

UNIVERSITY OF GEORGIA

# Simulation Center Annual Report 2021-2022

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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 nurture growth and development of clinical proficiency.

## **Learning Environment**

We envision the Simulation Center as being an integral component of experiential learning in promoting safe and proficient healthcare along the continuum of professional training and practice.

## Introduction

The AU/UGA Simulation Center became operational in January 2020. The center occupies almost 3,500 square feet of the second floor of Russell Hall on the Health Sciences Campus and contains 5 patient bays, a multifunctional skills lab, a control room, and a debriefing space in addition to offices and storage space. Our activities include procedural skills training, simulated scenarios with high fidelity manikins, ultrasound training, as well as faculty and staff training events. Our learners are comprised of all preclerkship and clerkship medical students, elective third-year pharmacy students, Internal Medicine residents, and community student groups.

#### **Simulation Center Team Members:**

Director of Simulation: Aimee Martin, MD, CHSE Director of Ultrasound: Kimberly Rathbun, MD, PhD, MPH Director of Procedures: Thomas Howdieshell, MD Coordinator: Kim Hill, MS, RRT, RRT-NPS, RPFT Educator/Clinical Instructor: Len DeRamus, MPAS, PA-C Simulation Technician: Michael Croyle UGA student worker: Kyra Chism

# Participating Faculty in Pre-Clerkship Activities

#### Simulation

#### AU/UGA Medical Partnership Clinicians

Tim Brown, PharmD Tresa Chappell, MD Len DeRamus, MPAS, PA-C Tom Howdieshell, MD Carrie Kelly, MD Bobby McClowry, MD Laurel Murrow, MD John Norris, MD Kim Rathbun, MD, PhD, MPH Don Scott, MD Toby Tally, MD

#### AU/UGA Medical Partnership Scientists

Amy Baldwin, PhD Casey Bassett, PhD Matt Boegehold, PhD Thom Gaddy, PhD Kim Giffen, PhD Kearney Gunsalus, PhD Mike Russell, PhD Jaya Pamidimukkala, PhD Clive Slaughter, PhD

#### **UGA College of Pharmacy**

Larry Aull, PharmD Trisha Branan, PharmD William Huang, PharmD Blake Johnson, PharmD Devin Lavender, PharmD Juliette Miller, PharmD Beth Phillips, PharmD Rebecca Stone, PharmD Robin Southwood, PharmD Randall Tackett, PhD

#### Ultrasound

#### **AU/UGA Medical Partnership Faculty**

Len DeRamus, MPAS, PA-C Kim Giffen, PhD Tom Howdieshell, MD Carrie Kelly, MD Aimee Martin, MD Toby Tally, MD Ariel VanLeuven, PhD

#### **Procedural Skills**

AU/UGA Medical Partnership Faculty Molly Bond, MD Tresa Chappell, MD Len DeRamus, MPAS, PA-C Mark Ellison, MD Jan Loeffler, MD John Marti, MD Aimee Martin, MD Kim Rathbun, MD, PhD, MPH Don Scott, MD Toby Tally, MD

# Participating Faculty in Clerkship Procedural Skills and Simulation Activities

Tresa Chappell, MD Len DeRamus, MPAS, PA-C Matt Farmer, MD Tom Howdieshell, MD Carrie Kelly, MD Jon Marti, MD Julie Martin, MD Lina Milan, MD Toby Tally, MD

# **Visiting Clinical Faculty**

Cristina Elstad, MD-Ultrasound Cullen Timmons, MD-Clerkship

## **Metrics**

During the academic year 2021 (July 1, 2021–June 30, 2022) the Simulation Center hosted 223 educational events with 1,645 students (not discrete).











# Metrics, continued.





# **Program Accomplishments & Additions**

## **New Hires/Positions Created:**

#### **Simulation Technician - New position**

Hire date: February 2022

Michael Croyle: Michael brings a background in Information Technology (IT), security, law enforcement, and US Marine Corps training.

