Unity Health Simulation Program Report

2021-2022

Introduction

Unity Health's St Michael's site is a pioneer in simulation, opening Canada's second simulation centre in 1996. The Royal College of Physicians and Surgeons of Canada (RCPSC) first accredited the Allan Waters Family Simulation Centre (AWFSC) in 2015, one of the first academic teaching hospitals to achieve this status. At that time, a 'Centre of Excellence for Interprofessional Simulation' was the descriptor used by the Royal College, in recognition of the Centre's goal of creating high performing teams. Since accreditation in 2015, and the integration of St. St. Michael's, St. Joseph's and Providence in 2016, the Simulation Program has trained more than 31 000 learners and held more than 2 900 simulation events, signifying the huge impact this program has at Unity Health Toronto.

2021-22 was a busy year for the Simulation Program as we continue to expand programming across all three sites while still working under the challenges of Covid. Despite the challenges of the year, the Simulation Program was able to successfully run hundreds of educational sessions, and multiple research studies and translational simulation projects.

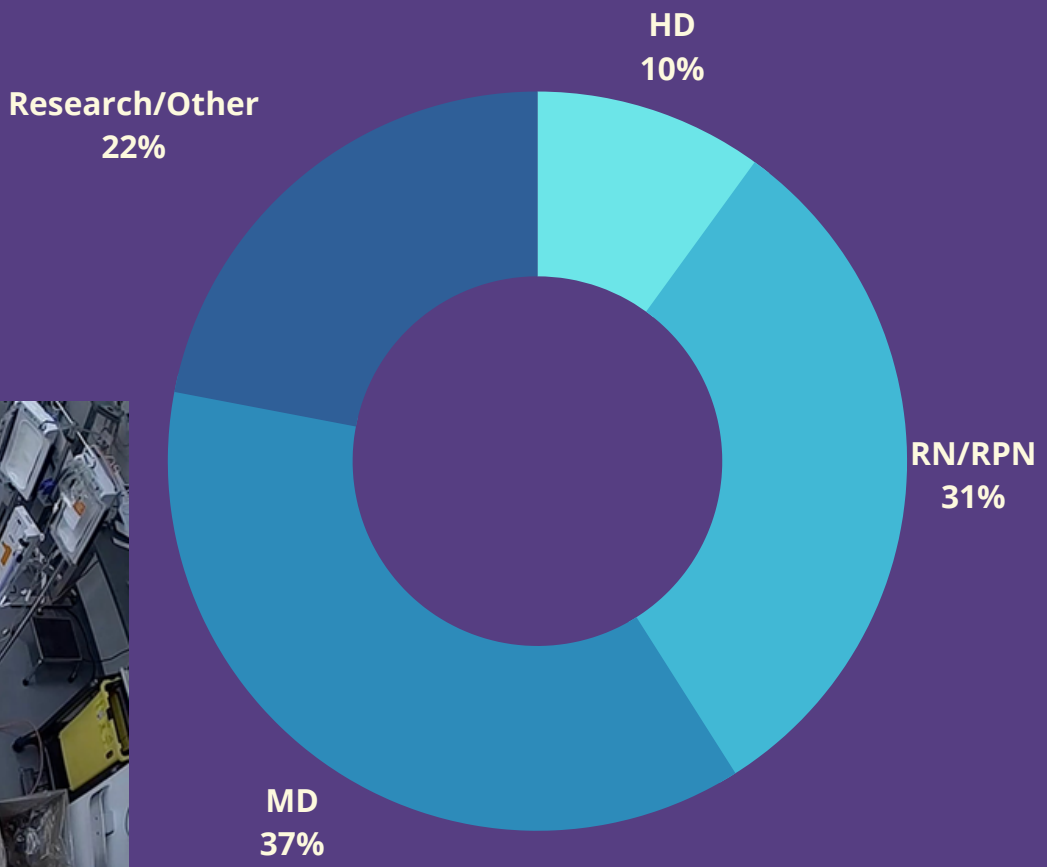
"We do run our fair share of Codes in the CICU but it was definitely an advantage for me that day having just recently gone through these exact scenarios in the ACLS Sim Lab with you guys!! I felt I could see the choreography of a well run Code situation playing out in my head, as it was actually happening!"- ACLS Participant

2021-22: A year in review

Across Unity Health, the Simulation Program ran over 2800 hours of simulations or 563 simulation events across the network. This included added virtual offerings to reach a broader audience while maintaining a safer simulation space for all.

