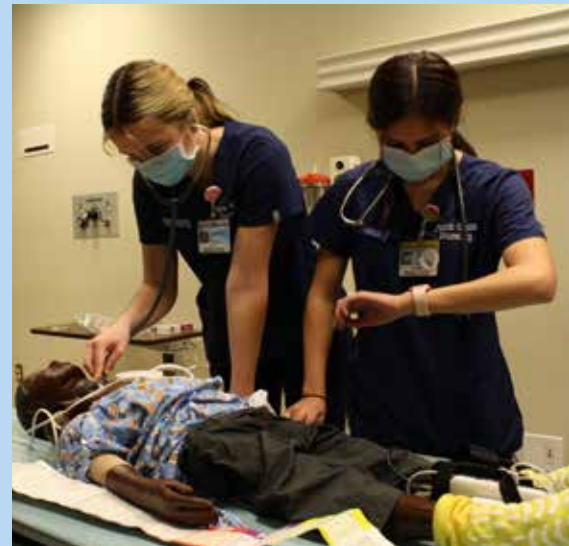


Clinical Simulation Center

Patient Safety Starts Here
2021 Year in Review



PennState Health
Milton S. Hershey Medical Center



PennState
College of Medicine

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

So much change...

So many opportunities!

With the pandemic in its second year, 2021 was a bittersweet mixture of frustration, growth, chaos, improvement, loss, and hope. We became adept at managing COVID and caught up with the backlog of healthcare needs. Our Simulation Center transitioned to new strategies to provide efficient but highly effective programs with a focus on learning outcomes.

The secret of change is to focus all of your energy not on fighting the old, but on building the new. - Socrates

We bid farewell to **David Rodgers**, our talented operations manager of 8 years. A respected simulation and education expert and a good friend, he will be sorely missed! Dr. **Terry Wolpaw**, Vice Dean of Education Affairs, retired at the end of 2021 after 9 years dedicated to redesigning medical education in the COM.

Since January, VP of Operations **Maheer Hanna** has been a credit to his new role, adeptly smoothing the “bumps” in the road. The Simulation Center got to work with Heather Boyle as Interim Operations Manager, followed by Dana Stauffer, both bringing a fresh perspective and new ideas.

The Simulation Center is poised to begin 2022 with gratitude for those who have helped us in the past. We are ready to build our future!

Best, Lisa Sinz

Elizabeth H. Sinz, MD, MEd, FCCM, FSSH



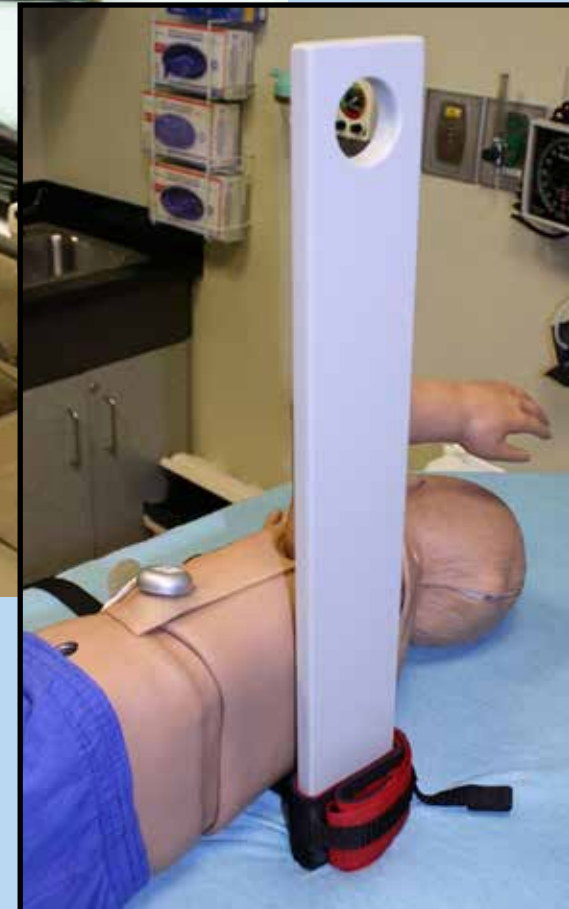
Associate Dean for
Clinical Simulation
Director, PSH Clinical
Simulation
Professor of Anesthesiology
and Neurosurgery

