Patient Safety Starts Here

2013 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.

Message from the Director

We have benefited from a number of improvements and enhancements in the Penn State Hershey Clinical Simulation Center. This year, David Rodgers dove into his new position as operations manager by enhancing our debriefing techniques, improving our processes, and streamlining our financial management. We have expanded our simulation offerings to other centers which enhanced our stature and recognition beyond the Hershey Medical Center, provided us with insight into how other centers operate, and allowed us to bring home ideas and best practices. We also serve the larger community by helping other simulation centers develop their simulation faculty.

Tammi Bortner and her team in the Resuscitation Sciences Training Center (RSTC) have been improving the life support courses offered to staff. The RSTC has developed a substantial community presence promoting "Hands-Only CPR," with the Nittany Lion and other team mascots being resuscitated numerous times in demonstrations around the area to provide this outreach training to local high schools and the community.

Sally Rudy is the first simulation educator in our facility to obtain Certified Healthcare Simulation Educator (CHSE) certification through the Society for Simulation in Healthcare. She supports simulation-based learning by assisting faculty throughout the medical center. Our Simulation Instructor Course now offers participants the option to obtain masters-level credit in simulation curriculum development through the Adult Education program at Penn State Harrisburg. Dr. Elizabeth "Libby" Tisdale leads classes that can apply towards a certificate in adult healthcare education or a Master's in adult education.

The Simulation Center strives always to support our excellent faculty who work hard to teach the best practices in healthcare using the best educational techniques. We are here to serve you, your students, and all of our current and future patients!

Elizabeth Sinz MD, FCCM
Associate Dean of Clinical Simulation
Director of Patient Safety Simulation
Professor of Anesthesiology and Neurosurgery
Penn State University College of Medicine

Education

The February 2013 opening of the new Penn State Hershey Children's Hospital presented an opportunity for simulation to test code response and team communications through a series of 20 "mini-mocks" conducted prior to the hospital seeing its first patient. These simulation sessions assessed code response at a variety of locations throughout the new hospital.

The Center's highly successful First 4 Minutes program was made mandatory for all PSHMC RNs, RTTs, and Residents. The program expanded to the Penn State Hershey Medical Groups with 40 sessions and 227 multidisciplinary participants for the year.

The Penn State University School of Nursing has expanded its use of the Clinical Simulation Center for education and training of nursing students at all levels.

Departments new to simulation utilized the Center for the first time during the year. One example was a simulation jointly conducted by Physical Therapy, Occupational Therapy, and Music Therapy that oriented therapists to the challenges of an intensive care unit patient.

New simulation equipment was integrated into courses. The new "Baby Blue" course for NICU response to deliveries and neonatal transports was introduced to improve transfers of care using the new micropremie simulator.

The American College of Surgeons reaccredited the Clinical Simulation Center as a Comprehensive Education Institute. This is the second time the Center has successfully been reaccredited since its first accreditation.

The Center is endorsed by the American Society of Anesthesiologists to conduct Maintenance of Certification in Anesthesiology (MOCA) courses, 226 anesthesiologists have received their MOCA training at the Center since the Center started offering the program in 2010.

Responding to PSHMC needs to reduce central line acquired infections, the Center was instrumental in the development of a standardized Central Venous Catheter placement course. Over 20 faculty from several specialties have assisted in teaching this new program with the goal of reducing hospital acquired infections and other complications.

The Center's Simulation Instructor Course has developed a reputation as one of the premier instructor courses available, attracting an audience from throughout the United States. This five-day course has graduated 176 participants from 12 states (and two countries) since its inception in 2007. In 2013, the course was also taken on the road providing instructor training for another regional simulation center.

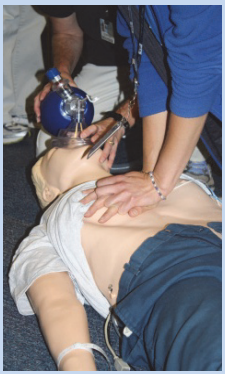
"I was very happy that I had attended the simulation course. It is very helpful in my day to day practice. The course made me realize how many things could go wrong with minor differences in decision making, how much I need to be organized, how many algorithms I need to follow, and how to react in emergency situations by myself."

MOCA Course Participant

"Wonderful, interactive program…Appreciated the engagement, giving, and sharing of *all* instructors."

