



THE UNIVERSITY OF
TENNESSEE
HEALTH SCIENCE CENTER.



CHIPS

ANNUAL REPORT

2022-2023

UHSC
CENTER FOR
HEALTHCARE IMPROVEMENT
AND PATIENT SIMULATION

CONTENTS

About CHIPS 1

Our Vision 2

Our Mission 2

Introduction 2

CHIPS Activity 3

Accomplishments and Accolades 4

Simulation Education Highlights 5

Administration and Operations Highlights 8

Innovations 9

Publications 10

Presentations 10

CHIPS Simulation Outreach 11

ABOUT CHIPS

The Center for Healthcare Improvement and Patient Simulation (CHIPS) is a 45,000 square foot stand-alone building for healthcare simulation and interprofessional education. The state-of-the-art facility opened in 2018 and is designed to meet the simulation needs of all UT Health Science Center students, residents, professional staff, and clinical partners. CHIPS is dedicated to improving the quality of healthcare delivery through education, research, assessment and enhanced clinical skills with simulated patients (individuals trained to portray patients), high-fidelity patient simulators (manikins), task trainers and virtual reality settings. CHIPS is proud to be accredited by the Society for Simulation in Healthcare for our core operations and teaching and education modalities. The building is the only one of its kind in Tennessee and one of only a handful in the country.





OUR VISION

The Center for Healthcare Improvement and Patient Simulation (CHIPS) endeavors to advance healthcare through patient simulation as an international center of excellence for healthcare simulation. CHIPS is centered on the values of psychological safety, transparency, and servant leadership.



OUR MISSION

The Center for Healthcare Improvement and Patient Simulation (CHIPS) is dedicated to improving the quality of healthcare delivery through education, research, assessment, and enhanced clinical skills training with simulated patients (SPs), high-fidelity patient simulators (manikins), and virtual reality settings.



INTRODUCTION

The current landscape of healthcare education has a precise focus on adequate training, reinforced learning opportunities, and teamwork behaviors. Learning through repetition and deliberate simulation experiences lends itself to superior patient care, improved patient outcomes, and enhanced patient safety. Healthcare simulation-based training as an educational methodology has grown significantly since the 2000's, moving outside of traditional classroom learning and into innovative solutions for students and healthcare providers alike. As the flagship statewide, public, academic health system, the mission of the University of Tennessee Health Science Center (UTHSC) is to bring the benefits of the health sciences to the citizens of Tennessee by pursuing an integrated program of education, research, clinical care, and public service.



The changing world of healthcare education demands the incorporation of innovative strategies. Access to healthcare simulation-based education can transform individuals into competent clinical professionals. The training offered within CHIPS directly impacts the healthcare outcomes of Memphians, and Tennesseans alike, as our learners and trainees care for communities of people all over our state. Simulation is a fundamental strategy for current and future challenges in healthcare education and delivery.



