

AUGUSTA UNIVERSITY

**MEDICAL
PARTNERSHIP**

UNIVERSITY OF GEORGIA

Simulation Center Annual Report

2023-2024



medicalpartnership.usg.edu

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Guiding Principles

The mission of the AU/UGA Medical Partnership Simulation Center is to promote excellence in patient care by working collaboratively with all educational stakeholders to offer safe, realistic, team-centered, interactive educational experiences utilizing the latest technology to develop, grow, and maintain the clinical proficiency of our students and the healthcare practitioners of our community.

Learning Environment

The Simulation Center is an integral component of experiential learning in promoting safe and proficient healthcare along the continuum of professional training and practice.

From the Director's Desk

As we turn the page on another academic year, I am proud to present the 2023-2024 annual report for the AU/UGA Medical Partnership Simulation Center. Reflecting on the accomplishments of the previous year, it is clear that our journey of innovation, growth, and excellence in healthcare simulation has not only continued but has also gained momentum. Building on the strong foundation laid in prior years, we have further advanced our mission to deliver cutting-edge simulation training that shapes the future of healthcare. Our center has embraced new technologies, expanded our curriculum, and strengthened our collaborative partnerships to enhance the learning environment for our students and faculty.



A new AV system was installed during the summer of 2023, allowing us to better integrate with Clinical Skills and Standardized Patient activities. New simulation cases were developed with input from both faculty and students, were piloted and revised by experienced simulation faculty and upper level students and successfully implemented. This year, 4th-year students taking a Medical Simulation elective developed two new cases designed for use in 4th-year clerkships. Student interest groups continued to utilize the simulation center and, under direction of simulation and community faculty, delivered hands-on activities to introduce students to a variety of medical specialties.

We were excited to offer professional development for our faculty, providing the opportunity for simulation faculty to participate in peer observation and feedback to further develop effective facilitation and debriefing methods.

We have continued our valuable partnerships with the UGA School of Pharmacy in delivering interprofessional simulation events, and the Internal Medicine Residency Program at St. Mary's Hospital (SMH IM) in creating and delivering advanced medical scenarios and procedure skills training. We began a new collaboration with the UGA School of Engineering by mentoring two capstone project groups.

Our progress would not be possible without the collective efforts of our dedicated team, the ongoing support from our faculty and staff, and the enthusiastic participation of our students. As we look to the future, we remain deeply committed to our mission of preparing healthcare professionals who are equipped with the skills, knowledge, and empathy to meet the challenges of an evolving medical landscape.

Thank you for your continued support and dedication to the AU/UGA Medical Partnership Simulation Center. Together, we are paving the way for a brighter, more effective future in healthcare.

Sincerely,

Aimee Martin, MD, CHSE

Director, AU/UGA Medical Partnership Simulation Center

Simulation Center Team Members:

Campus Director of Simulation: **Aimee Martin, MD, CHSE**

Campus Director of Ultrasound: **Kimberly Rathbun, MD, PhD**

Campus Lead for Procedures: **Thomas Howdieshell, MD**

Simulation Educator: **Len DeRamus, PA-C, CHSE**

Simulation Technician: **Michael Croyle**

Simulation Coordinator: **Trevor Ard**

UGA Student Worker: **McKenna Travis**

Simulation Center Oversight Team:

Dr. Aimee Martin, MD (Committee Chair)

Dr. Andy Morris, PhD

Dr. Bryson Greenwood, MD

Dr. Jaya Pamidimukkala, PhD

Dr. John Norris, MD

Dr. Kimberlee Giffen, PhD

Dr. Tresa Chappell, MD

Len DeRamus, PA-C

Agnes Kim (Class of 2024)

Harun Krndzija (Class of 2024)