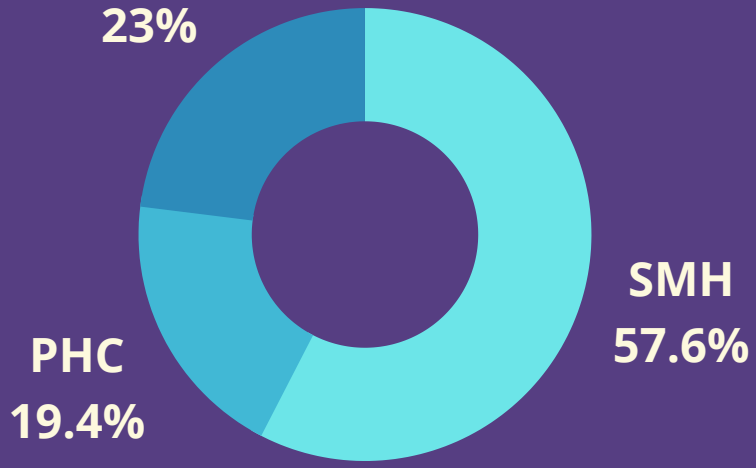
Total Participants:

4497



2021-22 Demographics

Simulation Events Across Unity Health



563
simulation events

2800
simulation hours

New Programming & Research Highlights

St Michael's

- Medical Directive Training
- Functional Line Training
- Virtual Reality & Moral Distress
- Virtual Clinical Immersion Training

St Joseph's

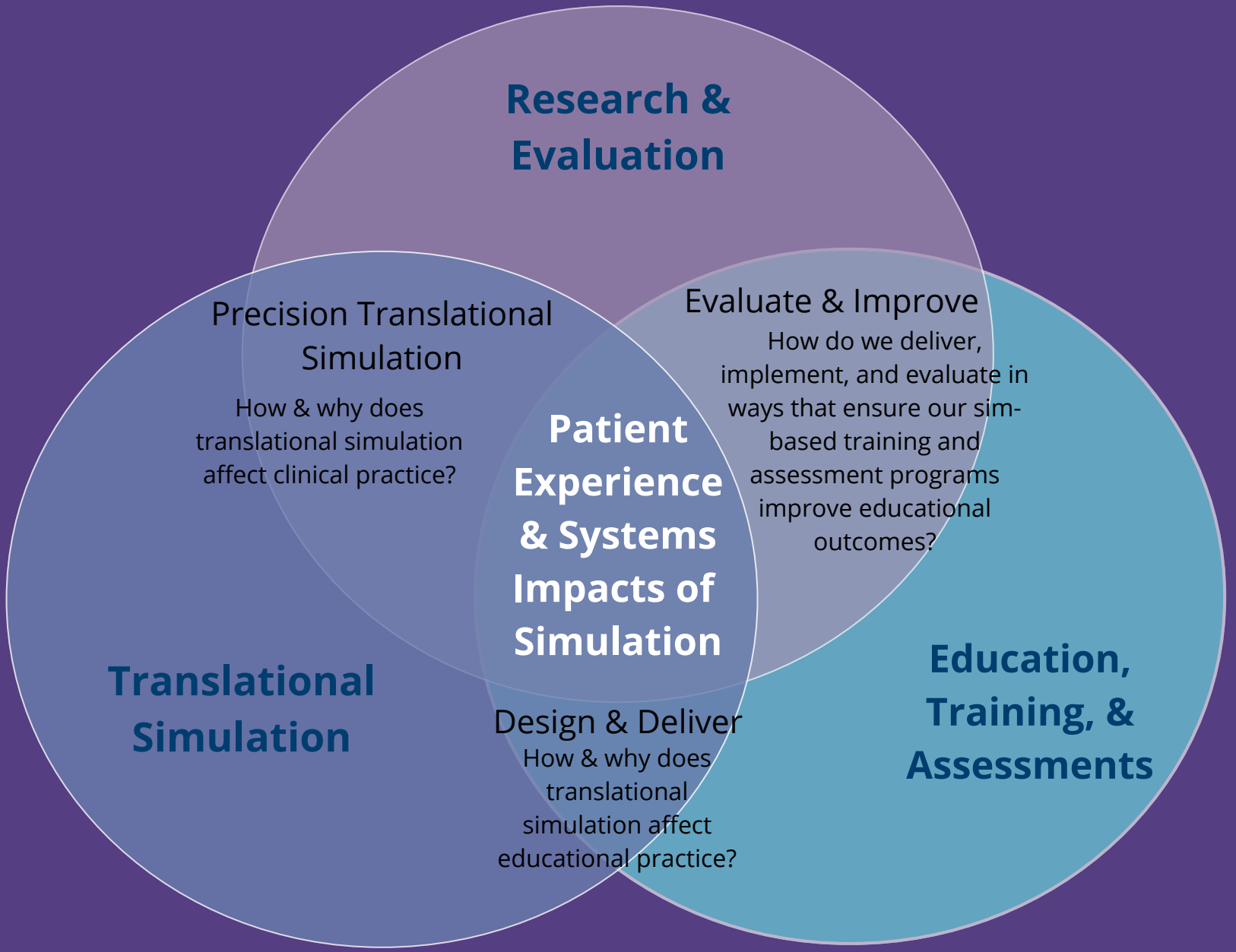
- Medial Directive Training
- Quarterly ED In situ simulations (ISS)
- ED Resident Training
- Code Pink Refresh
- Neonatal Resuscitation Program
- Nursing Clinical Decision Making tabletop