Highlights

The Clinical Simulation Center was consulted to help development and test a CPR solution for a pediatric patient with severe kyphoscoliosis. The child was too large for two-thumb hand-encircling method CPR and the child's physical anomalies prevented him being placed supine on a conventional CPR backboard. Alternative CPR formats were tested using a simulator capable of providing feedback on chest compression depth. The resulting CPR method included a custom backboard with stabilization system combined with horizontal compressions with the child placed on his side. This technique produced adequate chest compression depth, provided a low-cost portable device that was easily implemented, and allowed the device to travel with the child. The backboard and technique were utilized successfully when the child was readmitted for respiratory failure and experienced cardiac arrest requiring chest compressions with the custom backboard resulting in return of spontaneous circulation.



Nurse Educator **Jenny Rex** and Simulation Fellow **Mary Sukumar** use a high fidelity manikin to test the efficacy of a modified CPR technique and a custom made backboard for a pediatric patient with severe scoliosis.





Community Service and Outreach

In coordination with Penn State Health Adult Trauma Education, the **Stop the Bleed** program presented to each cadet class of the Pennsylvania State Police. Using Standardized Patients, manikins, moulage, and other resources, the PSP Stop the Bleed simulation scenarios help learners to improve tourniquet application, triage, and communication skills. Several new scenarios were added to the program including child passenger safety, victim moving and loading, triage and communication, basic first aid, and applying a chest seal to a sucking chest wound. Evidence of the positive impact of this program as the graduates move forward into their field assignments is emerging.



The Simulation Center supported the Surgery Department's **Emerging Healthcare Professionals - Science of Surgery** Summer Camp program held with the Whitaker Center in Harrisburg. Students in grades 10 - 12 had opportunities to complete hands-on surgical skills such as suturing, central lines, chest tubes and intubation.

At left: Students attempt to intubate a manikin head at the Science of Surgery camp.

Research, Publications, and Presentations



Faculty and staff affiliated with the Penn State Hershey Clinical Simulation Center had a record 22 peer-reviewed publications during 2021. 4 additional publications were ePublished in advance. Other academic output from the Center included 3 conference presentations.

Among the major publications were:

- Rodgers DL & Hales RL. Brain-based learning. In: Johnston LC, Su L, eds. Comprehensive Healthcare Simulation: ECMO Simulation. New York: Springer. 2021: 43-50.
- Sinz E, Banerjee A, Steadman R, Shotwell MS, Slagle J, McIvor WR, Torsher L, Burden A, Cooper JB, DeMaria Jr S, Levine AI, Park C, Gaba DM, Weinger MB, Boulet JR. Reliability of simulation-based assessment for practicing physicians: Performance is context-specific. BMC Med Educ. 2021; 21:207. DOI: 10.1186/s12909-021-02617-8
- Scicchitano E, Stark P, Koetter P, Michalak N, Zurca AD. Blindfolding Improves Communication in Inexperienced Residents Undergoing ACLS Training. J Grad Med Educ. 2021;13(1):123–127.
- Kochan MJ, Kim JS, Hoffman SB, Mola SJ, Kim JH, Viscardi RM. Point-of-Care Ultrasound to Confirm Umbilical Line Placement: Impact of a Simulation Enhanced Curriculum on Neonatal Intensive Care Unit Provider Competency. Simul Healthc. 2021 Oct 1;16(5):303-310. doi: 10.1097/SIH.0000000000000501. PMID: 32910107.
- Roman Jones J, Boltz M, Allen R, Van Haitisma K, Leslie D. Nursing students’ risk perceptions related to medication administration error: A qualitative study. Nurse Educ Pract. 2021 Dec 10;58:103274. doi: 10.1016/j.nepr.2021.103274



