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

This is an exciting time for simulation at the Penn State Hershey Clinical Simulation Center as you will see in the pages that follow. This year the Standardized Patient program, managed by Stacey Carmo for the College of Medicine, became part of the Simulation Center. Faculty can now access this simulation modality which is especially robust for learning, practicing, and assessing communication and patient examination skills.

Tammi Bortner, Resuscitation Sciences Training Center program manager, continues to reach out to students all over the area to promote CPR in the community. By engaging student leaders, school mascots, key administrators and teachers, and even the Nittany Lion, she has energized students to learn basic CPR. Thus far, she has taught 3907 students who will impact the community well into the future.

Our Simulation Instructor course continues to receive widespread acclaim. Sally Rudy organized three internal courses in the past year with participants from across the country. Some participants opted to also enroll in ADTED 502, a Masters-level course on curriculum development offered by Penn State Harrisburg that embeds the Simulation Instructor course into the curriculum. This is taught by our own David Rodgers, who was appointed Affiliate Assistant Professor in the College of Education at Penn State Harrisburg this year.

Skills practice is an essential way to improve patient safety, and our new central line course provides the opportunity to learn and practice key skills in a safe environment. By the end of 2014, 212 faculty, residents, nurse practitioners, nurse anesthetists, and physician assistants had participated in this model multidisciplinary, multiprofessional course. As Ebola threatened to make its way into Hershey, the Center hosted numerous opportunities for our healthcare providers to practice donning and doffing protective garb that protects our staff against exposure to the virus. Performing procedures in Ebola garb is challenging......and very hot!

We have lots of activities ahead in 2015 as we build on our remarkable past.

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
Education

With 143 different course titles supported or presented by the Clinical Simulation Center, the Center has an impact on education in multiple professions and medical disciplines. Simulation has become an integral portion of health professions curricula in nursing, physician assistant, and physician education. Additionally, simulation has become an even greater part of the ongoing education and training of practicing health professionals including respiratory care and pharmacy.

Among the course highlights in 2014:

- The Central Venous Access Course, started in 2013, has been conducted 19 times with 212 participants.
- The Neonatal ECMO course, under the leadership of Kristen Glass MD, has brought state-of-the-art training to neonatal critical care.
- A newly developed partnership with Summit Health to provide pediatric nursing experiences includes simulation sessions.
- Expansion of simulation-based education in the College of Medicine includes incorporation of simulation into the GI Bleed PBL.
- The highly successful First Four Minutes simulation program was conducted 150 times during the year, bringing the total trained since 2009 to 5,138.

“I canvassed the staff involved. They feel positively that the First Four Minutes drill made them much more prepared for an event of this nature. The comment was made that it probably saved this man’s life.”

E-mail from Medical Group manager after a visitor went into cardiac arrest just days after staff participated in simulation training
The Center’s Simulation Instructor Course continues to draw a national audience in addition to supporting the faculty and staff needs at the Penn State Hershey Medical Center and College of Medicine. Since starting in 2010, the course has graduated 228 participants from 16 states or foreign countries. As in previous years, other regional centers have brought the Penn State course to their centers to experience the best in simulation-based faculty development.

“This will help my non-simulation teaching as well, especially in regards to giving feedback to learners.”

*Simulation Instructor Course Participant*

**New Users for Simulation**

Several new departments starting utilizing the Clinical Simulation Center during 2014, but not all of the training focused on clinical skills. Environmental Health Services began using the Center as part of its orientation and training process for new staff. The Center offers examples of commonly used hospital equipment including beds that EHS staff can practice cleaning as part of the critical process of reducing hospital acquired infections.
Faculty and staff affiliated with the Penn State Hershey Clinical Simulation Center published nine manuscripts in peer reviewed publications during 2014. Other academic output from the Center included a peer reviewed abstract, 11 conference presentations, three poster presentations, and a webinar broadcast. At year’s end, 22 active IRB protocols related to simulation were underway.

Among the major publications were:


The Clinical Simulation Center was featured in an Educational Institutes profile published in the Journal for Surgical Education:

Angel Diaz Sanchez, MD, became the first Education and Research Fellow in the Clinical Simulation Center. Dr. Diaz Sanchez earned his medical degree in Santiago, Cuba, and practiced as an anesthesiologist in Cuba and Venezuela before immigrating to the United States. His fellowship training in the Center includes learning all aspects of healthcare simulation such as creating simulations, programming simulators, and conducting debriefings. He is also using his training time to become familiar with the American health system as he prepares to take his US exams in order to apply for a residency program in the United States.

First Simulation Education and Research Fellow

Angel Diaz Sanchez, MD, became the first Education and Research Fellow in the Clinical Simulation Center. Dr. Diaz Sanchez earned his medical degree in Santiago, Cuba, and practiced as an anesthesiologist in Cuba and Venezuela before immigrating to the United States. His fellowship training in the Center includes learning all aspects of healthcare simulation such as creating simulations, programming simulators, and conducting debriefings. He is also using his training time to become familiar with the American health system as he prepares to take his US exams in order to apply for a residency program in the United States.