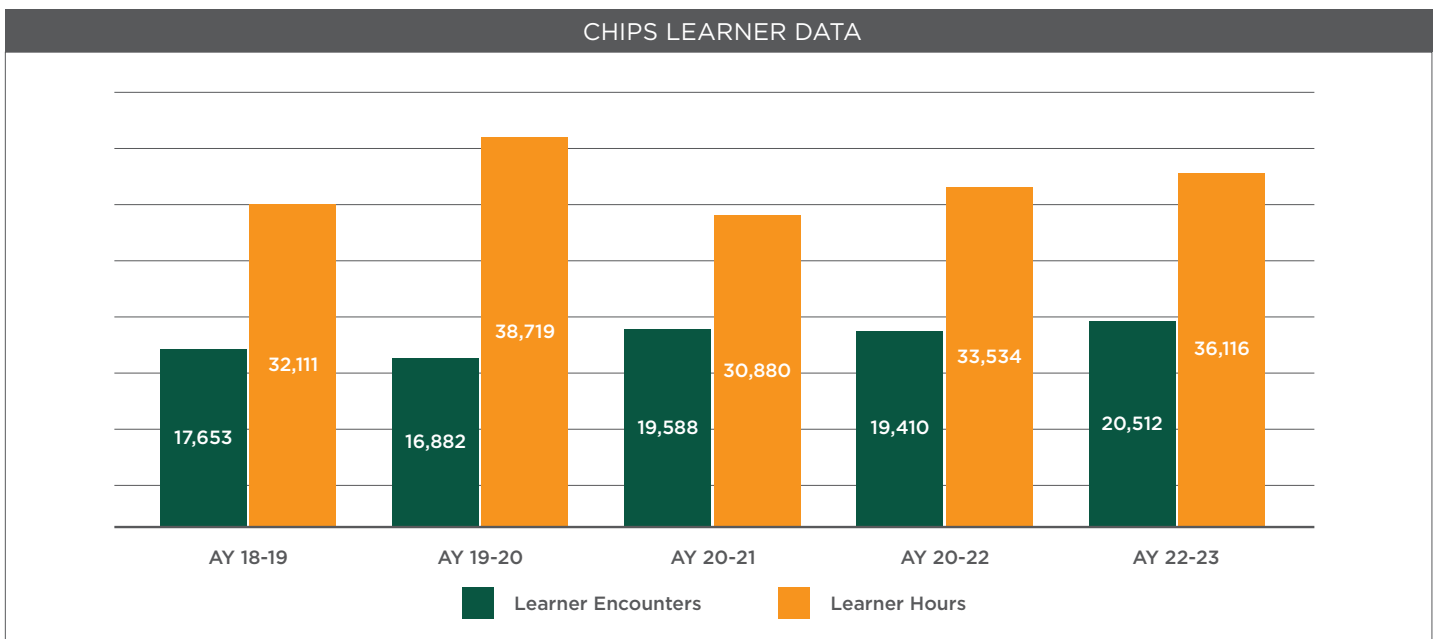
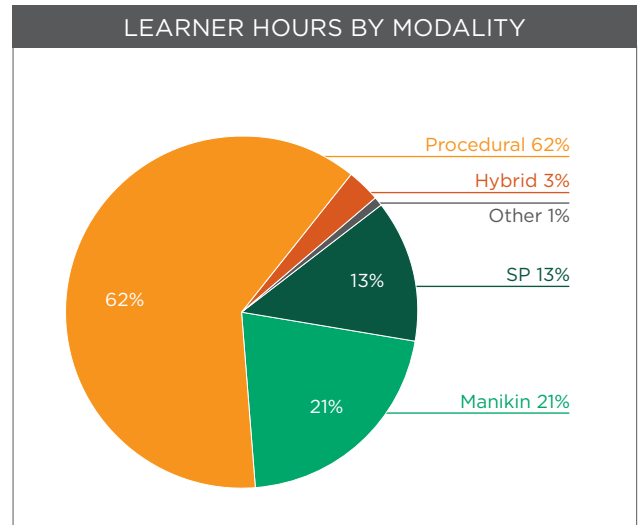
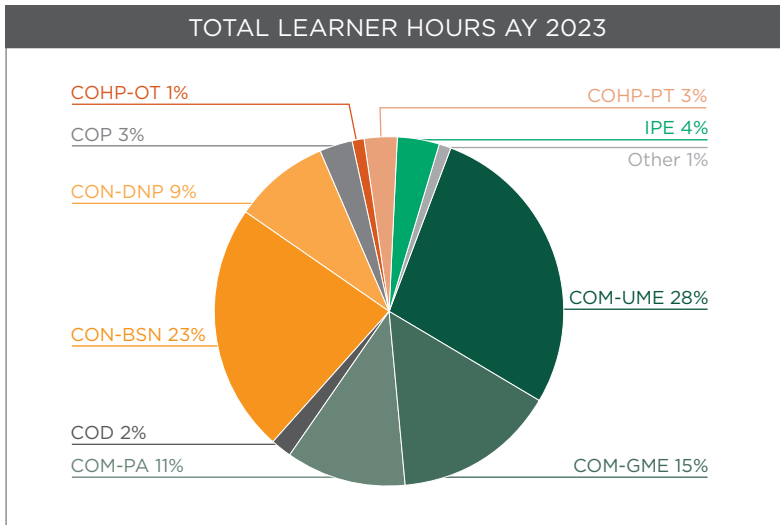
The expertise of simulationists within CHIPS provides the foundation for successful collaboration across our campus. It is this commitment to excellence that allows us to harness the technological advancements of the field and bring forward best practices, evidence-based simulation, and innovative solutions to statewide learning opportunities that is helping create competent healthcare providers that change our community's health now and into the future.