Simulation Instructor Course Participant

Research, Publications, & Presentations



The Clinical Simulation Center maintains an ongoing research presence with 15 active research protocols. During 2013, Center staff and faculty gave 10 presentations at major conferences throughout the world, presented 12 posters, and participated in publication of four peer-reviewed manuscripts.

Among the 2013 conference presentation highlights were:

Cruz Eng H, Sinz EH, Hodge M, Bortner T, Mulvey C. (2013, Oct.) Comparison of a Standard BLS/ACLS Training to Enhance BLS.ACLS Training with Action Linked Phrases. Presentation at *Anesthesiology 2013,* San Francisco, CA. This project evaluated if teaching three Action-Linked Phrases for Basic Life Support (BLS) and ACLS courses were associated with increased use of these phrases and their actions.

Sarwani N. (2013, April 9). Developing and Implementing a SimLab Training Experience. Presented at the *Association of University Radiologists (AUR) Annual Meeting,* Los Angeles, CA. Nabell Sarwani, MD, presented his development of an educational simulation program to train new radiology residents.

Falitz S, Picard J, Dalal P, Vaida S, Budde A. (2013, Dec.) Minimal Tracheal Depth of a Tube Exchange Catheter during Exchange of Supraglottic Airway Devices for Endotracheal Tubes. Poster presentation at the *New York State Society of Anesthesiologists Post Graduate Assembly,* New York. This was a randomized crossover observational study to measure the tracheal depth of the AIC to determine if there is a minimal tracheal depth necessary for a successful exchange.

Clinical Simulation Center and Resuscitation Sciences Training Center staff and faculty were active throughout 2013 with conference presentations. Among the national and international conferences the Center presented at were:

- American Society of Anesthesiologists
- Association of University Radiologists
- European Society of Anesthesiologists
- International Meeting on Simulation in Healthcare
- International Pediatric Simulation Symposia and Workshops
- New York State Society of Anesthesiologists Post Graduate Assembly (PGA)
- Pennsylvania Anesthesiology Resident Research Conference (PARRC)
- Resuscitation Science Symposium (ReSS)

Faculty Highlight

Internationally known supraglottic airway expert, Sonia Vaida, MD, has presented her workshop on Clinical Difficult Airway and Airway Simulation at the American Society of Anesthesiologists meeting for the past 6 years. She has also been sharing her simulation experience teaching different airway devices at various international anesthesia meetings since 2003. In the Clinical Simulation Center, Dr. Vaida regularly shares her expertise teaching simulation-based courses including MOCA and anesthesia resident education courses.

Resuscitation Sciences Training Center

During 2013, the Resuscitation Sciences Training Center (RSTC) completed its transition from the Heart and Vascular Institute to an independent department alongside the Clinical Simulation Center. RSTC activity has continued to grow and the department has been very active in outreach education promoting AEDs and "Hands-Only" CPR.

4,533 learners attended American Heart Association training programs managed by the RTSC. This includes:

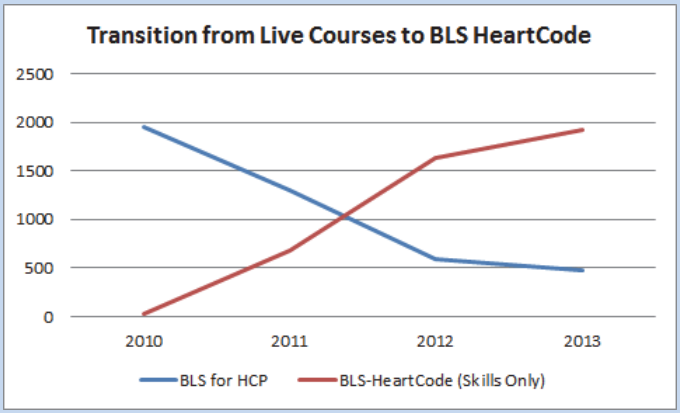
- 3313 in Basic Life Support courses (BLS)
- 936 in Advanced Cardiovascular Life Support courses (ACLS)
- 484 in Pediatric Advanced Life Support courses (PALS)

The RSTC coordinates records and activities for over 250 instructors, including:

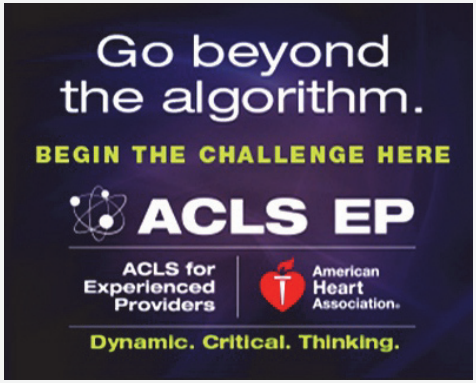
- 131 BLS Instructors (including 10 BLS Training Center Faculty)
- 78 ACLS Instructors (including 11 ACLS Training Center Faculty)
- 62 PALS Instructors (Including 9 PALS Training Center Faculty)

BLS HeartCode

Most PSHMC staff renewed their BLS (CPR) certification with the online BLS HeartCode with instructor-led skills checks instead of attending a live course. This process saves time, is more convenient for students, and less costly to the organization.



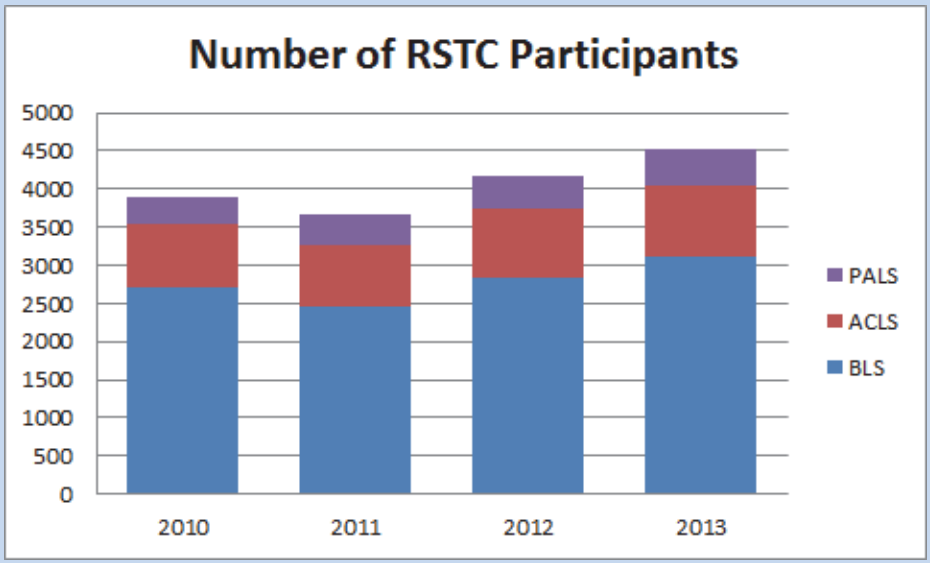
During 2013, the AHA introduced the revised ACLS for Experienced Providers course (ACLS-EP). With a new American Heart Association textbook edited by the Center's director, Dr. Elizabeth Sinz, this course presents the core ACLS material while extending the content to challenging interactive case studies. Drs. Sinz and Rodgers participated in the national roll-out of the course and each also conducted instructor training internationally for the AHA with Dr. Rodgers teaching courses in Ireland and Germany and Dr. Sinz teaching in Dubai.



