UNITY HEALTH TORONTO

Simulation Program Report

2025 – 2026

Every year, clinicians face situations they've never encountered before.

We make sure they're not encountering them for the first time. Since 1996, the Unity Health Toronto Simulation Program has led simulation-based education, translational research, and clinical systems design. This report captures our 2025 - 26 impact - across 21 clinical departments, three hospital sites, and partners spanning Ontario and beyond.

~50K	5,000+	30 yrs	3
Learners Trained	Sim Events	Of Leadership	Hospital Sites

OUR MISSION

Use simulation to enhance the performance of individuals, teams, spaces, and systems in healthcare - before patient harm occurs.

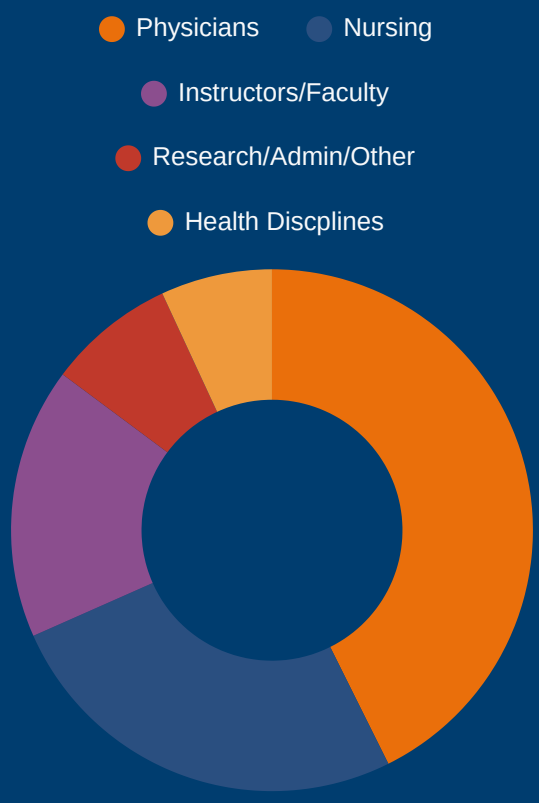
OUR APPROACH

Co-design with clinical partners. Evidence-informed methodology. Innovation at the intersection of education and patient safety.

5,523 Participants

The Simulation Program trained clinicians, educators, learners, and support staff across all three Unity Health Toronto sites in 2025-26.

42.6%	25.7%	16.8%	7.9%	6.9%
Physicians	Nursing	Instructors & Faculty	Research, Adminstration & Others	Health Disciplines



Physicians represent the largest learner group, reflecting our strong integration with medical training across undergraduate and postgraduate programs.