CHIPS ACTIVITY

Academic Year 2022-2023 was another banner year for the Center for Healthcare Improvement and Patient Simulation. Between August 1, 2022, and July 31, 2023, CHIPS supported simulation activity for 20,512 non-unique learners.

In addition to the total number of encounters, CHIPS saw a record number of learner hours and encounters for manikin simulation opportunities this year. Building growth and learning opportunities in this modality of simulation has been an objective of the program since the center opened.

CHIPS Learner Encounters (non-unique): 20,512
CHIPS Learner Hours: 36,116



ACCOMPLISHMENTS AND ACCOLADES



In August 2022, CHIPS welcomed **Dr. Tara Jackson Lemoine** to the position of Executive and Medical Director. Dr. Lemoine comes to UT Health Science Center from Valley Children's Hospital in Madera, California, where she spent 10 years building the simulation program at Valley Children's Hospital. She is dual board certified in pediatrics and pediatric critical care. After receiving her Doctor of Osteopathy degree from North Texas Health Science Center, she completed her residency and critical care fellowship at Primary Children's Medical Center and the University of Utah. She obtained a fellowship in simulation medicine through the University of Calgary in Alberta, Canada



Jarrod Young was announced as a Fellow of the Society for Simulation in Healthcare Academy (FSSH) 2023 class. This global group of professional healthcare simulationists is recognized for sustained contributions and impact on the field of healthcare simulation and to SSH. Their work, dedication, and passion has helped shape the current art, science, and practice of healthcare simulation, and is helping to shape its future. He is one of 101 individuals from 13 countries to receive this prestigious recognition.



Xavier Agee was nominated for the Thomas Connell Lichterman Employee of the Year Award. Finalists for this award are recognized as the most outstanding non-exempt employee on the UT Health Science Center Campus. Xavier exemplifies hard work, determination, and dedication to his job and the learners at UT Health Science Center.

In addition to the accomplishments and accolades listed above, there were a number of additional staff highlights from a productive year for CHIPS staff:

STAFF PROMOTIONS:



Sophia Mosher was promoted to Simulation Educationalist



William Tolbert was promoted to Simulation Operations Specialist



Jarrod Young was promoted to Director of Operations/Technology and Business Development

ADDITIONAL STAFF ACCOMPLISHMENTS:



Dr. Kuan Xing
was accepted to the Society of Directors of Research in Medical Education



Sophia Mosher
completed the Debriefing Academy and earned the Certified Healthcare Simulation Educator (CHSE)

CHIPS grew its simulated patient (SP) pool grew from 40 to 80



James Orr and Katie Porcaro
earned the Certified Healthcare Simulation Operations Specialist (CHSOS)

SIMULATION EDUCATION HIGHLIGHTS

PrEP BOOTCAMP

In April 2023, CHIPS held an interdisciplinary Pre-exposure Prophylaxis (PrEP) Bootcamp for healthcare professional learners. This learner group consisted of APRN students, BSN nursing students, medical residents and students, and pharmacy students. Participating learners had the opportunity to engage in traditional didactic lectures and small group simulations.

Working with the simulated patient (SP) allowed practice with interviewing techniques for collecting the sexual health history and methods for discussing PrEP with the simulated patient. These strategies consisted of communication skills, patient-provider relationships, social determinants of health, and epistemic justice. The SP session was highly rated as an excellent form of educational delivery, described as “engaging,” and created a sense of “comfort” in interacting with patients about sensitive topics. Learners moved from traditional siloed learning to knowledge-sharing with other disciplines which helps to set the foundation for collaborative and respectful practice in healthcare. As highlighted by one learner: “I liked the group simulated patient experience because [I thought] ‘Okay, this is how this person interacts with a patient,’ and it helps you to navigate and learn from others.”



MSNAF

CHIPS hosted the MidSouth Student Nurse Anesthetist Foundation (MSNAF) continuing education conference on Friday, April 28th, 2023. This education conference was for CRNAs, SRNAs but also medical students, residents, and fellows. David Convissar, MD, a Board-Certified Cardiac Anesthesiologist and Intensivist who has a social media presence (IG: countbackwardsfrom10), joined us at CHIPS and used our simulators to give an in-depth look at transesophageal echocardiography.



