

innovation education compassion  
value progress research teamwork  
growth skill

# Innovating Beyond Borders



Clinical Simulation Program • 2018-2019 Annual Update

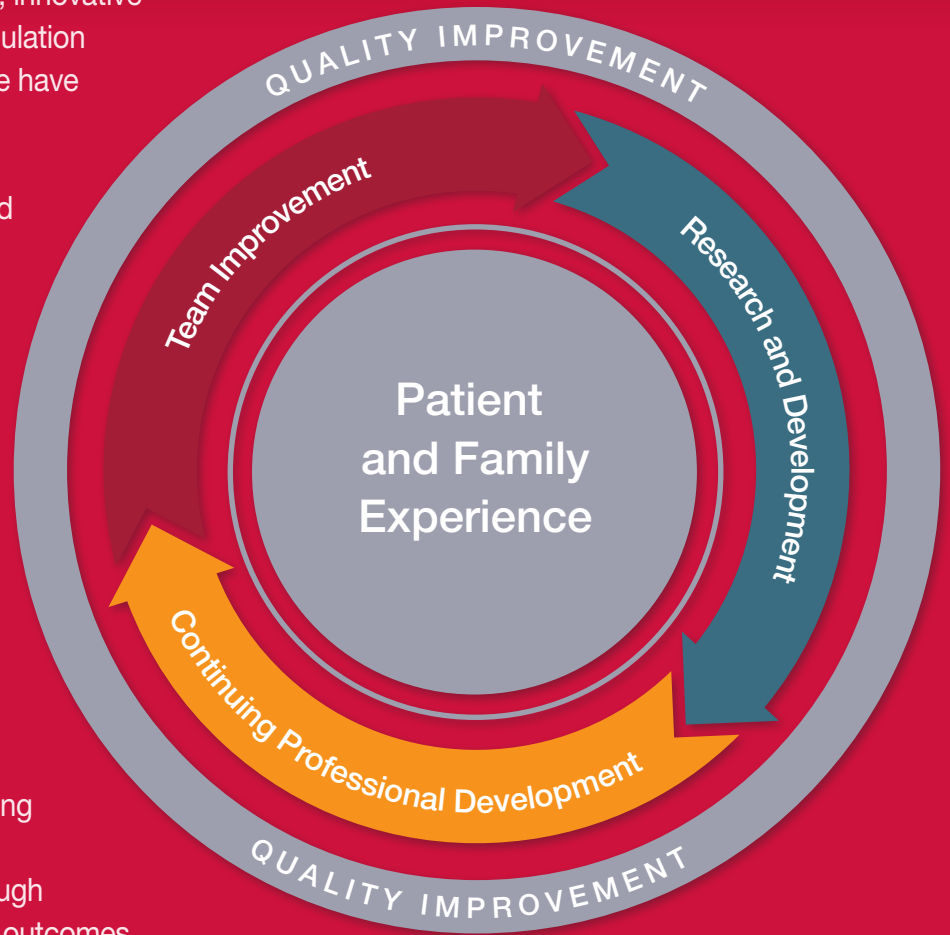
confidence standards  
experience advancement proficiency  
empathy safety  
integration communication demonstration

**UWHealth**



skill compassion innovation  
 education distinction proficiency  
 integration collaboration value

Fiscal year 2019 brought about new, innovative ways for the UW Health Clinical Simulation Program to improve patient care. We have extended our reach throughout the University of Wisconsin, the region and internationally. This year resulted in several achievements for our program, including the formation of new global partnerships, development of two simulators, receiving \$29,000 in grant awards\*, contributing to peer-reviewed publications, and creating new curricula. Our passionate team continues to spearhead efforts within the strategic domains of team improvement, continuing professional development, and research and development, reaffirming our commitment to support patient- and family-centered healthcare through improvements to safety, quality and outcomes.



*\*Seed Grant from the University of Wisconsin-Madison Global Health Institute, PI: Krystle Campbell; Ira and Ineva Reilly Baldwin Wisconsin Idea Endowment, Co-PIs: Micheal Kim, MD, and Krystle Campbell*

**7,000**

learner encounters

**4,310**

hours of simulation-based training and education

**1,375**

simulation events

discovery growth scholarship  
 communication improvement trust

# Research and Development



200  
learner  
encounters

7  
new simulator  
prototypes

*Cardiothoracic surgery fellows and operating room scrub technicians work together using the innovative KindHeart™ simulator to help build core skills and teamwork that lead to improved patient safety and outcomes.*

## **The UW Health Clinical Simulation Program fosters collaboration**

among clinicians, biomedical engineers and simulation enthusiasts with the goal of developing innovative ways to identify and close gaps in healthcare. This year, our program achieved new heights in research and development with the adoption of new technologies of mixed-modality simulators and newly developed task trainers. Through our novel research, we have integrated simulation in quality improvement initiatives to enhance patient care.

Reaching across the globe, our team partnered with the developing simulation program at Addis Ababa University in Ethiopia to help establish a sustainable interprofessional program by developing the areas of administration, curricula and research.