#### **Simulation Educator - New Position**

To begin in September 2022

Len Deramus, MPAS, PA-C: Mr. DeRamus with approximately 40 years of experience in medicine and academia as a paramedic and physician assistant currently serves as a full-time Simulation Educator.

#### **Simulation Coordinator - New Hire**

Hire date: February 2022

Kim V. Hill, MS, RRT, RRT-NPS, RPFT: Kim has experience in Respiratory Care and Higher Education.







# **Clinical Skills Training:**

#### Harvey, the Cardiopulmonary Patient Simulator

The Simulation Center obtained a Harvey Simulator for use in all years of the medical school curriculum to provide additional hands-on instruction in cardiopulmonary examination and diagnostic skills.

The Harvey Simulator can reproduce and vary auscultatory findings, blood pressure, pulse, and precordial findings that may be present in cardiac conditions. Harvey has 50 preprogrammed cases with associated abnormal physical findings that can act as an adjunct to instruction.

UMedic, a multimedia computerized software program adds an additional twenty cases that may be utilized as an independent learning tool or in association with Harvey.

A one-day training session for was provided for our Faculty and Staff. The training session included set-up, operation, and care of Harvey along with the technical features of the simulator.







### Ultrasound:

Handheld Butterfly IQ+ ultrasound probes were distributed to all Year 3 medical students for use during clerkship rotations. This technology allows students to perform point-of-care imaging using one probe for entire-body imaging and allows students to obtain patient images required for the successful completion of each participating clerkship.

## Simulation in Healthcare Week:

In the fall of 2021, the Simulation Center participated in its first Healthcare Simulation Week activity. This is an annual activity sponsored in conjunction with the Society for Simulation in Healthcare (SSH). The goal of Healthcare Simulation Week is to raise awareness about healthcare simulation's role in improving the safety, effectiveness, and efficiency of healthcare professionals and students.

A self-guided tour of the Simulation Center focused on different procedures and patient encounters that the medical students experience in their curriculum involving the Simulation Center.

Stations included:

- Identifying hidden objects using ultrasound
- Ultrasound of a fetus in utero with SonoSim
- Introduction to a pediatric simulator, given by the simulator itself
- Performance of a FAST scan of a trauma victim with SonoSim
- Treatment of a cardiac arrhythmia and chest pain, demonstrating the patient simulator's automated responses to treatment



# Course Highlights Simulation:

#### Year 1 and Year 2 Preclerkship Activities

- Year 1 students participate in three simulation activities over the course of the year, including an escape room to orient them to the simulated hospital environment and manikin simulators.
- Year 2 students participate in a total of six simulation activities over the course of the year. Three of these simulation activities are Interprofessional Simulations that include the introduction of 3<sup>rd</sup> year pharmacy students into teams of 2<sup>nd</sup> year medical students.

#### Year 3 and Year 4 Clerkship Rotations

- Year 3 Orientation-Refresher in Airway Management with simulated cases.
- Pediatric Clerkship students participate in weekly simulations over a six-week rotation.
- General Surgery Clerkship students participate in one simulation per rotation.
- Internal Medicine Clerkship students participate in two simulations per rotation.
- Collaboration with Emergency Medicine to develop a new simulation that will be delivered each rotation. This was accomplished through an Education Elective option by a Year 4 student Gurshawn Tuteja and the Director of the Simulation Center, Dr. Aimee Martin.

### **Procedural Skills:**

- Year 1 and Year 2 students attend Procedural Skills sessions throughout the first two years.
- Skills taught include Phlebotomy, Injections, IV Placement, Airway Management/BVM use, NGT Placement, Local Anesthesia, EKG lead placement, Sterile Gloving, and Urethral Catheter Placement.
- Year 3 OB/GYN Clerkship students participate in standard gynecology exams and female breast exams as well as newborn delivery using high-fidelity manikins.