Cumulative Academic Output Since 1993

Publications

Books and Book Chapters	20
Peer-reviewed Journal Articles	184
Peer-reviewed Journal Abstracts	29
Peer-reviewed Journal Editorials	1
Peer-reviewed Journal Letters	4
MedEd Portal	16
Other Publications	4

Presentations

Conference Presentations	172
Conference Posters	120
External Grand Rounds	8
Webinars	7

Simulation Education and Research Fellowship

Education



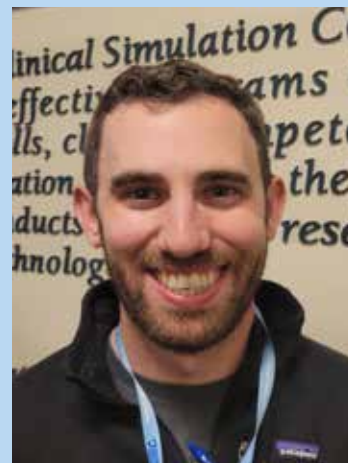
The Simulation Education and Research Fellowship wishes to congratulate **Dr. Mary Sukumar**, our most recent Simulation Fellow to complete our fellowship program.

Continuing in the program are **Dr. Benjamin Semakuba** who is working towards completion of his final project in Africa and **Dr. Rafaella Fadel Friedlaender** finishing remotely from Brazil where she conducted our **Clinical Simulation Instructor Course** in Portuguese for her final project. **Dr. Luis Felipe Gonzales-Vasquez** has returned to classes at Penn State University - Harrisburg to take the accelerated nursing degree. His final project will be conducted under the supervision of program alumnus **Dr. Angel Diaz Sanchez**, our first

Simulation Education and Research Fellow.

Our new fellow, **Sean Stevens, MD** enrolled as he switches from General Surgery residency to Anesthesiology residency. He hopes to improve his understanding and utilization of simulation education in the training of medical students, residents, as well as all healthcare providers to improve patient care.

The fellowship continues to successfully teach fellows simulation-based education methodologies and practices while also engaging in simulation research. They have taken the knowledge and skills they have gained during their time in our program throughout the US and around the globe.



Simulation Fellowship Alum **Dr. Lidys Rivera**, currently a Penn State Health Pathology Resident, has expanded simulation training into the Pathology / Blood Bank department with the use of *in-situ* simulations for department staff. These training sessions help prepare faculty and staff to recognize and treat rare but serious potential complications.

Due to Covid's travel and gathering restrictions, Penn State Health Neonatology Fellowship Director **Dr. Kristen Glass** conducted virtual simulations from the Simulation Center for more than 50 new Neonatology Fellows from over a dozen institutions as part of a "Boot Camp" presented by a consortium of fellowship programs.

After a "Covid hiatus", our **Simulation Instructor Course** was offered both in our Simulation Center, as well as at **Temple University**. The course is scheduled to be taught three times in 2022. The course is updated and refined every time based on feedback from all participants and faculty involved.