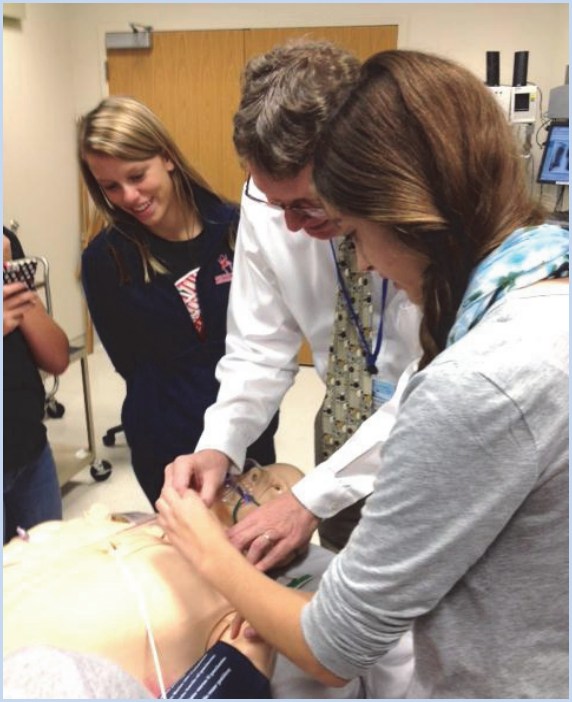
AED Placements

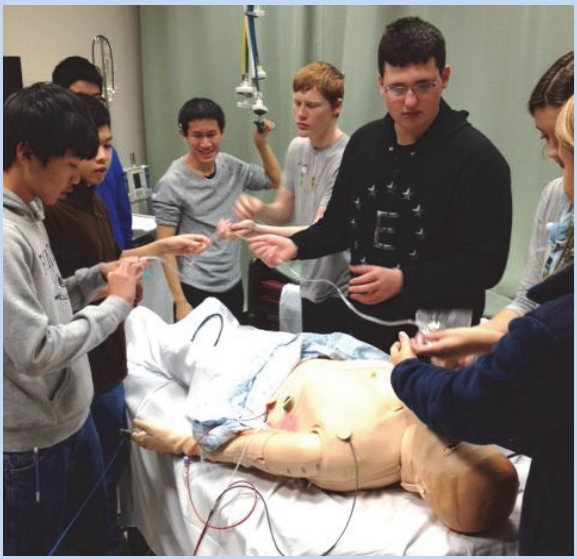
Each year, in collaboration with the Clinical Simulation Center and the Heart and Vascular Institute, the RSTC places Automated External Defibrillators (AED's) in the community to enhance the early delivery of care to those in need. In 2013, a total of five AED's were placed at four churches and one school.

The RSTC provides training in three American Heart Association disciplines: Basic Life Support (BLS), Pediatric Advanced Life Support (PALS), and Advanced Cardiovascular Life Support (ACLS). Program growth has been steady for the past three years and is expected to grow even further in 2014.



Community Service and Outreach





The Clinical Simulation Center promotes health and sciences education for the next generation of healthcare providers through several programs that bring students to the Center for educational programs. In 2013, a unique program offered through the Susquehanna Township School District brought 30 students from the school's school within a school, the School of Medicine, Engineering and Health Sciences, to the Center to put classroom information into practice. The student's typically visit the Center twice a month to learn medical skills and run clinical scenarios that draw upon their classroom activities.

Other high school programs also participate in Center activities to help better prepare them for careers in medicine and science. The Pennsylvania Youth Apprenticeship Program (PYAP), a partnership of the Pennsylvania State University Milton S. Hershey Medical Center and College of Medicine, Lower Dauphin School District, and Derry Township School District is a two-year program for juniors and seniors to rotate through various departments in the hospital.

The Spartan Academic Medical Experience (SAME) program from the Milton Hershey School is part of a five-week program that brings students interested in health professions careers to the medical center. Their rotation through the Clinical Simulation Center gives them the opportunity to experiment with medical procedures and practice skills they would otherwise only get to observe.

In 2013, the Resuscitation Sciences Training Center (RSTC) went beyond the usual monthly CPR classes conducted on campus for the community and took training directly to the community. Two of the larger events occurred in local school districts, Hershey and Lower Dauphin, where a school wide assembly and flash mob were held in teaching "Hands-Only CPR." Over 2,500 students and teachers have received this training to date through these innovative programs.

Other outreach with "Hands-Only CPR" has included "Go Red for Women" events at Macy's Department Store, the local Heart Walk, area churches, senior exercise programs, and the Take Your Children to Work Day. Non-clinical HMC employees also received this training through programs held in the ASB Building and one directed to administrative staff. To date over 3,000 individuals have taken this "Hands-Only" approach to learn how to save the life of an adult or teen who suddenly collapses.