Providence

- Medical Directive Training
- Nursing Orientation
- Transfer of Accountability
- Emergency Response Team Training

'When I began this fellowship, I had very little idea how to go about it – or especially, how to conduct the scenarios and debriefing. The idea of debriefing terrified me. The cooperation and advice you gave made all the difference in helping me to focus with my learning' - Anesthesia Simulation Fellow

Integrating Education, Research and Translational Simulation



Research

The Unity Health Simulation Program is dedicated to conducting research and scholarship that produces innovative and evidence-informed simulation and technology-enabled education. Our four research pillars are listed below. While pillars build on our existing strengths and identity, growth cannot happen without being open to new ideas – we encourage innovative thinking outside these pillars.

Simulation for Quality Improvement & Patient Safety:

Optimizing our use of simulation as a modality for improving the quality and safety of our patient care.

Integration of Simulation-based and Workplace-based Education:

To determine how simulation-based and workplace-based practices can be combined to enhance the training and/or assessment of healthcare professionals.

Precision Translational Simulation:

To establish how and why translational simulation affects clinical and educational practice; studying translational simulation as the object of research.

Evaluating & Improving Design & Delivery of Simulation:

To optimize how we deliver, implement, and evaluate in ways that ensure our simulation-based training and assessment programs improve educational outcomes.

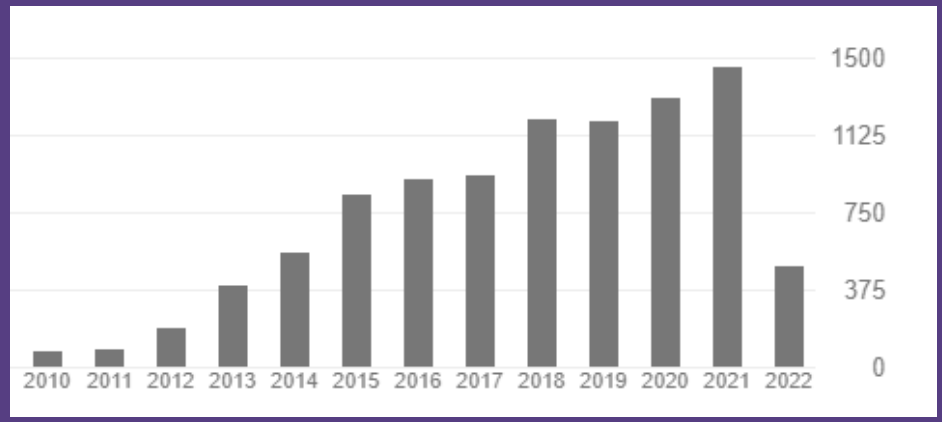
Research Highlights

Having our five research pillars guide us, these are the highlights of the 21 research papers published by Unity Health Simulation Team members.