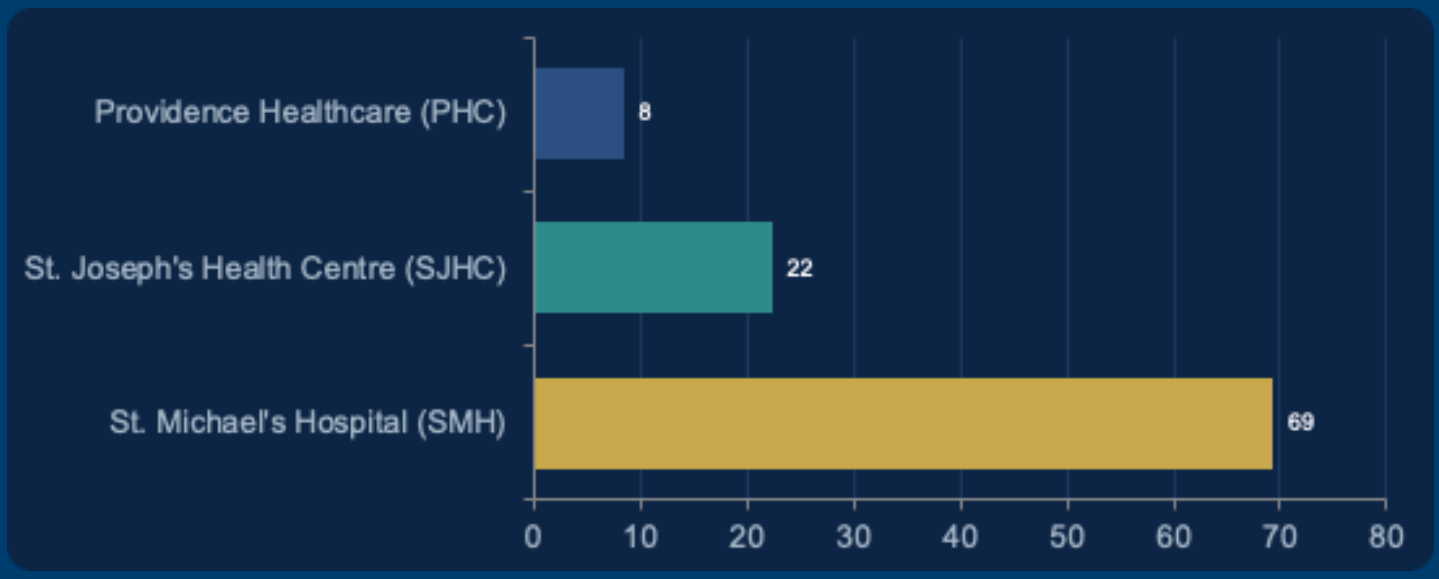
Simulation Events Across Unity Health

574

Simulation Events

2,519

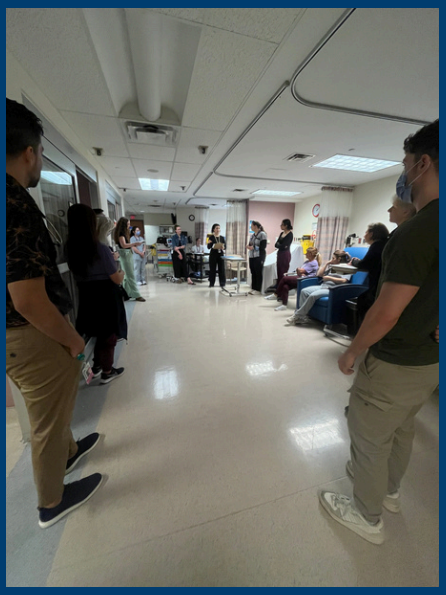
Simulation Hours



Our simulation activities and impact span across out network.

SECTION 01

Collaboration Highlights



21 Departments. One Program.

Our co-design model embeds simulation expertise directly into our clinical partners' work — whether designing a new protocol, testing a physical space, or preparing a team for a rare, high-stakes event.

CLINICAL PARTNERS

- Centre for Clinical Ethics
- Children's Health
- Critical Care
- Diabetes, Kidney & Transplant
- Emergency
- Family Health Teams
- General Internal Medicine
- Heart & Vascular
- Information Technology
- Long-term Care
- Medical & Diagnostic Imaging
- Operational Readiness
- Pharmacy
- Professional Practice
- Rehabilitation
- Research
- Respiratory Therapy
- Respirology
- Stroke & Cerebrovascular
- Surgery
- Trauma & Neurosurgery
- Women's & Children's Health

Training the Next Generation of Clinicians

Our partnership with the University of Toronto's Temerty Faculty of Medicine is central to our educational mission, preparing physicians across undergraduate and postgraduate training.

UNDERGRADUATE MEDICINE (UGME)

- Trauma TEAM Course
- Prelude to Surgery
- Surgical Exploration & Discovery
- Trauma Seminar for Clerkship
- Clinical Clerks in the ED

POSTGRADUATE MEDICINE (PGME)

- Anesthesia CRM
- Obstetrics & Gynaecology
- Emergency Medicine
- Respirology
- Cardiology
- Internal Medicine
- Critical Care
- Family Medicine
- Pediatrics
- Surgery

TEMERTY FACULTY OF MEDICINE
UNIVERSITY OF TORONTO

Debriefing for Social Justice

The Centre for Clinical Ethics serves 12 healthcare organizations across the region. When they came to redesign their Clinical Fellows Training Program, we brought our debriefing expertise to the table.

