wojnar, Chris Mulvey, Tammi Bortner, and David Rodgers conduct a workshop at the International Meeting on Simulation in Healthcare in New Orleans.
Full Scale Ebola Exercise

The Clinical Simulation Center has been assisting with Ebola, or highly infectious disease, training since the most recent outbreak of the disease threatened the United States. The Standardized Patient program played a key role in a full scale simulation of an infected patient being transferred to the medical center.

Running over 30 hours, the drill included transferring the “infected” SP from a referring hospital (Lancaster General), admission to the Penn State Hershey Medical Center ICU, and management of the first day of care for the patient. The drill included dozens of Penn State medical providers and tested the system in the most realistic way possible.

Recognitions and Milestones

Clinical Simulation Center faculty and staff received numerous awards and honors during 2015. These accomplishments speak to the quality of our faculty and staff, and are another reason the Penn State Hershey Medical Center Clinical Simulation Center is considered a leader in healthcare simulation.

- Director Elizabeth Sinz MD was named an associate editor for Simulation in Healthcare, the leading journal for healthcare simulation.

- Simulation faculty Margaret Wojnar MD earned a Master’s in Education (MEd) from Penn State University. Dr. Wojnar was also named a Penn State Distinguished Educator in 2015.

- Angel Diaz Sanchez MD received a certificate for completing a one-year fellowship in simulation education with the PSHMC Clinical Simulation Center.

- Manager David Rodgers was elected a Fellow of the American Heart Association (FAHA).
Achieving Objectives

The Clinical Simulation Center supports a wide range of interprofessional and multidisciplinary simulation-based education and training opportunities to learners from throughout the Penn State Hershey community. 124 different courses conducted simulation sessions in the Center in Fiscal Year 2015.

Fiscal Year 2015 statistics:

- 2,810 Sessions
- 21,480 Learners
- 58,567 Contact Hours

The total number of Center room hours dedicated to simulation-based education was 20,344.

Growth of Center activities has increased significantly since the Center moved into its current facility. Since moving into the current facility in January 2010, the Center has experienced:

- 147% increase in number of sessions per year
- 96% increase in learners per year
- 76% increase in contact hours per year
Staff

Elizabeth Sinz, MD, FCCM - Director
David Rodgers, EdD, EMT-P, NRP, FAHA – Manager
Sally Rudy, MSN, RN-BC, CHSE – Simulation Educator
Angel Diaz Sanchez, MD - Simulation Educator
Jody Wood, BS – Simulation Technologist
Lisa Mackley, AS – Simulation Technologist
Hans Hinssen, Dipl.Ing. – Simulation Technologist
Kevin Thompson, MS - Simulation Technologist
Beverly Whitman – Scheduler
Tammi Bortner, BSN, RN – RSTC Program Manager
Monica Griffe – RSTC Administrative Secretary
Anne Marie Schupper – RSTC Staff Assistant
Stacey Carmo, BSN, RN – SP Program Manager
Jenifer Benovy, BS – SP Staff Assistant
Susana Larbi Wumbee, MHP, MPA, BSN, RM, RN, FWACN - Simulation Fellow

Part-time Staff:
Gowri Reddy
Lee Phillips
Eva Lynch, BSN, RN
Michael Glass, MS
Contact Information

Elizabeth H. Sinz MD, FCCM
Director, Clinical Simulation Center
Associate Dean of Clinical Simulation
Director of Patient Safety Simulation
Professor of Anesthesiology and Neurosurgery
Penn State College of Medicine
esinz@hmc.psu.edu

David L. Rodgers EdD, EMT-P, NRP, FAHA
Manager
Penn State Hershey Clinical Simulation Center
drodgers1@hmc.psu.edu
717-531-3947

Tammi Bortner BSN, RN
Program Manager
Resuscitation Sciences Training Center
Penn State Hershey Medical Center
tbortner@hmc.psu.edu
717-531-0003, Extension 284182

Tammi Bortner BSN, RN
Program Manager
Resuscitation Sciences Training Center
Penn State Hershey Medical Center
tbortner@hmc.psu.edu
717-531-0003, Extension 284182

Stacey Carmo BSN, RN
Program Manager
Standardized Patient Program
Penn State College of Medicine
scarmo@hmc.psu.edu
717-531-6304
To explore opportunities to support the Clinical Simulation Center, contact the University Development office at 717-531-8497 or email to givinginquiries@hmc.psu.edu.

The Clinical Simulation Center offers external consultation services and educational programming performed at the client’s location. See our web site for more information.