SIMULATION EDUCATION HIGHLIGHTS

SIMULATION EDUCATOR NEEDS ASSESSMENT TOOL (SENAT)

The Simulation Educator Needs Assessment Tool was originally created by Teresa Britt who subsequently worked with two expert researchers, Dr. Kuan Xing and Dr. Kim Leighton to establish validity and reliability of this needs assessment tool. The established tool can be found on the website healthysimulation.com.

“In regard to the tool, I humbly just hope it is a tool that the sim world finds helpful. It was written to help establish a professional development roadmap for those who facilitate simulation, promote self-reflection, and provide data that can lead to psychologically safe mentoring conversations. Through the tool, we can determine where facilitators are in their sim knowledge and skills and where they want to go,”

- Teresa Britt MSN, RN, CHSE-A

OCCUPATIONAL THERAPY STUDENT IMPROV CLASS

This innovative class was led by members of the CHIPS Education team, Jamie Pitt, Amy Rush and Tim Dotson. It combines the principles of improvisation with compassionate caregiving techniques to create a transformative approach for OT students working with Alzheimer’s and dementia patients. Students learn how to harness the power of spontaneity, adaptability, and empathy to engage with patients and caregivers in novel and meaningful ways. Through a series of hands-on exercises, role-playing, and interactive scenarios, participants develop the skills to break through conventional caregiving boundaries and open new realms of communication and understanding for those facing memory loss challenges. By embracing the core tenets of improvisation, students cultivate an environment of acceptance, creativity, and joy that enhances the quality of life for both caregivers and patients alike, ultimately enriching the caregiving experience and creating a positive impact on the lives of individuals living with Alzheimer’s and dementia.



SIMULATION EDUCATION HIGHLIGHTS

GUIDED RESIDENT INTERNATIONAL TRAINING (GRIT)

CHIPS takes great pride in its enduring partnership with the Guided Resident International Training (GRIT) program, which caters to Internal Medicine, Pediatrics, and Medicine-Pediatrics residents with a passion for global health. Over the span of three years, our collaboration has borne fruit in the form of a robust case repository. Our dedicated CHIPS education team, Sophia Mosher in collaboration with faculty members and lead residents, crafted a comprehensive, two-year simulation curriculum tailored specifically for GRIT track residents.



This curriculum was designed to align with the unique needs of residents embarking on rotations in lower-middle income countries, where resources are often limited. Drawing from the well-established SUGAR (Simulation Use for Global Away Rotations) simulation curriculum that integrates practical and emotional challenges typically encountered in resource-limited settings, we have expanded these cases by incorporating creative skills and communication practice.

Our simulation curriculum alternates between adult and pediatric scenarios, each presenting a distinctive skill using readily available equipment in innovative ways. Furthermore, our curriculum incorporates a crucial communication component, affording residents the invaluable opportunity to practice communicating with patients and family members about challenging realities faced in resource-limited settings.

COMPLEX ANESTHESIA TRANSFER PRACTICE SIMULATION

CHIPS Education and Operations Specialists collaborated with Department of Anesthesiology faculty to develop a new complex transfer practice for the July 2023 Intern Bootcamp using the rapid cycle deliberate practice (RCDP) technique. During the simulation, learners gathered the materials needed for safely transporting a critically ill patient, transported a critically ill manikin patient from a patient room to the operating table and back to the patient room. Anesthesiology faculty members were present throughout the simulation, observing performance gaps and pausing to provide clear instructions to correct those gaps, maximizing the amount of time learners spent practicing correct actions.



CHIPS PROFESSIONAL DEVELOPMENT MODULES

During the 2021-2022 academic year, CHIPS introduced professional development modules for the faculty and facilitators partnering with us on simulation-based activities. Following the yearlong pilot, CHIPS began a comprehensive redesign of the modules, including updates for the newly released best practice standards in healthcare simulation and transitioning to an intuitive software platform. This substantial effort enhances user-friendliness and maximizes the educational impact of our modules. Through evidence-based approaches and user feedback, the redesigned modules are accessible, engaging, and reflective of the evolving landscape of healthcare education.