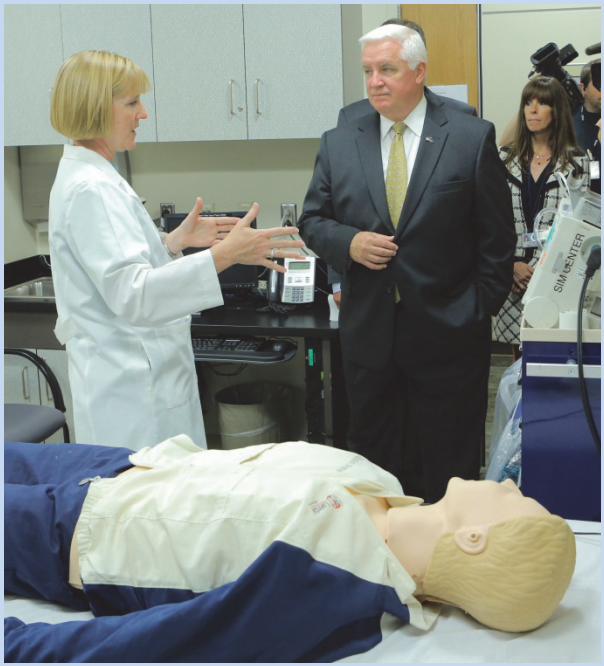
Children's Miracle Network Hospitals

PENNSTATE HERSHEY Children's Hospital

Clinical Simulation Center and Resuscitation Sciences Training Center staff members were among the crew that took phone calls during the Children's Miracle Network radiothon in March 2013. The Children's Miracle Network supports the Center with specialized pediatric simulation equipment.

Highlights

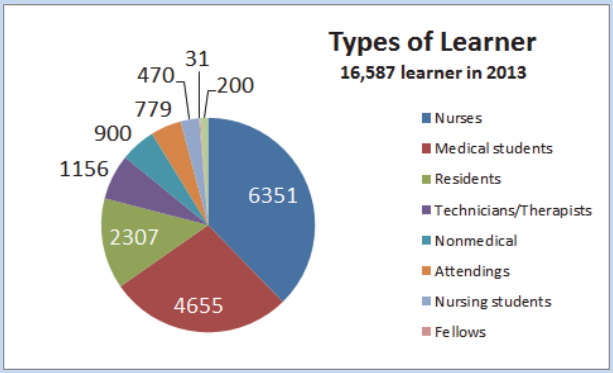
The Clinical Simulation Center frequently hosts tours and demonstrations for a variety of community groups and dignitaries. On July 9, Pennsylvania Governor Tom Corbett toured the Clinical Simulation Center along with Department of Labor & Industry Secretary Julia Hearthway. Gov. Corbett praised the Center for its work in preparing medical students and other healthcare providers for their roles in patient care. During the tour, the Governor observed a simulation session and took the opportunity to try some of the Center's high technology learning tools.

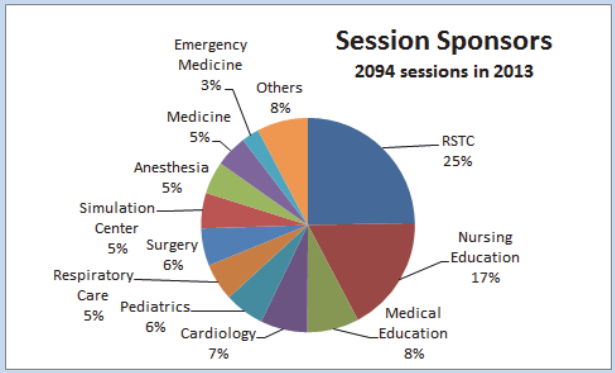


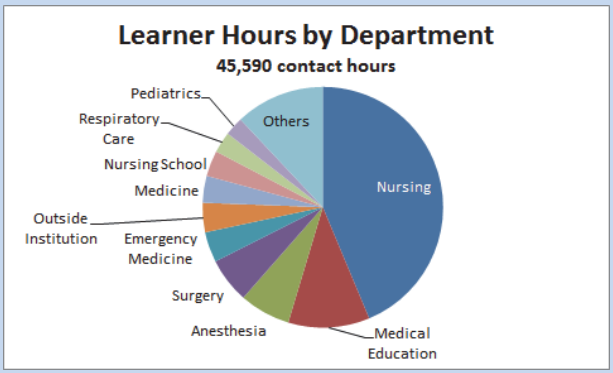
At right, Director Elizabeth Sinz MD explains how simulation is used to improve teamwork in the healthcare setting. Below left, Gov. Corbett performs a virtual bronchoscopy under the direction of Center manager David Rodgers. Below right, the Governor participates in a post-simulation debriefing of Penn State nursing students conducted by Center educator Sally Rudy.