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 (Las Vegas)
- International Meeting on Simulation in Healthcare (San Francisco)
- International Pediatric Simulation Symposia and Workshops (Vienna, Austria)
- The Adult Education Research Conference (Harrisburg)
- American Academy of Ambulatory Care Nursing (New Orleans)
- Magnet Pathway to Excellence Conference (San Antonio)
- New York State Society of Anesthesiologist Post Graduate Assembly (New York City)

Additionally, Clinical Simulation Center manager David Rodgers presented a webinar for the International Pediatric Simulation Society that drew a worldwide audience.
The Resuscitation Sciences Training Center (RSTC) continued to grow, delivering more American Heart Association training than ever before. In 2014, 4,907 learners received AHA training through the RSTC. This included:

- 3,410 in Basic Life Support (BLS)
- 1,022 in Advanced Cardiovascular Life Support (ACLS)
- 475 in Pediatric Advanced Life Support (PALS)

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

- 112 BLS Instructors (including 10 BLS Training Center Faculty)
- 60 ACLS Instructors (including 10 ACLS Training Center Faculty)
- 43 PALS Instructors (including 7 PALS Training Center Faculty)

In addition to the nearly 5,000 participants in regular RSTC courses, the RSTC trained 1,395 in community and mass-CPR events, for a total number trained of 6,302.
RSTC growth has been steady for the past several years. Considering the two-year certification period for most AHA certifications cards, 9,440 individuals have current AHA certification provided by the RSTC at the end of 2014 compared to 7,565 individuals at the end of 2011.

High Tech Comes to RSTC Programs with Advanced Simulators

During 2015, the ACLS and PALS programs began a transition from using mid-level technology manikins to using high technology manikins with increased realism and capabilities. Research has shown this level of technology can improve ACLS and PALS learning. This technology increases the fidelity of the simulation experience, allowing learners to become more directly engaged with the simulator rather than relying on the instructor for continuous cues concerning the progress of the case.

RSTC instructors Phil Stark RRT, Lee Groff EMT-P, Holly Ray RN, Angel Diaz Sanchez MD and Esther Zechman BSN, RN work with one of the new simulators.
Standardized Patient Program

During 2014, the Penn State College of Medicine Standardized Patient program was integrated into the organizational structure of the Clinical Simulation Center. This arrangement positions the SP program to better serve the growing demands for this type of simulation both within the College of Medicine and with the Penn State Hershey Medical Center. The SP program also supports the College of Medicine Regional Campus in State College.

Under the direction of Program Manager Stacey Carmo BSN, RN, the SP program utilizes the services of 92 patient actors, each of whom have been trained to portray several different patients. These specially trained actors present their patient portrayals to medical students, residents, nurses and others in a consistent manner in order to allow for fair assessments during patient interview or assessment practice and testing. The SPs are also trained in providing feedback to learners on communication.

Over 100 SP cases have been developed to support simulations that require the rich experience of a real person for communication scenarios, physical assessments, and complex interactions such as psychiatry or end of life decisions. Standardized patients are also frequently used in research studies, especially those that focus on patient-provider communications.

While medical student OSCE programs (Objective Structured Clinical Examinations) are frequent users of SPs, standardized patients are incorporated into over a dozen other medical school classes and rotations, several residency program, nursing education for both practicing RNs and student nurses, the Physician Assistant program, and they play an important role in the Clinical Simulation Center’s Instructor Course. Another emphasis this past year has been supporting the Center for the Protection of Children with training for child abuse detection.
Psychiatry Clerkship SP Simulation Debut: Successful Start

Each year the Clinical Simulation Center adds new programs to its course catalog. One course this year that quickly became a success was the newly created simulation series for the medical student Psychiatric Clerkship.

Using Standardized Patients for six different case presentations, the simulation offers medical students the opportunity to interview patients with suspected psychological issues. The SPs have been trained to display behaviors that challenge the students and help them refine their communications and diagnostic capabilities with these patient types.

The case series was created by Aditya Joshi, MD, Assistant Professor of Psychiatry and Medical Student Clerkship Director.

“Through these exercises, students are exposed to situations they are likely to encounter in real life, regardless of the field they ultimately choose to practice in. The idea behind this program was to provide students with the knowledge and ability to carry out a thorough psychiatric evaluation and assess their patients’ mental health needs. The Sim Center has provided us with a unique opportunity to bring this to fruition,” stated Dr. Joshi.

Dr. Aditya Joshi discusses the psychiatry cases with standardized patients Grant Kalnins and Roger Lentz prior to medical students interviewing them as part of the clerkship.
Community Service and Outreach

The Clinical Simulation Center has remained an active part of the communities the Penn State Milton S. Hershey Medical Center serves. Each year the Center hosts dozens of community groups representing service organizations, local high schools and colleges, and governmental agencies. These community events are often more than just tours. Many of the events include hands-on activities using real medical equipment with the Center’s simulators to give participants a feeling of what is needed to become a health care professional.