SCENARIO TEMPLATE STANDARDIZATION

The CHIPS education team has an updated manikin scenario template. Over the past year, the team has focused on transitioning all existing cases to the new template. During this transition process, we collaborated with faculty members to integrate updated healthcare content and adhere to simulation standards of best practice. The new template provides comprehensive content for the simulation, providing end users with all the information necessary for the set-up, prebrief, facilitation of the simulation, and the debrief.

ADMINISTRATION AND OPERATIONS HIGHLIGHTS

UT HEALTH SCIENCE CENTER CORPORATE EXCHANGE

CHIPS hosted a corporate exchange event sponsored by the UT Health Science Center Office of Advancement. Activities included playing the team building tabletop game Friday Night at the ER. This game simulated a complete hospital shift in just one hour. After scores were calculated, participants engaged in a debrief discussion of the gameplay activities, led by Tara Lemoine and Jarrod Young.

The activity's purpose was to offer team-building opportunities with members of local businesses in the Memphis area, while showing the array of opportunities and talent within the CHIPS program. CHIPS continues to work toward supporting the UT Health Science Center Strategic Plan of community partnership and engagement.



COMMUNITY ENGAGEMENT

In alignment with the new University of Tennessee Health Science Center strategic plan, CHIPS remains committed to community engagement and mentorship opportunities for the next generation of Memphians. This year, CHIPS hosted a few events that showcased both the high-quality work accomplished at CHIPS, but also provided access to high school learners interested in careers as a clinical provider.

In October 2022, CHIPS welcomed students from Columbia Academy in Middle Tennessee who were interested in health-related fields. These students included both Middle and High School learners who came to CHIPS to tour and get a better understanding of life as a graduate health student. These learners were tasked with following up with a report on what they learned and how it was going to impact their pursuit of a degree in a clinical field.

In February, UT Health Science Center Medicine Admissions put on their second annual Learning and Engagement for Aspiring Physicians (LEAP) program. LEAP provides exposure to the field of clinical medicine for underrepresented high school students from Memphis-Shelby County School System. These students are picked by their school counselor as high-performing students who applied to participate in the program. The school counselors

heard from CHIPS staff and received a tour of the center before selecting students to ensure they were the best match for the program. This year, we welcomed around 30 learners at CHIPS where they participate in hands-on skill assessment and techniques with current Physicians in our UT Health Science Center system.

In March, CHIPS welcomed West Tennessee's HOSA Future Health Professionals. This partnership runs through the UT Graduate Medical Education Office and was back on campus for the first time since COVID-19. Learners from multiple schools across West Tennessee participated in hands-on sessions in airway training, ultrasound, labor and delivery, and virtual laparoscopic suturing. These learners were able to connect with faculty from across the College of Medicine, as well as become immersed in all that CHIPS has to offer.

LOW-COST RESOURCE DESIGN

Low-cost resource design and innovation is a rapidly growing subsection of the simulation operations field. This field captures the knowledge, innovation, and skill set of operations team members, while simultaneously creating savings for the business operations of simulation programs. For the CHIPS team, one area of potential savings was identified to be task trainer consumables. Nick Brauer, Harold Weaver and William Tolbert worked together to create replacement cricothyrotomy neck skins and pediatric hearts for pericardiocentesis. Being able to create these two items in-house serves two purposes: on-demand replacement in a timely manner and annual savings exceeding \$1000.