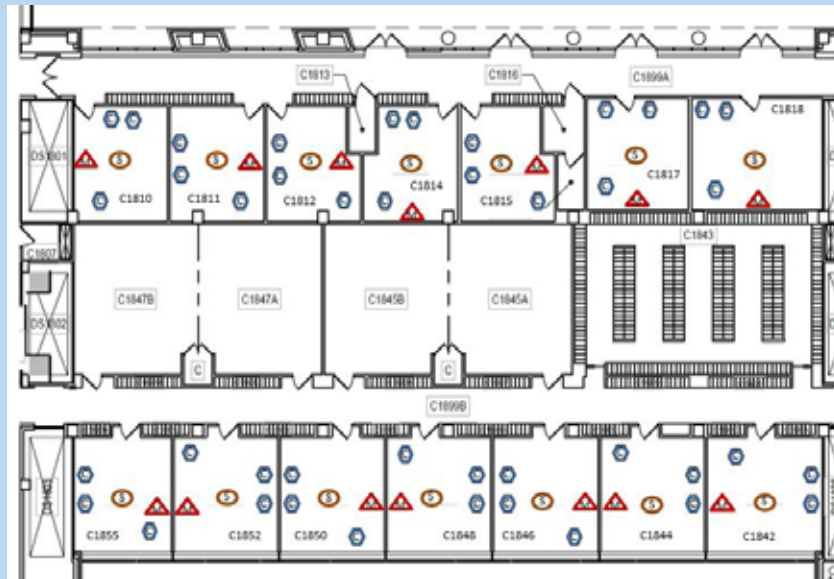


Achieving Objectives

The Clinical Simulation Center supports a wide range of interprofessional and multi-disciplinary simulation-based education and training opportunities throughout the Penn State Hershey community.

2021 statistics:

- 2,291 Sessions
- 19,420 Learners
- 59,575 Contact Hours



Sim Video Expansion

2021 saw the completion of our SimVideo recording system expansion to the BioMedical Research Building on the Hershey Campus for use by the College of Medicine. Also this year we expanded the system a second time to the University Park location of the College. This allows simulations in both locations to have the same recording capabilities as the Simulation Center.

Resuscitation Sciences Training Center

The RSTC increased the number of American Heart Association cards issued following the Covid-related decrease the previous year.

The training numbers included:

- 1,451 in Advanced Cardiovascular Life Support (ACLS)
- 757 in Pediatric Advanced Life Support (PALS)
- 3,925 in traditional Basic Life Support (BLS)
- 3,289 enrolled in Resuscitation Quality Improvement (RQI) BLS Program

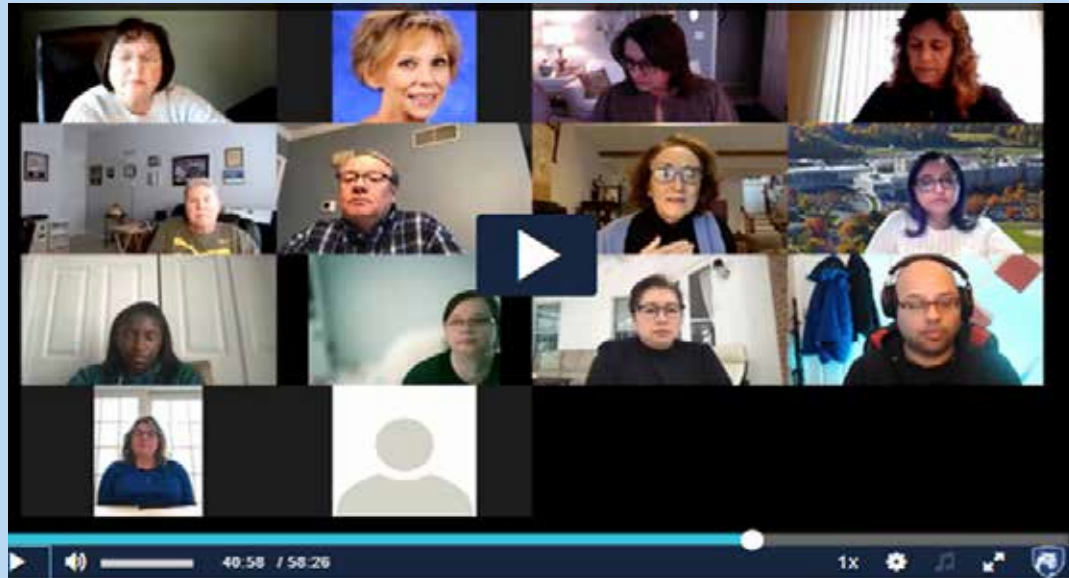
223 AHA instructors maintain their certification through the RSTC. This includes 153 BLS, 81 ACLS, and 49 PALS Instructors.