THE INTERVENTION

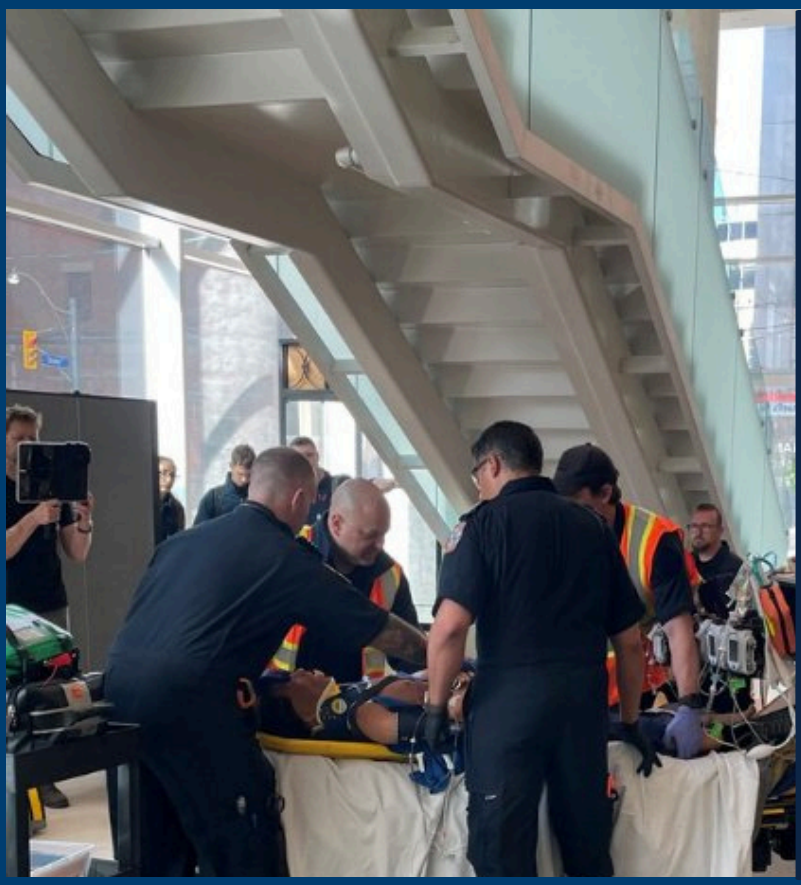
We implemented the PEARLS Debriefing Tool for Social Justice, delivering a half-day workshop for 10 bioethicists across Toronto to establish a standardized debriefing process for ethics education.

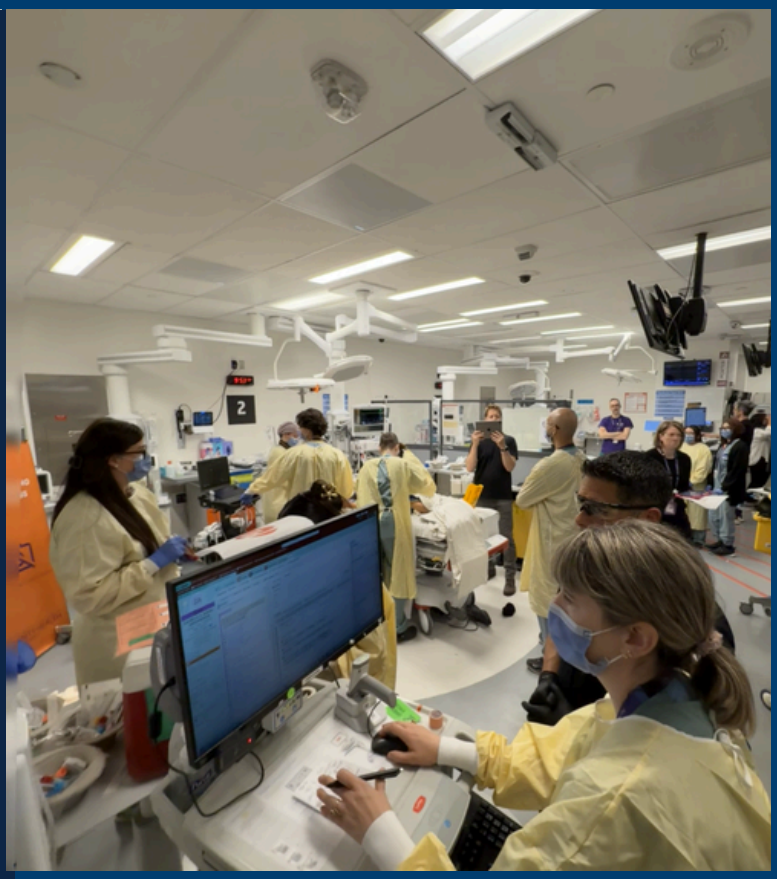
THE OUTCOME

The collaboration produced a peer-reviewed publication in The American Journal of Bioethics (2025) - establishing an evidence base for simulation-informed ethics education nationally.