In the spirit of innovation, we continuously seek partnerships with other forward-thinking leaders. This

year, we partnered with cardiothoracic surgery to implement the new KindHeart™ cardiac surgical simulator. This interactive simulator incorporates vital signs, invasive hemodynamic monitoring and echocardiographic information, allowing learners to work with realistic tissue (porcine hearts), actual operating room instruments, sutures, cardiopulmonary bypass tubing and cannulae. This type of high-level training allows a group of interprofessional learners to interpret and react to realistic surgical operations, pause for learning opportunities and practice high-acuity, low-frequency events.

Providing this level of training contributes to improved patient safety and outcomes. In addition, the innovative methodology associated with the KindHeart™ simulator advances research around competency-based assessment.

“The future of  
simulation-based  
education is what  
we are making it.”

– Joshua Hermsen, MD, FACS,  
Assistant Professor, Division of  
Cardiothoracic Surgery,  
UW School of Medicine  
and Public Health

# Team Improvement



During an interprofessional simulation, team members practice their procedural and communication skills when initiating Extracorporeal Cannulation Oxygenation (ECMO) for a patient.

1,247

learners  
participated  
in interprofessional  
education (IPE)  
sessions

187

IPE events

**Our program continues to actively pursue new ways to transform healthcare** by elevating the level of training for current and future healthcare workers. This includes training in new healthcare models, with a focus on enhancing teamwork through interprofessional education, improved processes and real-time quality advancements.

To improve teamwork, collaboration, shared mental models and patient-centered care, we successfully brought together healthcare professionals from a variety of areas, with the common goal of improving UW Health patient outcomes when Extracorporeal Cannulation Oxygenation (ECMO) is initiated for a patient. The aim of this simulation was to test the activation protocol and cannulation process that was recently implemented in the UW Health Berbee Walsh Emergency Department.

Also this year, we partnered with the UW-Madison Schools of Pharmacy and Nursing and the UW School of Medicine and Public Health to develop a three-year longitudinal interprofessional education curriculum for prelicensure students. During 72 hours of high-level, simulation-based education, 559 learners participated and debriefed with 34 expert facilitators (representing the Schools) on teamwork, communication, collaboration and shared mental models.

In addition, novel curricula development included interprofessional training for central venous line insertions, mock codes, traumas and operating room scenarios.

“**Simulation is clearly a critical tool in the conduct of teamwork training.**”

– David Gaba,  
Professor of Anesthesiology,  
Perioperative and Pain Medicine,  
Stanford University



# Continuing Professional Development



7.5%

of all simulation events support continuing professional development

Learners came from more than

100

different hospital systems

We host five Advanced Trauma Life Support events annually, accounting for 510 simulation hours. This year, 115 international learners managed simulated trauma victims while gaining the knowledge and skills to care for these high-acuity patients.

## As an international leader in the field of distinctive simulation programs,

we continue our pursuit of excellence in groundbreaking research and development. Our accreditations through the American College of Surgeons as an Accredited Education Institute (ACS AEI) and the endorsement from the American Society of Anesthesiologists as a Simulation Education Network (SEN), reaffirm the value of our prestigious program and also provide us with contemporary interprofessional research endeavors.

This includes offering courses such as *Advanced Trauma Life Support* for surgeons, emergency medicine physicians and family medicine physicians. The goal is to improve trauma patient outcomes, referrals and care of both adult and pediatric trauma patients by providing best-practice, simulation-based education using actors wearing

simulated wounds and makeup to represent a variety of trauma injuries and scenarios.

The innovative trauma team is backed by a wealth of research and education, providing a valuable experience for conference participants. Partnering with the Adult and Pediatric Trauma Program to offer this novel course helped support their endeavors to achieve reverification as a Level One Trauma Center, making us 1 of 12 in the nation with Level One Adult, Pediatric and Burn Center Verification.

As our program continues to grow, we also focus on our own simulation staff development. This year, our team's growth and success was demonstrated in several ways. Each staff member presented at either regional or national conferences, as well as authored posters, hosted workshops and contributed to journal publications and book chapters.

“Curiosity is one of the permanent and certain characteristics of a vigorous intellect.”

– Samuel Johnson,  
Literary Critic and Biographer





2018–2019

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We are driven by a  
vision to offer a  
world-class simulation  
program that promotes  
experiential learning  
across healthcare  
disciplines to improve  
the quality and safety  
of patient care in  
Wisconsin and beyond.

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## Clinical Simulation Program Faculty and Staff

**Krystle Campbell, MSMS, CHSE**  
*Director of Operations*

**Ryan Thompson MD, FACEP**  
*Medical Director*

**Mark Johanneck, BA, CHSOS**  
*Simulation Specialist*

**Mary Kate O'Leary, BS**  
*Simulation Coordinator*

**Erick Przybylski, MSMS, CHSE**  
*Simulation Educator*

**Gina Tranel, RN, BSN**  
*Simulation Educator*

Simulation Interns

Sara Busche

Maya Charan

Samad Qawi

Mengizem Tizale

Kenton Woo

## Executive Board

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Faculty, UW School of Medicine  
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*Manager, Clinical Simulation  
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