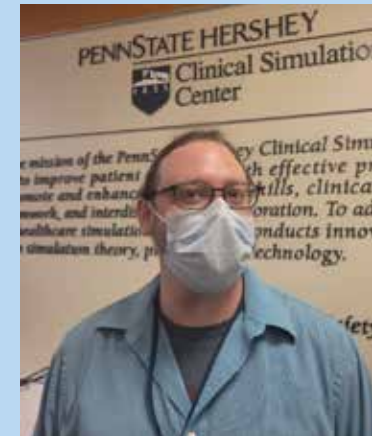
Standardized Patient Program

The SP Program welcomed 15 new SPs to the Hershey campus and 6 new SPs were hired for the University Park campus. Both groups of new hires completed the Penn State University COM HR orientation and SP Program orientation. We extend a warm welcome to our new SPs!

The Standardized Patient (SP) Program showed flexibility again in 2021 by continuing to work remotely through Zoom while still fulfilling requests for in person sessions with all appropriate safety protections in place due to the COVID pandemic.



The photo above shows a formative OSCE SP training session conducted via Zoom. The SPs have adapted well shifting to Zoom for SP training and student sessions during COVID.



SP Spotlight:

Jonathan Cross developed a new SP case template that is user friendly for the SP group. The FPCC Directors utilized the template for formative and summative OSCEs. Feedback was positive as the new template makes memorizing case details less difficult. This template can be used by other groups conducting OSCEs and/or other Standardized Patient encounters as a way to streamline the process. Please reach out to Stacey Carmo if you would like a copy of the template.

SP Program Faculty Spotlight:

FPCC Directors **Drs. Nickolich & Nasir** solicited feedback from our SPs and incorporated that feedback in the final version of the new OSCE communication checklist making it both more concise and objective. The SP group expressed positive feedback for being included as part of this process.

Thank you Dr. Nickolich and Dr. Nasir!



SPs were also involved in a photo and video shoot to promote the opening of Penn State Health's new Hampden Medical Center with a virtual tour video.

The video can be viewed at:
<https://www.pennstatehealth.org/virtual-tour-hampden-medical-center>

Recognitions and Milestones



Steven and Sharon Baron Leadership Award

In the Non-Supervisory Employee Category, one of our team, **Jody Wood**, was selected to receive this prestigious award in October, presented by Deb Berini, President HMC and Dr. Kevin Black, Dean of the College of Medicine. She is one of only three employees from the Medical Center and College of Medicine selected for her exceptional professional achievement and cooperation and teamwork with others.