"Through this collaboration, we were able to establish a standardized debriefing approach across our twelve partner organizations."

— Centre for Clinical Ethics, Partner Feedback





Ornge paramedics prepare for patient transfer (left) · St. Michael's ED trauma bay handover (right)

Ontario's First Pre-Hospital to Trauma Bay Translational Simulation

So effective, SickKids launched a pediatric version that fall.

On May 7, 2025, Unity Health Toronto and Ornge conducted Ontario's first high-fidelity translational simulation stress-testing the full patient journey - from scene resuscitation and in-flight blood administration to hands-off handover in the trauma bay. System readiness, inter-organizational communication, and Epic EMR integration were all tested, broadcast live to observers across the province.

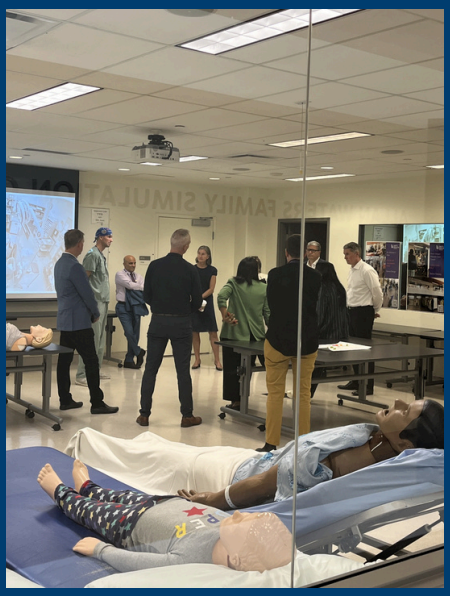
78	10	3	1
Zoom Observers	Organizations	Sim Phases	Joint Debrief

Showcasing Innovation at the Highest Level

In September 2025, the Board of Directors visited the Allan Waters Family Simulation Centre. The tour highlighted our program's breadth - from high-fidelity clinical training to translational simulation work.

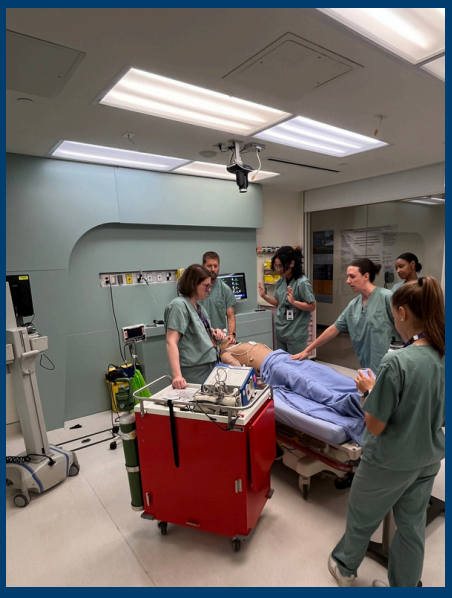
WHY THIS MATTERS

Board visibility translates directly into strategic support, dedicated resources, and organizational commitment to simulation as a quality improvement tool - sustaining the program's long-term growth.



Unity Health Board members chat with Simulation Program Leadership

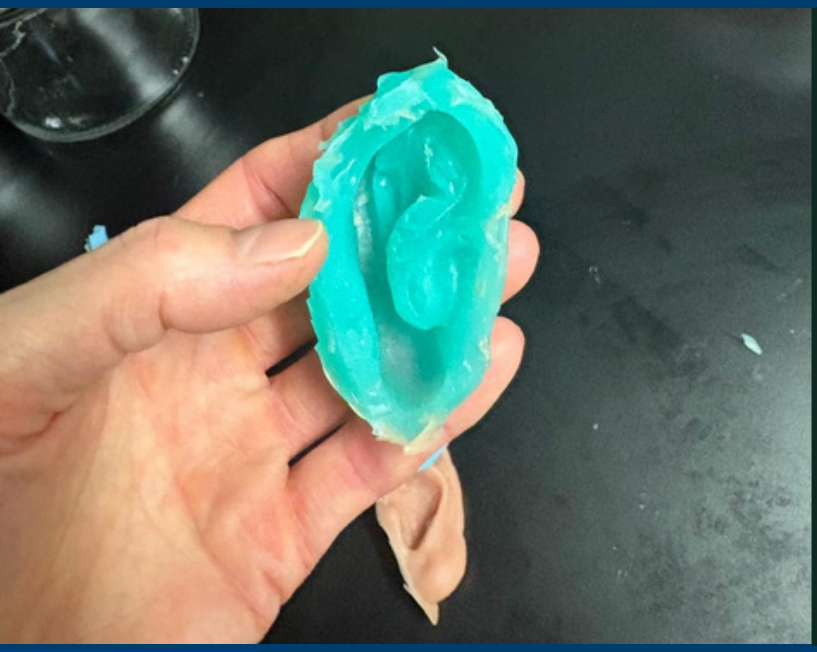
Simulation team members (left to right) Caseita Dewar-Morgan, Hentley Small, Sue Zelko and Julia Lee take a break between tours.