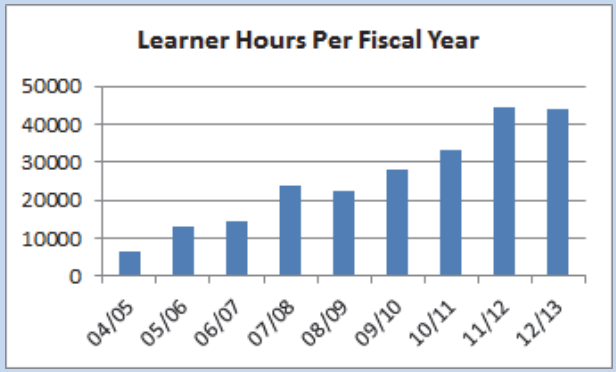
Achieving Objectives

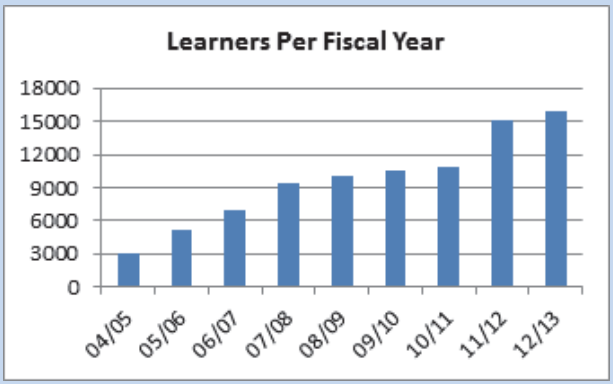
During calendar Year 2013, the Clinical Simulation Center held 2094 sessions with 16,587 learners producing 45,590 learner contact hours with over 24,000 room hours.

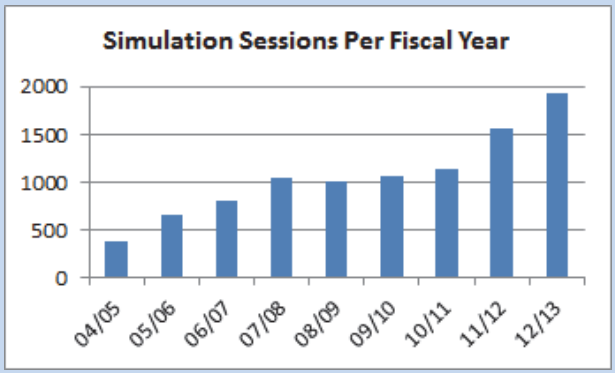












Staff

Jody Wood, Beverly Whitman, Lisa Mackley, and Robert Shotto

Chris Mulvey and Sally Rudy

Dr. David Rodgers and Dr. Elizabeth Sinz

RSTC Staff – Anne Marie Schupper, Tammi Bortner, and Monica Griffe

Elizabeth Sinz, MD, FCCM - Director
David Rodgers, EdD, NREMT-P – Manager
Sally Rudy, MSN, RN-BC, CHSE – Simulation Educator
Chris Mulvey – Research Coordinator
Robert Shotto – Lead Simulation Technologist
Jody Wood – Simulation Technologist
Lisa Mackley – Simulation Technologist
Beverly Whitman – Scheduler
Tammi Bortner, BSN, RN – RSTC Program Manager
Monica Griffe – RSTC Administrative Secretary
Anne Marie Schupper – RSTC Staff Assistant

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

Recognitions

Tammi Bortner received a 2013 Penn State Hershey Community Service Award for her work in promoting community CPR programs, public access AEDs, and “Hands-Only” CPR in schools.

Sally Rudy, MSN, RN-BC, CHSE, obtained Certified Healthcare Simulation Educator recognition from the Society for Simulation in Healthcare.

Elizabeth Sinz, MD, received a Health and Medical Professions Adult Education Certificate from Penn State Harrisburg after completing course work to increase knowledge and competence in educating adult learners in medical education/health science settings.

Jody Wood was named the Penn State Hershey Employee of the Month for July 2013.

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

Sally Rudy MSN, RN-BC, CHSE
Simulation Educator
Penn State Hershey Clinical Simulation Center
srudy@hmc.psu.edu
717-531-5813

David L. Rodgers EdD, NREMT-P
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

Penn State Hershey Clinical Simulation Center
500 University Drive
Mail Code H182
Room C2630
Hershey, PA 17033
717-531-4099
http://www.pennstatehershey.org/web/simulation

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

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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Clinical Simulation Center