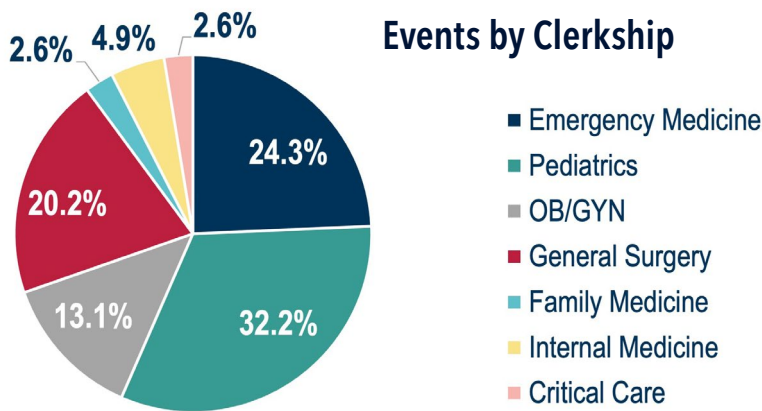
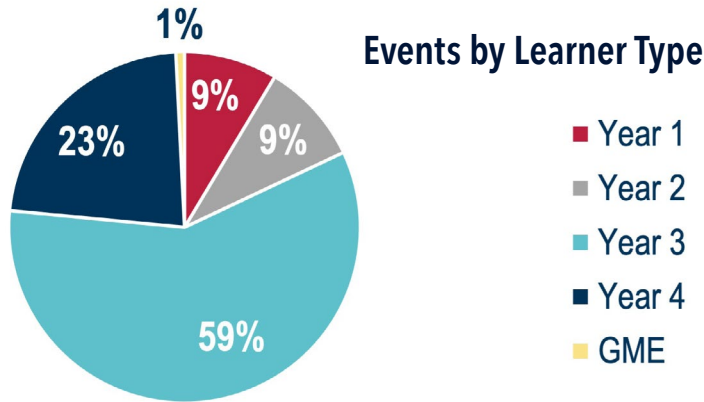
Jordan Mixon (Class of 2025)

Samuel Coppola (Class of 2025)

Trevor Ard

Metrics

During the academic year 2023 (July 1, 2023–June 30, 2024) the Simulation Center hosted 315 educational events.



Simulation Center QUICK STATS

315
Educational Events

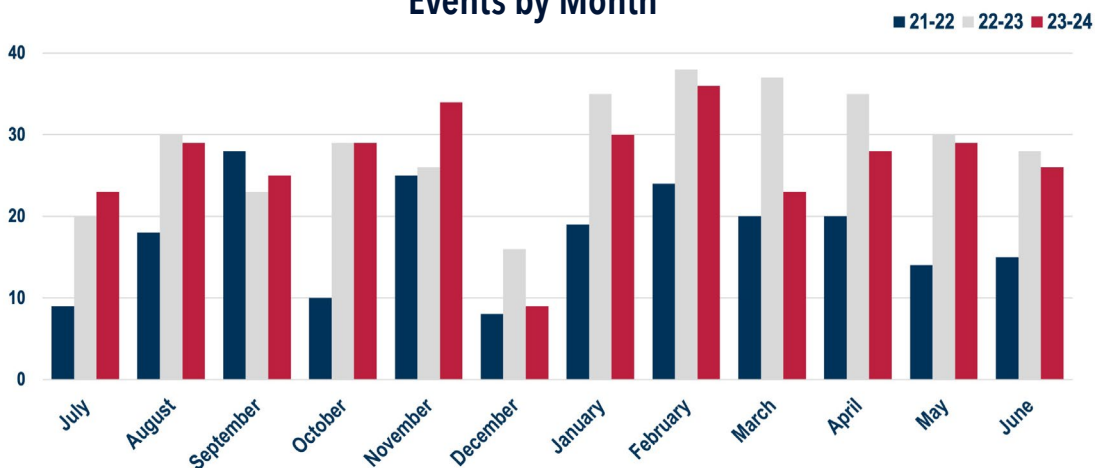
332
Curricular Hours

1308
Faculty Hours

1351
Room Hours

4291
Participant Contact Hours

Events by Month



**Footnotes for metrics:*

1. Data reporting and metric tracking and analysis were updated as of AY 23-24 in an effort to provide a more granular snapshot of the Simulation Center activities.
2. July 11-28, 2023: The Sim Center closed for installation of SimCapture, a new AV system.