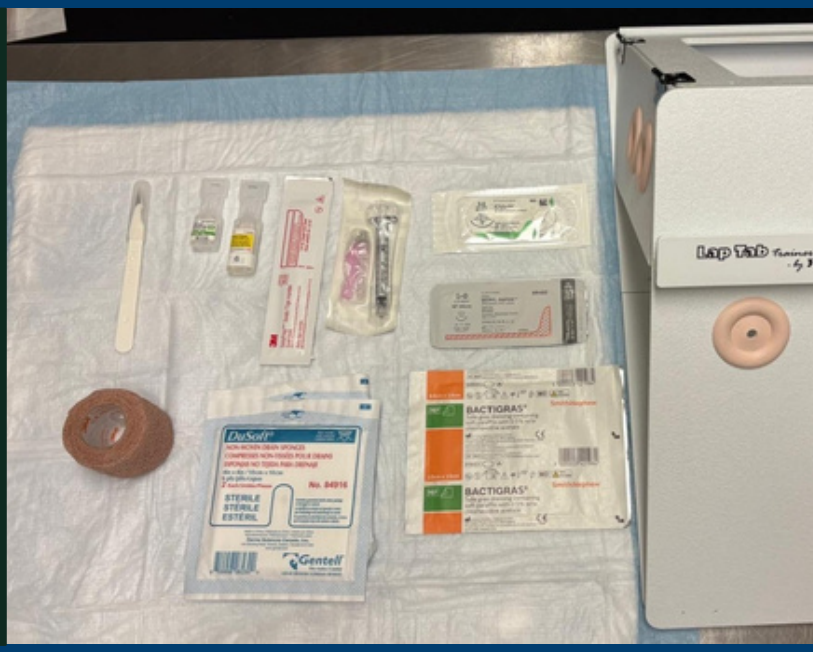


Education Portfolio team (left to right) Kerry Fraser, Mark Joithe, Gabriela Gonzalez Villacorta, Camille Gallant, Suaad Ali, and Isabella Menchetti demonstrate a Code Blue response.

SECTION 02

Simovations





When No Commercial Trainer Exists - Build One

THE NEED

Emergency physicians needed a realistic auricular hematoma trainer to practice incision and needle drainage with compression. No commercially available option existed anywhere.

THE INNOVATION

Using Play-Doh and moulding clay, our Simulation Specialists created an 'ear negative' from one of our manikins, then built a latex ear affixed to a laparoscopic board to simulate attachment to a patient's head.

THE IMPACT

The feedback from clinicians has been overwhelmingly positive, with clinicians reporting high levels of realism and relief to be able to practice this skill.

"I feel more confident knowing that if a patient needs this procedure, I will be capable of helping them." - ***Staff ED Physician***

Practicing a Life-Saving Procedure Before It Reaches a Real Patient

THE NEED

Post-operative chest re-opening is a rare but time-critical cardiovascular emergency. No commercial trainer existed - leaving teams with limited opportunity to rehearse before performing the procedure on a real patient.

THE INNOVATION

We re-purposed a manikin ('Gloria'), adding retractable ribs, a suture-ready heart, fluid reservoirs, and real cardiac pacing wires - allowing full interprofessional rehearsal using the team's own hospital-grade surgical instruments.

THE IMPACT

Clinicians now train interprofessionally to perform this life-saving procedure regularly, thereby solidifying the team's skills and confidence and offering opportunities to identify latent safety threats.