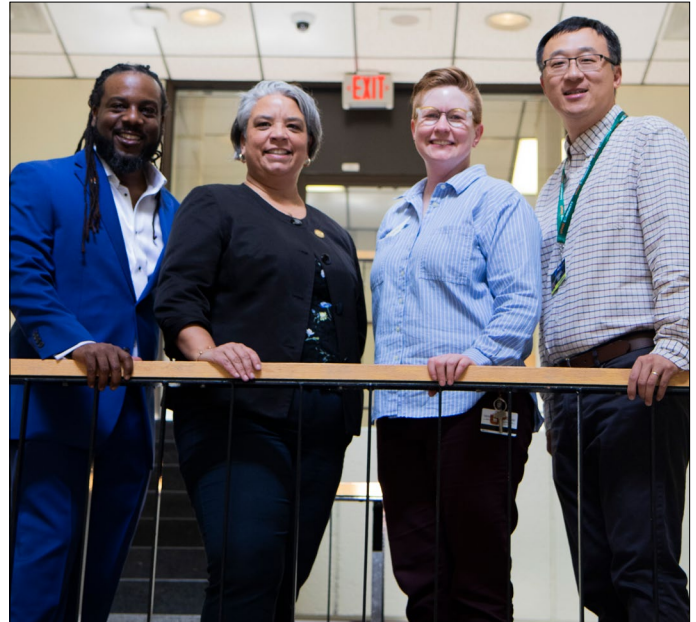
INNOVATIONS

POWER OF WE TOWN HALL

Power of We Town Hall: A Community Conversation on Diversity, Equity and Inclusion in Simulation Education was held on February 22, 2023, during which the role of simulation education in helping learners provide equitable healthcare was showcased. We were able to have meaningful dialogue amongst UT Health Science Center faculty, students and staff through a rich discussion and exploration about what it takes to intentionally create a more diverse and inclusive education environment and the opportunities simulation can provide toward making this happen. The Town Hall was moderated by UT Health Science Center faculty simulation educator Dr. NaKeshi “Nikki” Dyer.

We were honored to have one of the world’s leading healthcare simulation education experts, Dr. Desiree Diaz, share her insight with our campus with her presentation, titled: “The label of ‘other’ - Do NOT judge me on the tonality of my skin!”

During the event, we premiered a documentary of the history and future of diversity, equity, and inclusion training efforts at CHIPS titled, “Putting Our CHIPS on the Table: Diversity, Equity and Inclusion Through Simulation.” The event was produced by CHIPS staff Tim Dotson, Amy Rush and Kuan Xing with help from many others on the CHIPS team and was funded in part by a Diversity and Inclusion Mini-Grant offered by the UT Health Science Center Office of Inclusion, Equity, and Diversity.



SIMULATION MEDALLION PROGRAM

In the Fall of 2022, the first three UT Health Science Center faculty members received their simulation medallions. Dr. Anna Q. Allen, Dr. Kelsey Fredrick, and Simran Flagg received the medallion through the Teaching and Learning Center collaboration with CHIPS. The Simulation Medallion Program prepares UT Health Science Center educators to create and implement simulation-based educational activities that follow best practice evidence in healthcare simulation. The timeline for the Simulation Medallion Program is a six-month commitment. Participation in the program includes completion of the CHIPS professional development modules.



PUBLICATIONS

1. Scarbecz M, Dyer NL, Pitt J. Deconstructed simulation for initial interview practice. *J Dent Educ.* 2023 Jun;87 Suppl 1:926-928. doi: 10.1002/jdd.13107. Epub 2022 Sep 26. PMID: 36098484.