Faculty Participating in PRECLINICAL ACTIVITIES

Simulation

AU/UGA Medical Partnership

15

Clinicians

Discipline types:
PhD, MD, PharmD,
PA-C

9

Basic Scientists

Discipline type:
PhD

UGA College of Pharmacy

9

Pharmacists

Discipline type: PharmD

Ultrasound (US)

11

Educators

Discipline types: PhD, MD

Procedural Skills

7

Clinicians

Discipline types: MD, PA-C, RN

Faculty Participating in CLERKSHIP ACTIVITIES

Procedural Skills & Simulation Activities

9

Clinicians

Discipline types: MD, PA-C, RN

Patient-Centered Learning (PCL)

13

Clinicians

Discipline types: MD, PA-C

Clinical Progression Assessment (CPA)

21

Clinicians

Discipline types: MD, RN

UME Program Accomplishments & Highlights

Milestones:

Medical Simulation, a new 4-week elective for 4th-year students, was launched in 2023 to provide students an inside look at simulation education learning theory, case development, and implementation. Students participated alongside faculty in all curricular simulation activities, and wrote and piloted three new educational scenarios.

A collaboration with Piedmont Athens Regional Medical Center (PARMC) Neonatal Intensive Care Unit (NICU) providers allowed students rotating on a NICU selective to practice procedures and resuscitation techniques for newborns under the tutelage of Ms. Ansley Waters, NNP-BC.

Course Highlights:

The faculty and staff of the Simulation Center, Clinical Skills program, and Standardized Patient program worked together to administer the CPA to 50 rising 4th-year students.

Enrichment Patient Centered Learning simulations were also administered under the same collaboration to students in 2024, providing formative assessment to 4th-year students on their management of common medical conditions and performance of basic procedures.

Simulation Center faculty filmed several instructional videos for 1st- and 2nd-year students to demonstrate proper procedures for conducting a primary and secondary examination on a patient, as well as how to properly give a patient report to a consultant over the phone.

Simulation:

Year 1 and Year 2 Pre-clerkship Activities

Students in Years 1 and 2 attended a total of ten simulation activities over the course of the pre-clerkship curriculum. These activities have been integrated into the system-based modules that form the backbone of the AU/UGA MP curriculum. The simulation activities have been designed to introduce students to healthcare teamwork, assessment and management of an acutely ill patient, and highlight the importance of the basic sciences in medical education and patient care. The delivery of this material is unique with both scientist and clinician faculty participating in the scenarios and the debriefing sessions. UGA School of Pharmacy faculty and students also participated in many 2nd-year sessions, providing valuable experience for pharmacy and medical students in interprofessional teamwork.

Year 3 Clerkship Activities

Rising 3rd-year students attended an orientation session before beginning clerkship rotations that includes several procedural skills stations. In addition to airway management/oxygen delivery scenarios and a review of the procedure of peripheral intravenous catheter placement, a new station was added this year to cover cardiac electrical therapies, including defibrillation, synchronized cardioversion, and transcutaneous pacing.

During six-week rotations on Pediatrics, Surgery, Obstetrics and Gynecology, and Internal Medicine Clerkships, 3rd-year students attended a varying number of academic half days (AHD) in the Simulation Center, participating in patient care simulations and advanced procedural skills labs.

Year 4 Clerkship Activities

4th-year students rotating on Emergency Medicine and the NICU Critical Care selective participated in simulation scenarios and advanced procedural skills sessions during academic half days in the Simulation Center.

Procedural Skills:

Year 1 and Year 2 Pre-clerkship Activities

Year 1 procedural labs included 12-lead electrode placement and ECG acquisition, basic airway management and oxygen delivery, and phlebotomy.

Year 2 procedural labs included peripheral IV placement, urethral catheterization, nasogastric tube placement, and local anesthesia administration.

Year 3 and Year 4 Pre-clerkship Activities

Procedural skills training continued in the 3rd and 4th years, with advanced procedures tailored to each specialty taught during AHDs. These included IUD placement and vaginal delivery during OB/Gyn, Ankle-Brachial Index measurement during Surgery, newborn hip examination maneuvers during Pediatrics, cardiac defibrillation during Internal Medicine, and lumbar puncture and intraosseous catheter placement during Emergency Medicine.