"Not only does it make newer nurses in the unit feel a little more comfortable with such an acute event, but it solidifies the skills of more senior nurses who have been in the unit most of their careers. We have even caught some equipment inefficiencies during the simulation, which we were able to address before it reached a patient — CVICU Educator

Teaching an Emerging Technique Before It Reaches a Real Patient

THE NEED

Dual sequential defibrillation (DSED) uses two defibrillators simultaneously for refractory ventricular fibrillation. Emerging from our colleague, Dr. Sheldon Cheskes, published in NEJM, found improved survival using DSED - but standard manikins don't support realistic dual-shock delivery.

THE INNOVATION

After extensive trials, the team used a see-through simulator to enable rhythm visualization, then attached custom fake pads to allow simultaneous shock delivery from two defibrillators - the first setup of its kind in our program.

THE IMPACT

Clinical teams can now practice and cement this emerging technique before using it on a real patient - significantly reducing first-time risk and accelerating adoption of evidence-based resuscitation practices.

"Being able to practice an emerging life-saving technique is essential way to support faster knowledge translation to the bedside." SImulation Manager

SECTION 03

Translational Simulation

Simulation as a System Improvement Tool

Healthcare delivery is increasingly complex. Despite sophisticated education, safety threats persist. Translational Simulation (TSim) examines work-as-done in clinical environments - identifying latent safety threats and driving systems-level change before patient harm occurs.

CRASH TESTING
Test a new or existing system or space

PLAY-PAUSE-DISCUSS
Introduce a new clinical environment

USABILITY TESTING
Evaluate task completion in context

PLURALISTIC WALKTHROUGH
Understand a multi-step process

TABLETOP SIMULATION
Validate workflows in a tabletop format

Five Ways TSim Demonstrates Value

Articulating the value of TSim has been a strategic focus this year. We've developed a framework capturing impact across five dimensions - allowing us to communicate return on investment to partners and leadership.

COST SAVINGS

Direct avoidance - in-house trainer builds, consumable savings, and manikins saved from the landfill.

TIME SAVINGS

Reductions in personnel time, decision delays, and processing bottlenecks identified through simulation.

ENHANCED DECISION-MAKING

Different and better decisions from teams that have rehearsed high-stakes scenarios before encountering them.

PATIENT SAFETY

Identification and mitigation of latent safety threats — caught in simulation, not in the patient room.

TEAM & SAFETY CULTURE

Improved cohesion, psychological safety, and stakeholder engagement sustaining long-term quality improvement.

Taking TSim to National Audiences

This past year, the TSim team focused on communicating its impact through conference presentations and invited talks across Canada.

BCQI QI Symposium, Unity Health Toronto, Mar 2026

Gallant, Lee, Joithe, Petrosoniak & Beavers - Translational simulation: A system-level quality improvement strategy.

Sunnybrook Annual Education Conference, Nov 2025

Lee, Gallant et al. - Pre-construction simulation for a new Neonatal ICU: simulating workflows to maximize design.

Simulation Expo, Montreal, Nov 2025

Beavers, Fricker & Gallant - Show me the money! How to demonstrate return on investment of translational simulation.

Unity Health Toronto Digitial Excellence Conference, Oct 2025

Santiago & Joithe - Utilizing translational simulation to inform a nurse readiness strategy for BCMA implementation.

SECTION 04

Research

24 Publications. 7 Presentations. Ongoing Impact.

24	7	>25	2–5
Peer-Reviewed Articles	Conference Presentations	Co-Authors	Institutions Per Project

LOGIC MODEL EVALUATION OF A TSIM PROGRAM - ADVANCES IN SIMULATION, 2026

Petrosoniak, Tewari, Beavers, Chandran, Sampson, Leger, Khodadoust & Brydges.

Moving beyond projects: a logic model evaluation of an established translational simulation program, which highlighted the value of early collaboration, role clarity, adaptability, and structured communication to achieve meaningful outcomes.