- *Getting everyone to the table: exploring everyday and everynight work to consider 'latent social threats' through interprofessional tabletop simulation.*
- *Digital Interventions to Reduce Distress Among Health Care Providers at the Frontline: Protocol for a Feasibility Trial.*
- *Trauma resuscitation using in situ simulation team training (TRUST) study: Latent safety threat evaluation using framework analysis and video review.*
- *"We can't just have a casual conversation": An institutional ethnography-informed study of work in labour and birth.*
- *Translational simulation: From description to action.*

***full references on final page of this report*

Unity Health Simulation Program Citations, 2010-current day



Translational Simulation Program

Unity Health's Translational Simulation Program strives to improve the patient experience using simulation to make processes, spaces and policies more effective.

A highlight of this year's translational simulation projects was the cybersecurity IT tabletop simulation. Working with our IT colleagues and emergency preparedness, we hosted a virtual tabletop simulation where we were able to determine timing of key workflows during an attack, identify gaps in processes and make recommendations to reduce the impact of these types of attacks on our critical infrastructure.

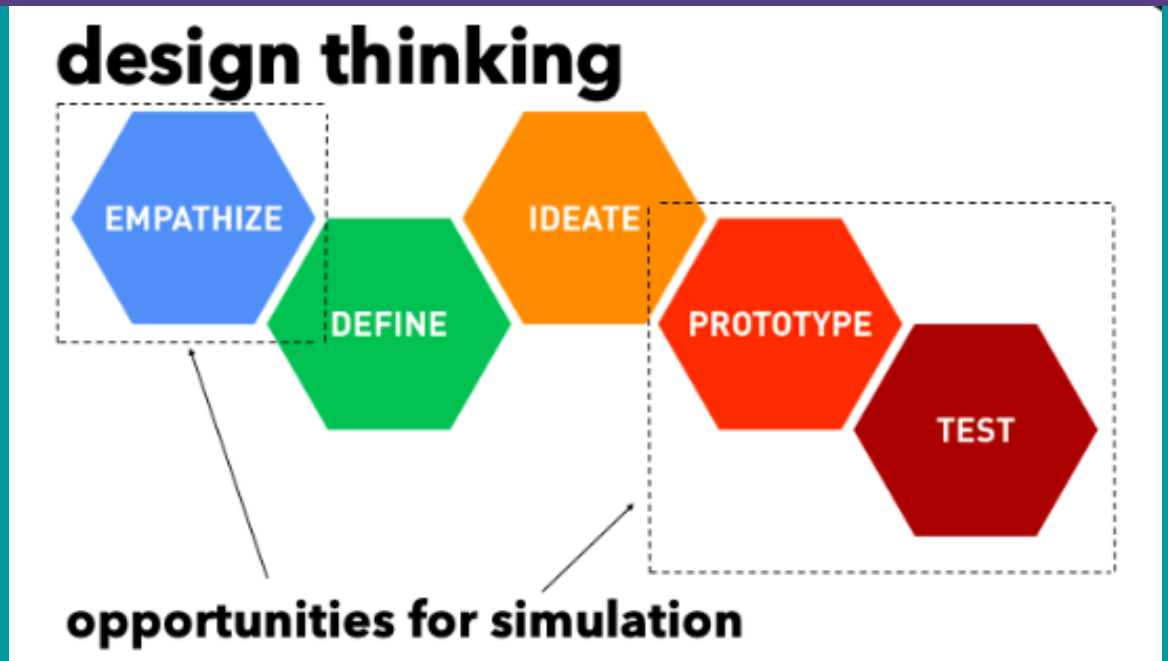


Figure from Dr. Andrew Petrosoniak, Translational Simulation Lead

Translational Simulation Projects

Translational Simulation Projects at Unity Health fall into three categories with the end goal being to enhance healthcare delivery and patient outcomes.