Ultrasound:

Year 1 and Year 2 Pre-clerkship Activities

Students attended 10 ultrasound workshops over two years, learning basic scanning techniques and organ-specific ultrasound, that corresponded to their classes in anatomy and physiology. Formative sessions were incorporated into Clinical Skills SP sessions and

patient case simulation scenarios during the second year.

Areas of focus for Year 1 students:

- Introduction to Ultrasound
- Musculoskeletal (Knee)
- Ocular and Neck Vessels
- Cardiac
- Abdominal (RUQ, LUQ)
- Pelvis & OB

Areas of focus for Year 2 students:

- Advanced Cardiac
- Aorta and Gallbladder
- Aorta with SP encounter
- Cardiac with SP encounter
- RUSH Exam
- FAST Exam review & Lower Extremity DVT

Year 3 and Year 4 Clerkship Activities

Practice and assessment of student ultrasound skills continued in the 3rd- and 4th-year, as students were required to submit specified scans of patients they cared for during their clerkship rotations. This utilizes skills learned during their preclinical years, and they received feedback on their technique and images.

Student Interest Groups (SIG):

Simulation Interest Group (MediSim)

This new interest group was chartered in the fall of 2023. Members were introduced to the many facets of medical simulation and were given the opportunity to develop, write, and conduct simulated cases showcasing a variety of specialties. These simulations, and additional workshops in specialized procedural skills, were planned in collaboration with the **Internal Medicine, Anesthesia, and Radiology Interest Groups** and were used to expose attendees to diverse fields of medicine. The inaugural event was created to introduce premedical students to medical simulation and led to an abstract and poster presentation by MediSim members at the 2024 AAMC Regional Medical Campus Conference in Washington, D.C.

Emergency Medicine Interest Group (EMIG)

EMIG planned many events, some in collaboration with the Family Medicine Interest Group and the Anesthesia Interest Group:

- Eye disorders and ocular exam/US
- Tube thoracostomy and IO placement on donors in the gross anatomy lab
- Extremity Splinting

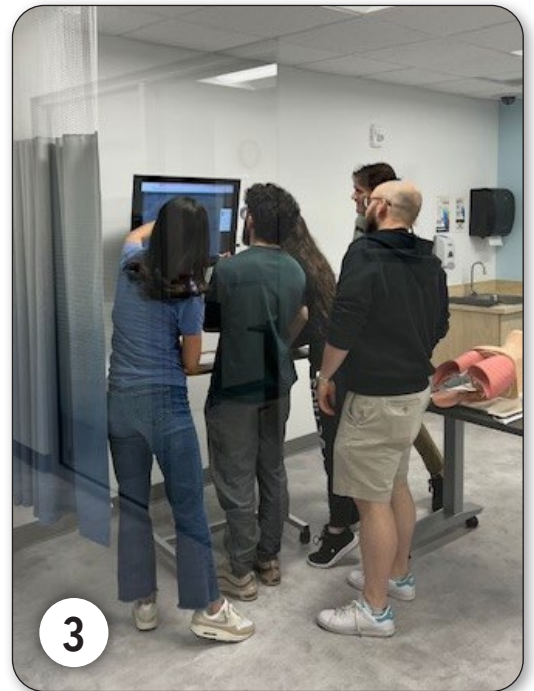


1

1. Sim & Anesthesia SIG discussing endotracheal intubation
2. Sim & Radiology SIG practicing ultrasound
3. Sim & Anesthesia SIG working a case in a simulation bay
4. Sim & Radiology SIG ultrasound group activity
5. Close-up of Sim & Radiology SIG using ultrasound equipment



2



3



4



5

GME Program Accomplishments

St. Mary's Hospital Internal Medicine (SMH IM) Residency Program:

Procedural Skills Training

Twenty-nine residents participated in a training session encompassing ultrasound-guided central venous line placement, arterial line placement, ultrasound-guided thoracentesis, point of care ultrasound, and knee arthrocentesis. This was developed and lead through a collaboration of SMH IM Residency and AU/UGA MP faculty.

Simulated Patient Care Training

Twenty-eight PGY 1-3 IM resident teams rotated through four cases that simulated inpatient emergencies. The cases were writtent by SMH IM faculty and chief residents in collaboration with AU/UGA MP faculty.