Three specialized high school programs are integrated into local schools’ curriculums and use the Clinical Simulation Center as a learning space. The Pennsylvania Youth Apprenticeship Program (PYAP) includes Lower Dauphin and Derry Township school districts in a two-year rotation program for juniors and seniors. The Spartan Academic Medical Experience (SAME) is a five-week program at the Milton Hershey School for students interested in health professions careers. Susquehanna Township School District incorporates simulation-based education into its School of Medicine, Engineering, and Health Sciences.

Hospital Volunteers Support Simulation with Capital Funding

The Penn State Hershey Volunteer Office provided funds to the Clinical Simulation Center to cover all of its fiscal year 2015 capital purchases. A check for $145,000 was presented to the Center that will be used to improve ultrasound education and increase the functionality of the Center’s 10 training rooms with improved communications with standardized patients and simulation participants.
The Simulation Center as Art Gallery

The Clinical Simulation Center hosts a revolving series of artists that present their work for public display in the Center. A new artist or group of artists is featured every quarter and often includes work created by faculty and staff as well as local high school art programs. The program is coordinated by Bev Whitman in conjunction with the Center Stage program at the Medical Center.

Photos: A student string quartet plays during the Lower Dauphin High School art exhibit reception in January (top right). Center Director Dr. Lisa Sinz welcomes the artists and their families to the Center (bottom right). One student’s artwork graces the cover of the reception invitation (left).

CPR in Schools Program Remains Very Active Throughout 2014

The Resuscitation Sciences Training Center (RSTC) continued providing innovative outreach programs to schools throughout the area on Hands Only CPR. Led by RSTC Program Manager Tammi Bortner BSN RN, programs were conducted at six schools and involved 1,395 learners. The RSTC was successful in securing a Children’s Miracle Network grant to expand this program in the coming year.
Highlights

Ebola dominated national headlines through much of 2014. With the spread of the disease in Africa and isolated cases in the United States, health systems across the country mobilized to provide education and training for potential responders.

The Clinical Simulation Center hosted numerous training sessions that allowed staff to become proficient with the donning and doffing of the personal protective equipment (PPE) required for the care of Ebola patients. This training was extended further by allowing health care professionals to practice procedures on simulators while wearing full protective garb in the Clinical Simulation Center.

The extensive preparation by the physicians and staff of Penn State Hershey Medical Center, including the simulation-based training Photos, this page, clockwise starting below: Staff practice donning PPE in the Clinical Simulation Center. Dr. Lawrence Kass (Emergency Medicine) performs advanced airway management while wearing full Ebola PPE. Two physicians fully encapsulated in protective gear perform ultrasound guided central line placement in the Center.
Lion Reach experiences, helped the Medical Center be named one of four Ebola Treatment Centers in Pennsylvania by the Centers for Disease Control and Prevention (CDC).

As part of the Ebola response, several training sessions were performed in the Lion Reach Mobile Training and Evaluation Center. This mobile facility has the capacity to handle multiple missions including hosting education and training sessions, serving as a field hospital for mass casualty incidents, supporting large community events as part of outreach education projects, and providing critical overflow space for the Penn State Hershey Medical Center Emergency Department.

Photos, this page, clockwise from above right: Lisa Deetz, RN MSN (at right), was one of many hospital staff who coordinated PPE donning and doffing sessions. Here she inspects the results from one staff member during a training session in Lion Reach. The mobile Lion Reach trailer features double slide out compartments that create a large unobstructed training or patient care space inside the unit. The mobile unit’s vivid exterior graphics lets everyone know We Are...Penn State.
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. 143 different courses conduct simulation sessions in the Center.

Fiscal Year 2014 statistics:

- 2,323 Sessions
- 17,248 Learners
- 47,971 Contact Hours

The total number of Center room hours dedicated to simulation-based education was 17,138. An additional 387 hours of simulation-based education was delivered outside the Center.

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:

- 104% increase in number of sessions per year
- 57% increase in learners per year
- 50% increase in contact hours per year
Staff

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

Part-time Staff:
Gowri Reddy, Lee Phillips, & Eva Lynch, BSN, RN

Recognitions

Chris Mulvey achieved the Certified Clinical Research Coordinator (CCRC) credential from the Association of Clinical Research Professionals.

David Rodgers was named Affiliate Assistant Professor of Adult Education in the School of Behavioral Sciences and Education at Penn State - Harrisburg.

Stacey Carmo received a Certificate of Achievement for completing the Supervision Series--Survival Skills for Supervisors.

Tammi Bortner received the Graduate Certificate in Adult Education in the Health and Medical Professions after completing the program at Penn State-Harrisburg.
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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.

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The Center is located on the second floor of the Penn State College of Medicine building, directly above the George T. Harrell Library.