2021-22 Translational Simulation Projects

Space Design

simulation to inform the development and iterative design of new clinical infrastructure

Ambulatory Eye Clinic, SJHC

iSTART ED Waiting Room, SMH

ED Ambulatory Area, SMH

Medical Day Unit, SMH

Queen St. Lobby, SMH

Space Testing

simulation to test new clinical infrastructure prior to clinical care commencing

Mental Health Emergency Services Area , SMH

iSTART ED Waiting Room, SMH

St James Town Clinic, SMH

Queen St. Lobby, SMH

Protocol & Systems

simulation to test and improve institutional systems and processes

IT Tabletop, Unity Health

Code Silver, Unity Health

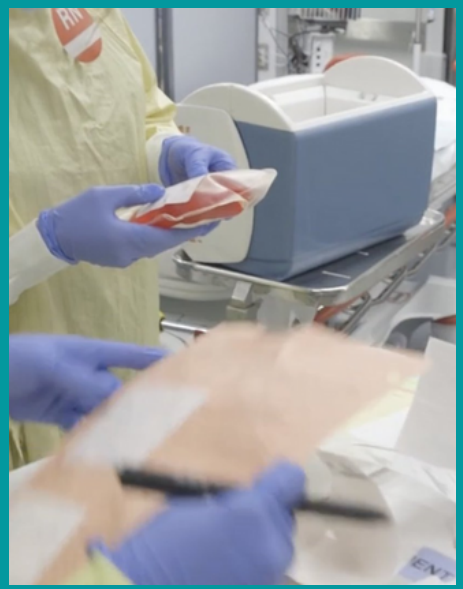
iStroke 2.0 ED, SMH

Translational Simulation Program

Using tabletop simulation to re-imagine the Queen St. lobby, St Michael's. The tabletop results in improved visitor flow through the lobby.

Testing the workflow, equipment location and signage to improve the patient experience at St. Joseph's Eye Clinic.

"The patient is *never* the first test case for a new clinical space"



Using simulation to test a new massive hemorrhage blood protocol, St. Michael's ED has reduced time to blood for patients.

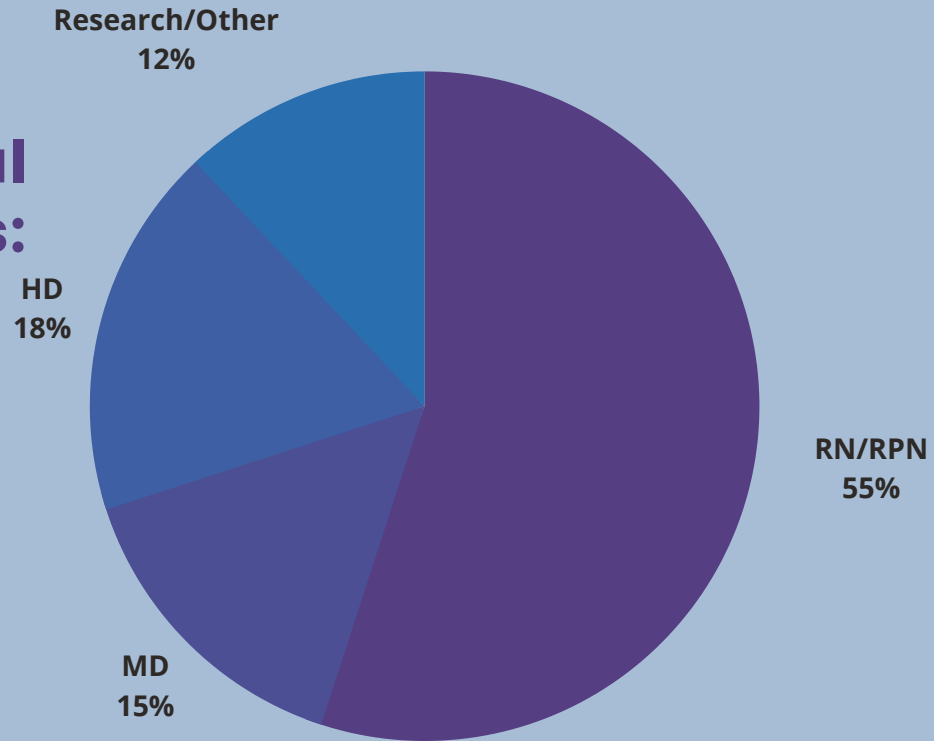
Simulation at St. Joseph's

The focus at St. Joseph's site for the past year has been capacity building in key areas, including the Emergency Department and the Women's and Children's Program. We partnered with passionate staff and physicians that were very interested and/or had started doing simulation activities in their areas to grow their programming and institute best practices.