Faculty and Staff Education & Training

Standardized patients, faculty, and staff attended training in the simulation center periodically to prepare for participation in simulation scenarios as manikin operators (roleplaying as patients and consultants) and embedded participants (typically role-playing as nurses).

Clinical faculty attended two American Heart Association recertification courses (Basic Life Support, Advanced Cardiac Life Support) taught by simulation faculty.

Engagement with other UGA Schools/Departments:

UGA School of Pharmacy:

Coordinated by Dr. Tim Brown, UGA School of Pharmacy 3rd-year students participated in an elective that placed them in a 2nd-year medical student team for three patient care simulations during the spring semester. Students worked together in this interprofessional team to provide care for simulated patients experiencing an acute illness. UGA School of Pharmacy faculty participated as facilitators during these and additional encounters.

UGA School of Engineering:

The Simulation Center proposed two projects, a Simulated Glucometer and a Simulated Ear for Otoscopy, for consideration in the yearly School of Engineering Capstone Design program, both of which were chosen by engineering student teams. Simulation Center faculty and staff met periodically with both student teams to provide guidance on project requirements and design elements. Both projects were presented at the Capstone Design Showcase in April. The Simulated Glucometer won best project in the Biological/Medical Device category.



1. SOE Simulated Glucometer Capstone Group
2. SOE Simulated Ear Otoscopy Capstone Group
3. Simulated Glucometer won best project in the Biological/ Medical Device category

Community Programs

Demonstrations & Tours

Foothills Area Health Education Center (AHEC):

Undergraduate UGA students who participated in the Foothills AHEC Pathway to Med School summer program visited the Simulation Center, and participated in an escape room activity. Foothills AHEC, in collaboration with community partners from across Northeast Georgia, administers this four-week residential program each summer for undergraduate pre-medical students attending Georgia institutions who plan to stay in-state for medical school and practice primary care in Georgia.

UGA ESTEEMED:

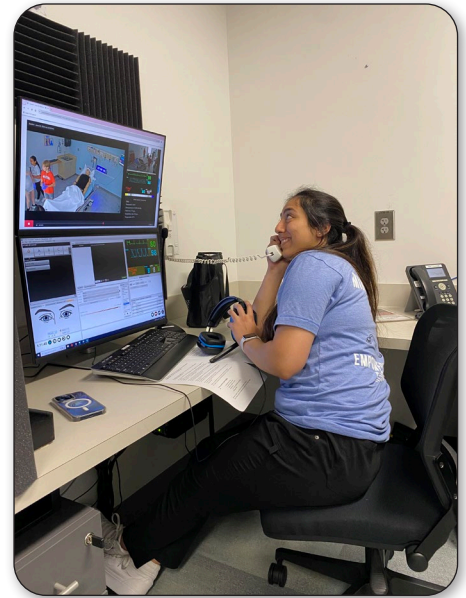
Enhancing Science, Technology, Engineering, and Math Educational Diversity

Undergraduate UGA students participating in the Summer Bridge of the UGA ESTEEMED Program made two visits to the Simulation Center in the summer of 2023. They were given a tour of the simulation center and introduced to some of the equipment and technology used in simulation education, and also participated in our escape room activity. UGA ESTEEMED is a program for undergraduate students from underrepresented groups who are interested in seeing first-hand how their major contributes to biomedicine and exploring potential careers paths.



Mini-Medical Camp:

Mini-Med Camp completed its 3rd year this past summer. 178 campers aged 8-18 participated in the hands-on, interactive camp led by rising second year medical students. Campers learned about the field of medicine, engaged in learning the science of the human body and chose interactive electives that piqued their interests. All campers participated in simulated experiences in the Simulation Center, which included an escape room and a case where they were asked to diagnose the patient's condition. Students also had the opportunity to participate in an ultrasound elective, in which they learned about the purpose, use, and importance of ultrasound in the medical field.



Events

Simulation in Healthcare Week:

In September the Simulation Center celebrated Healthcare Simulation Week, sponsored by the Society for Simulation in Healthcare (SSH), with the purpose of raising awareness about the use of simulation to improve the safety, effectiveness, and efficiency of healthcare delivery.



New Equipment & Acquisitions

Donated:

- Mechanical Ventilators donated from Draeger, Inc.