### **Ultrasound:**

- Year 1 students attend six ultrasound workshops over the course of the academic year. Topics are integrated with the anatomy course and include:
  - Introduction to Ultrasound

Cardiac

- Musculoskeletal (Knee)
- Ocular

- Abdominal (RUQ, LUQ)
- Pelvis and OB

- Year 2 students attend five ultrasound workshops over the course of the academic year. Topics are integrated with and follow the organ-based curricular modules and include:
  - FAST Exam and Lower Extremity DVT
- Ocular and Neck

RUSH Exam

- Cardiac
- Aorta and Gallbladder
- Two standardized patient encounters in Year 2 requiring students to perform point-ofcare ultrasound as a part of a patient encounter. Developed in collaboration with the Clinical Skills program.
- Faculty training in ultrasound is provided prior to each ultrasound workshop

### **Graduate Medical Education:**

#### St Mary's Hospital Internal Medicine Residency Program

- Resident Simulations and Procedural Skills training
- Intern Orientation

### **Student Interest Groups:**

#### **Surgery Interest Group**

• The surgery interest group conducts a weekly suture and knot-tying under the tutelage of Drs. Tally and Howdieshell.

# **Community Outreach**

### **Mini Medical Camp:**

The Simulation Center is an integral part of the Medical Partnership's community outreach work including the Pathway to Medicine programs that aim to introduce students from historically underrepresented populations to careers in medicine.

This past summer, the Center hosted middle and high school students enrolled in Mini-Medical Camp, a joint program between the Summer Academy at UGA and the AU/UGA Medical Partnership. The Mini Medical Camp gave students an opportunity to experience simulated patient interactions using high-fidelity patient manikins. Students were taught by medical students on the basics of patient interaction through medical scenarios involving the diagnosis and treatment of various medical issues including syncope, trauma, myocardial infarction, and an introduction to a hospital patient room using an escape room format.



## Foothills AHEC Pathway to Medical School Program:

12 students attending the summer program designed for undergraduate premedical students toured the Simulation Center and participated in an Escape Room activity designed to introduce them to the simulated hospital room and human simulators.

### **Tours and Demonstrations:**

- Student members of the Community Outreach and Service Interest Group (COSIG) hosted students from a local elementary school, and provided a tour of the Simulation Center as well as an ultrasound demonstration, among the activities.
- Student National Medical Association (SNMA) UGA Pre-Med Club Tour and Ultrasound Demo

# **New Equipment & Acquisitions**

# High Fidelity Simulators: • Gaumard Super Tory Newborn Simulator

- Harvey, the Cardiopulmonary Patient Simulator

### **Task Trainers:**

- Nasogastric trainers •
- OtoSim and OphthoSim Ear/Eye otoscope simulators
- Nose and Throat task trainers

### **Center Upgrades:**

- Control room and patient bay computers
- Tablets for use with point-of-care ultrasound probes

## Presentations, Publications, Grants & Awards

### **Presentations**

DeRamus, L. "Where is Waldo Harvey? Wait, who is Harvey?" Introduction to Harvey, the Cardiopulmonary Patient Simulator and Umedic software. AU/UGA Medical Partnership, June 2022.

### **Publications**

Martin AT, Gibbs S. An escape room to orient preclinical medical students to the simulated medical environment. MedEdPORTAL. 2022;18:11229. <u>https://doi.org/10.15766/mep\_2374-8265.11229</u>.

### Grants

#### **UGA Technology Fee Funding**

- Award notification January 4, 2022
- Award amount \$ \$72,446
- Used to purchase Harvey the Cardiopulmonary Patient Simulator, as well as Task Trainers for use in clinical skills teaching in all years of the curriculum.

#### The Center for Teaching and Learning (CTL) Learning Technologies Grant (LTG)

- Award notification May 10, 2022
- Award amount \$17,504.
- Used to purchase UMedic software and additional hardware to accompany Harvey, the Cardiopulmonary Patient Simulator. This will allow for independent student learning opportunities and expands the functionality of the Harvey simulator.

### Awards

UGA Student Employee of the Year. Kyra Chism, Simulation Center student employee, received recognition for being among the top 100 student employees of 2022.