ALIGNMENT IN RESIDENT & ADVISOR LEARNING IN CBME - MEDICAL EDUCATION, 2025

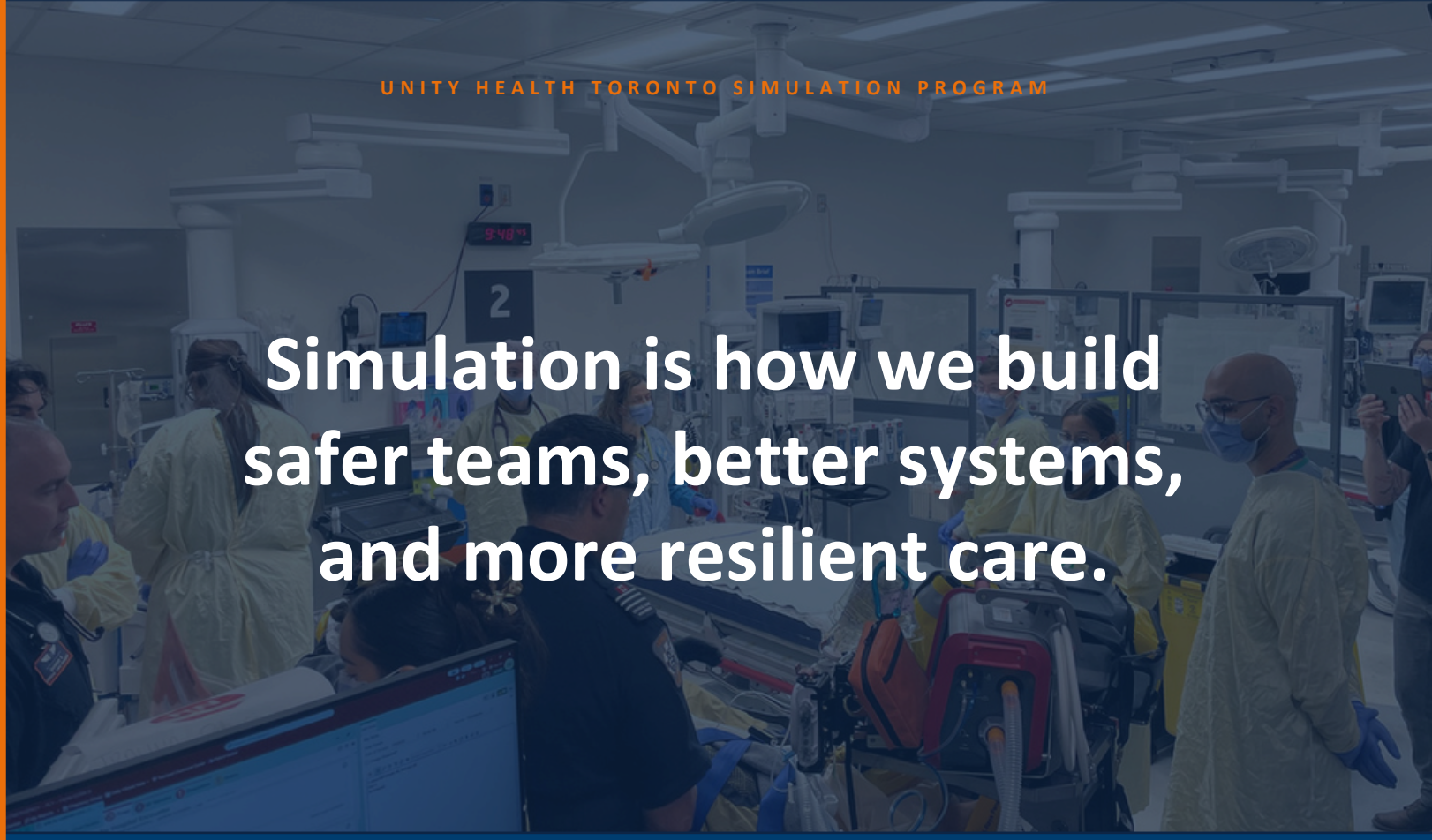
Branfield Day, Butler, Kuper, Shah, Stroud, Ginsburg, Tavares & Brydges.

Frequent misalignments between residents and advisors undermine co-regulated learning. System structures and documentation shape behaviours more powerfully than individual intentions.

MOTIVATION IN ONLINE HEALTH PROFESSIONS EDUCATION - JMIR MEDICAL EDUCATION, 2025

Gavarkosm, Miller, Coleman, Gunasegaran, Kusurkar, Kulasegaram, Anderson & Brydges.

Technology-enhanced learning encodes assumptions about motivation. Digital design choices influence both individual engagement and broader educational systems in critical ways.



Simulation is how we build safer teams, better systems, and more resilient care.

Work with us.

simulationprogram@unityhealth.to

www.simulationprogram.ca