Center Upgrades:

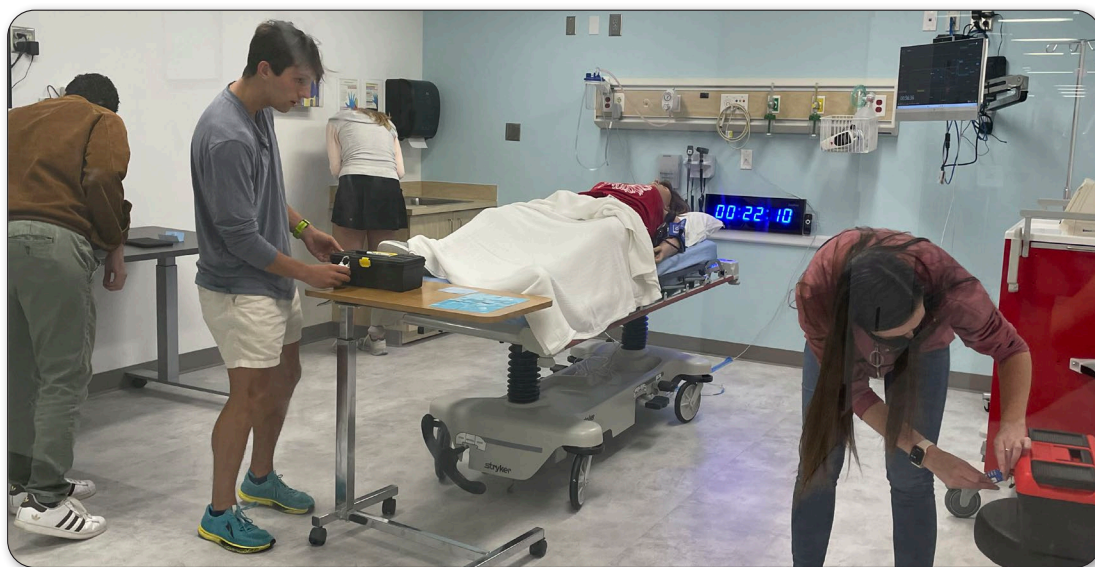
- AV System upgrade to SimCapture

Purchased Trainers:

- Pediatric Airway Trainers
- Adult Airway Trainers
- EKG Lead placement Trainers
- Thoracentesis/Pericardiocentesis Trainer
- Oto/Ophthalmoscopes (can be signed out for student use)
- Arterial Line Trainer
- Urinary Catheter Trainers

Purchased Equipment:

- Zoll Cardiac monitor/defibrillators



Publications, Presentations

1. Martin AT, Giffen KP. Twelve tips for orienting preclinical healthcare students to simulation education. *Medical Teacher*, 1-5. Published online Mar 2024. <https://doi.org/10.1080/0142159X.2024.2323176>.
2. Martin AT, Rathbun KM, Bond MT. Incorporating an ultrasound assessment station into existing standardized patient encounters. Selected Oral Presentation 8th World Congress on Ultrasound in Medical Education; September 9, 2023, Detroit, MI.
3. Rathbun KM, Song D, Martin AT. Comparison of different standoff pads during ocular ultrasound training sessions. Poster presentation, 8th World Congress on Ultrasound in Medical Education; Sept 9, 2023, Detroit, MI.
4. Coppola S, Rhee C, Baber R, Bruda C, Kim A, Manjunath R, DeRamus LD. Empowering the Next Generation: Value of Medical Simulations in Undergraduate Medical Education. Selected Innovation Poster Abstract Presentation. 2024 AAMC Regional Medical Campus Conference, June 4, 2024, Washington, D.C

Staff & Faculty Accomplishments

1. Len DeRamus, PA-C achieved Certification in Healthcare Simulation Education (CHSE) through Society for Simulation in Healthcare (SSH)
2. Aimee Martin, MD renewed CHSE
3. Len DeRamus, PA-C completed DASH Rater Training Workshop offered by the Center for Medical Simulation
4. Drs. Carrie Kelly, Kimberlee Giffen, and Toby Tally completed the one-day Gateway Debriefing Skills workshop offered by the Center for Medical Simulation