PRESENTATIONS

1. Brauer N. (August 2022). "Increase Your Efficiency and Reliability with Planned Scenario Programming Utilizing Laerdal SimDesigner." SimGHOSTS USA 2022. Dallas, TX. (Workshop).
2. Brauer N. (August 2022). "Preventative Maintenance Checklist: Perform System Checks, Upgrades, and Repairs for Most Major Brands." SimGHOSTS USA 2022. Dallas, TX. (Workshop).
3. Brauer N. (August 2022). "Embracing Connections in Mentoring." SimGHOSTS USA 2022. Dallas, TX. (Panel).
4. Brauer N. (August 2022). "Screen-Based Simulation." SimGHOSTS USA 2022. Dallas, TX. (Podium).
5. Brauer N. (August 2022). "How to Embrace Connections with the SimGHOSTS Mentoring Program." SimGHOSTS USA 2022. Dallas, TX. (Panel).
6. Pitt J, Clark L, Gliva-McConvey G, and Shannon G. (January 2023). "Human Simulation Continuum Model- Theoretical Framework to Optimize Embedded Participant Training." International Meeting on Simulation in Healthcare. Orlando, FL. (Panel).
7. Bennett D, Gilbert M, Lemoine T, and Waxman KT. (January 2023). "Implicit Bias Education- Are we ready?" International Meeting on Simulation in Healthcare. Orlando, FL. (Panel).
8. Follmer A, Herrera R, Konzelmann J, and Porcaro K. (January 2023). "Is There a Checklist for That? Driving Process with Checklists." International Meeting on Simulation in Healthcare. Orlando, FL. (Workshop).
9. Britt T, Leighton K, and Xing K. (January 2023). "SENAT: A New Tool for the Sim Professional Development Toolkit." International Meeting on Simulation in Healthcare. Orlando, FL. (Panel).
10. Koestler D, Laffoon K, Tan W, and Xing K. (January 2023). "Stop Interrupting Me! Distraction and Interruption Simulations for Patient Safety." International Meeting on Simulation in Healthcare. Orlando, FL. (Workshop).
11. Xing K. (January 2023). "Using Text Mining to Visualize Learners' Sim Experience: A Natural Language Processing Approach." International Meeting on Simulation in Healthcare. Orlando, FL. (Poster).
12. Xing K and Flagg S. (January 2023). "Utilizing simulated patient methodology to teach motivational interviewing: Dental hygiene undergraduate students' experience." International Meeting on Simulation in Healthcare. Orlando, FL. (Poster).
13. Pitt J, Rush A, and Dotson T. (June 2023). "Was it Good for You? SP Feedback on Events, Training, and our SP Program." ASPE Conference. Portland, OR. (Panel).
14. Dotson T, Rush A, and Xing K. (June 2023). "Creating Power of We Town Hall: A Community Conversation on Diversity, Equity, and Inclusion in Simulation Education." ASPE Conference. Portland, OR. (Panel).
15. Pitt J and Shannon G. (June 2023). "Emotional Labor: Leadership from the Head to the Heart." ASPE Conference. Portland, OR. (Workshop).
16. Rush A, Gilbert A, MacLeod M, Maskart C, Underdue T, and West T. (June 2023). "Exploring Functional Diversity and Inclusion: An Honest Reflection on the Current State of SP Recruitment and Incorporation." ASPE Conference. Portland, OR. (Panel).
17. Pitt J, Mosher S, Gephardt G, Rodriguez K, Shannon G, and Shepherd M. (June 2023). "HELP! I Need Somebody!- An Administrator's Theme Song." ASPE Conference. Portland, OR. (Panel).
18. Xing K et al. (June 2023). "Foundations of Quantitative & Qualitative Methods." ASPE Conference. Portland, OR. (Pre-Conference Workshop).
19. Pitt J et al. (June 2023). "Foundations of SP Methodology: SP Methodology in Action." ASPE Conference. Portland, OR. (Pre-Conference Workshop).
20. Rush A et al. (June 2023). "Pride in Affirming Healthcare" UT Health Science Center OIED. Memphis, TN. (Panel).
21. Lemoine, T et al. (July 2023). Evaluation of a Large-scale Interprofessional Education (IPE) Day. Annual -Tennessee Interprofessional Education and Practice Consortium. Nashville, TN. (Poster).

CHIPS SIMULATION OUTREACH

Nick Brauer

- Vice President, SimGHOSTS
- Chair, SimGHOSTS Mentor/Mentee Group

Teresa Britt

- SSH Accreditation Site Reviewers
- Board member, Tennessee Simulation Alliance
- Board member, Tennessee Interprofessional Practice and Education Consortium
- Global Network for Simulation in Healthcare

Tim Dotson

- ASPE Abstract Review Committee
- ASPE Equity, Diversity, Inclusion and Social Justice Committee

Sophia Mosher

- IMSH Education Track Content Reviewer

Jamie Pitt

- ASPE Standard of Best Practice Review and Revisions Panelist
- ASPE Curriculum Development and Advancement Committee
- ASPE Case Development Template Reviewer

Amy Rush

- ASPE Equity, Diversity, Inclusion and Social Justice Committee
- ASPE Communication Committee
- ASPE Conference Abstract Reviewer

Jarrold Young

- Co-Chair, IMSH 2023
- SSH Accreditation Council Member
- SSH Accreditation Site Reviewer



THE UNIVERSITY OF
TENNESSEE
HEALTH SCIENCE CENTER.

CENTER FOR
HEALTHCARE IMPROVEMENT
AND PATIENT SIMULATION

26 S Dunlap St, Memphis, TN 38163

t 901.448.4530 | f 901.448.4532

simulate@uthsc.edu

uthsc.edu/simulation

Healthy Tennesseans. Thriving Communities.

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services.