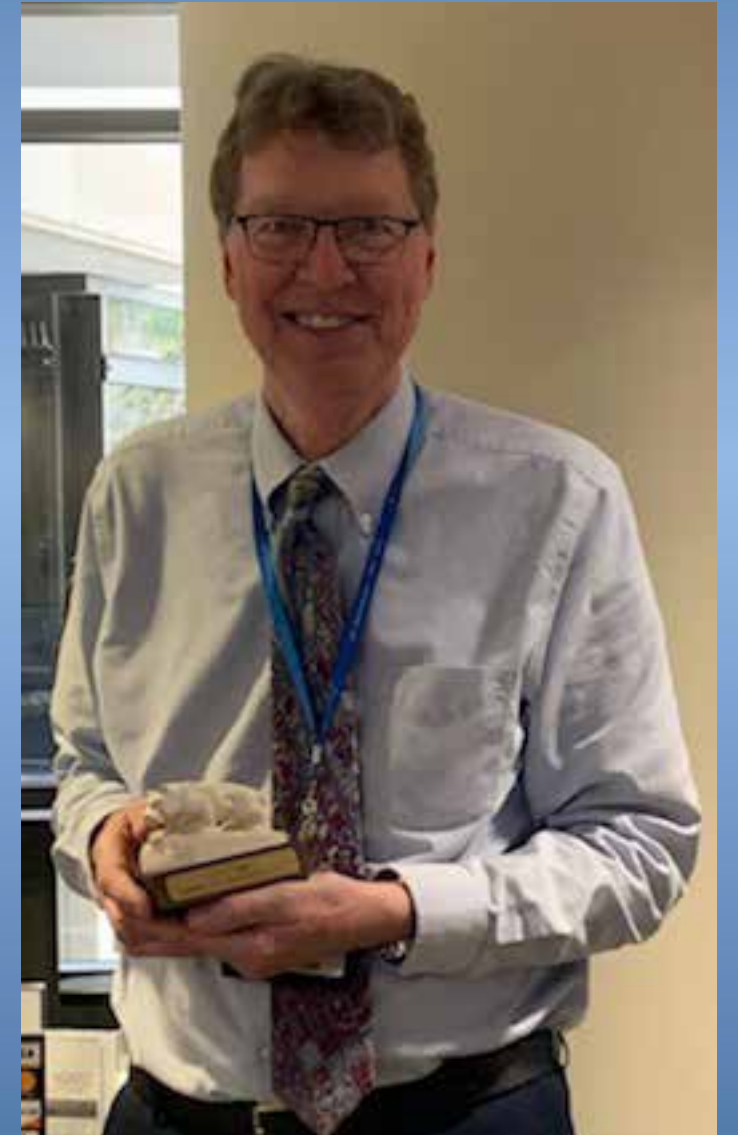


David L. Rodgers, EdD EMT-P NRP FAHA

Renaissance man of interprofessional learning and simulation

Dr. David Rodgers joined us in 2013 as the manager of our Simulation Center. He made many improvements to our simulation programs using his varied background including journalism and communication, curriculum development and instruction, and clinical expertise as a paramedic. During his almost 8-year tenure, Dave cultivated connections with other Penn State University simulation programs and Penn State Health hospitals; he advanced the work of the Resuscitation Science Training Center; and he created our successful Simulation Fellowship.

We were lucky to recruit him---and sorry to see him leave. Dave accepted a position as Director of the new simulation center at Indiana University in Bloomington, Indiana. Dave helped us build a solid footing to move forward, and we wish him success in Indiana!



Contact Information & Staff

Clinical Simulation Center

Elizabeth H. Sinz MD, MEd, FCCM, FSSH

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@pennstatehealth.psu.edu

Director of Surgical Simulation

Mary Catherine Santos, MD, MEd, FACS

Director of Simulation Research

W. Bosseau Murray MBChB MD

Simulation Educator

Theresa Brosche, MSN, RN, CCRN-K, CHSE

Simulation Education and Research Fellows

Benjamin Semakuba, MD
Rafaella Fadel Friedlaender, MD
Luis Felipe Gonzales Vasquez, MD
Sean Stevens, MD

Dana W. Stauffer, MS, RRT-NPS, LSSBB

Interim Operations Manager - Clinical Simulation
Center and Resuscitation Sciences Training Center
Administrative Director - Respiratory Therapy,
Patient Transport
dstauffer@pennstatehealth.psu.edu
717-531-6874

Simulation Technologists

Jody Wood, BS
Lisa Mackley, AS
Hans Hinssen, Dipl.Ing., CHSOS
Michael Glass, BS
Kevin Thompson, MS

Administrative Associate

Wendy Giulivo, AS

Part-time Simulation Technicians

Angela Rodgers, BS
Jeff Witmer, EMT-P
Nataliya Bilger, MD

Standardized Patient Program

Stacey Carmo BSN, RN

Program Manager
Penn State College of Medicine
scarmo@pennstatehealth.psu.edu
717-531-6304

Jenifer Benovy, BS – SP Program Coordinator

Resuscitation Sciences Training Center

Lori Double

Program Manager
Penn State Health - Milton S. Hershey Medical Center
ldouble@pennstatehealth.psu.edu
717-531-0003, Extension 282081

Ryan Shercliffe, MSN, RN, CHSE - RSTC Program
Coodinator

Phil Stark, RRT, CHSE – RSTC Systems Integration
Coordinator

Anne Bonawitz – RSTC Administrative Secretary

Ann Marie Schupper – RSTC Staff Assistant





Penn State Hershey Clinical Simulation Center
500 University Drive
Mail Code H182
Room C2630
Hershey, PA 17033
717-531-4099
<https://sites.psu.edu/hersheysimulation/>

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 giving@pennstatehealth.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.