In situ simulations (ISS) for Code Pink, and Code White were highly successful as was the quarterly Emergency Department ISS rounds. We also started hosting monthly formal simulation training for our Emergency Department Residents.

Total annual Participants:

968



2021-22 IMPACT

St Joseph's Code Pink ISS

91% of participants rated the ISS Code Pink sessions as "excellent" or "very good"

"Great space to learn"

"More simulations!"

"Do these more often"

"Realize[d] things we need on unit (i.e. io needles, IO dressing)"

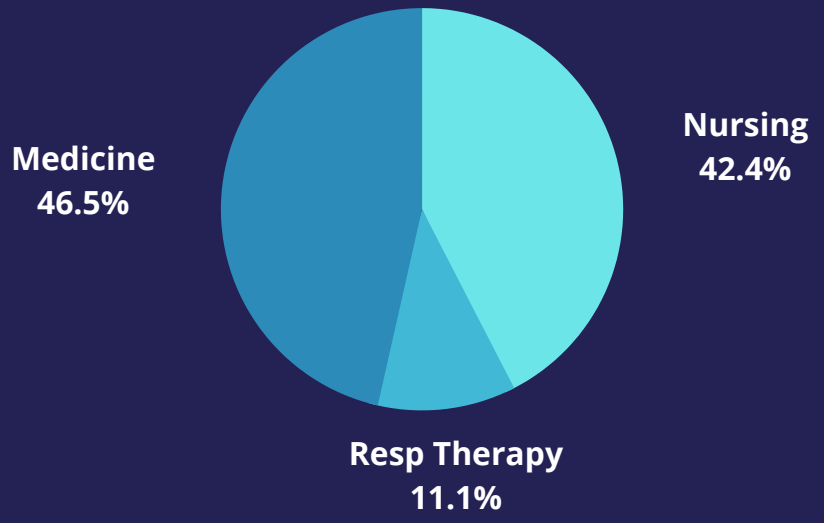
7 sessions

56 participants

100% interprofessional

2021-22 IMPACT

St Joseph's ED ISS



"It felt very realistic. Great collaboration opportunity"

"Excellent, would love to see more"

"Amazing sim session-thank you!"

LEARNING OBJECTIVES **MET**

Closed loop communication (7)

Process knowledge *(5)*

Equipment knowledge (6)

Simulation at Providence

The focus at the Providence site for the past year has been capacity building for our nursing and health disciplines colleagues and ensuring we have got the right equipment to facilitate learning.

An example of what was made possible through that investment was the new Emergency Response Team (ERT) refresher training. We worked with our Clinical Nurse Educator colleagues to design simulation curriculum that supports our nurses to improve their ability to assess and manage medical emergencies.

Total annual Participants:

443

RN/RPN Participants:

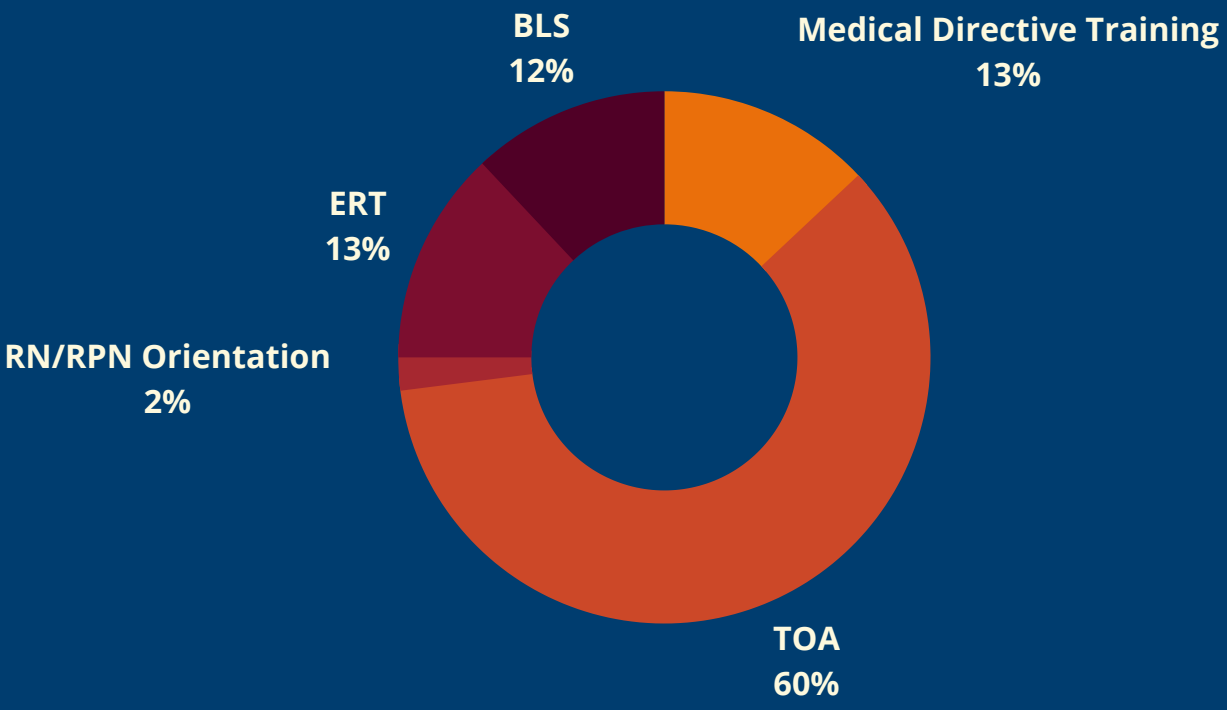
332

HD & Support Staff Participants:

110

2021-22 IMPACT

Providence Simulation



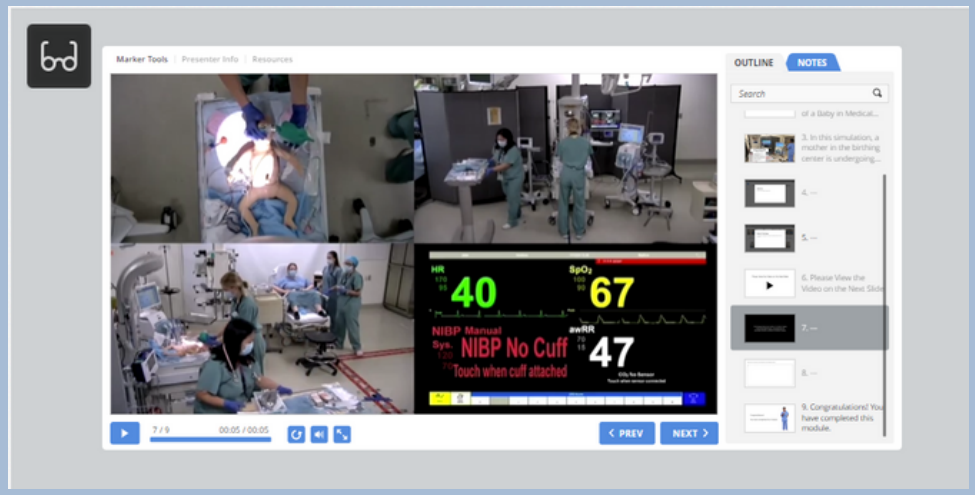
The simulation program's investment into simulation equipment and resources at PHC was a ***success*** with

of participants saying the simulation equipment met their needs

"Great kudos to your [Simulation] team for the expertise used in supporting the Providence training for this important [medical] directive."
- Manager, Collaborative Practice & Education

Simulation at St. Michael's

At our St Michael's site 2021-22 saw an exciting partnership with Ryerson and Medtech Canada to create the Virtual Clinical Immersion Training (VCIT) courses. Funded by the Ministry of Labour, Training and Skills Development's *Skill Development Fund*, our partnership created online modules using simulated clinical events to introduce biomedical engineers to the interface between clinicians and the technology used in patient care.



Above, a screenshot of VCIT module for a simulated Code Pink in the Allan Waters Family Simulation Centre

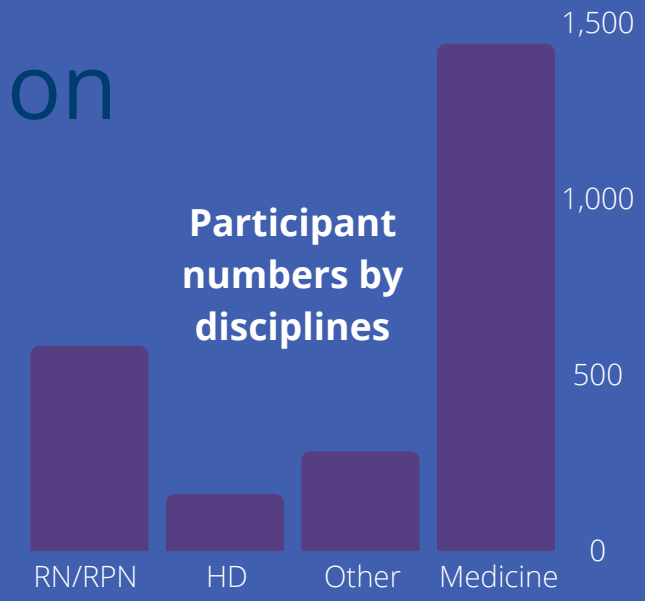
Below, a screenshot of VCIT module for a simulated trauma patient in the CT suite, St. Michael's Hospital

2021-22 IMPACT

St Michaels Simulation

96%

of learners thought their session(s) were excellent



"Two hours after the Covid team simulation session, where the team practiced proning an intubated patient, the team proned a patient in the ICU!." - Functional Line Training Lead

"Using our [simulation] data we have decided to jump in and plan for a direct to CT for code strokes. I don't think the ED group would have entertained this idea without the iStroke data....It has helped with the ED team feeling comfortable with the idea, planning for the required equipment, personnel counts and room use."- NP and IStroke Lead

- **6 new Covid simulation courses**
- **Instituted telesimulation to reach more participants during peaks of Covid**
- **Co-created Virtual Clinical Immersion Training (VCIT) program co-developed with Ryerson & MedTech Canada**
- **Completed Phase 1 of *IDeAS* study, funded by the Department of Defense**
- **Piloted Unity Health's new hybrid Basic Life Support (BLS) curriculum**

Research Highlights Reference List

1. Brydges, R., Nemoy, L., Ng, S., Khodadoust, N., Léger, C., Sampson, K., & Campbell, D. M.Getting everyone to the table: exploring everyday and everynight work to consider 'latent social threats'. (2021). Getting everyone to the table: exploring everyday and everynight work to consider "latent social threats" through interprofessional tabletop simulation. *Advances in Simulation (London),* 6(1), 1–39. https://doi.org/10.1186/s41077-021-00191-z
2. Nguyen B, Torres A, Sim W, Kenny D, Campbell DM, Beavers L, Lou W, Kapralos B, Peter E, Dubrowski A, KrishnS, Bhat V Digital Interventions to Reduce Distress Among Health Care Providers at the Frontline: Protocol for a Feasibility Trial JMIR Res Protoc 2022;11(2): e32240 doi: 10.2196/32240
3. Petrosoniak, A., Fan, M., Hicks, C. M., White, K., McGowan, M., Campbell, D., & Trbovich, P. (2021). Trauma resuscitation using in situ simulation team training (TRUST) study: Latent safety threat evaluation using framework analysis and video review. BMJ Quality & Safety, 30(9), 739-746. doi:https://doi.org/10.1136/bmjqs-2020-011363
4. Nickson, C. P., Petrosoniak, A., Barwick, S., & Brazil, V. (2021). Translational simulation: From description to action. Advances in Simulation, 6, 1-11. doi:https://doi.org/10.1186/s41077-021-00160-6
5. Brydges, Nemoy, L., Campbell, D. M., Meffe, F., Moscovitch, L., Fella, S., Chandrasekaran, N., Bishop, C., Khodadoust, N., & Ng, S. L. (2021). "We can't just have a casual conversation": An institutional ethnography-informed study of work in labour and birth. Social Science & Medicine (1982), 279, 113975–113975. https://doi.org/10.1016/j.socscimed.2021.113975