# KidSIM

# Annual Report

## 2024 - 2025


kidSIM™

CELEBRATING 20 YEARS

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# CELEBRATING 20 YEARS

## FOREWORD

This year marks a remarkable milestone for the KidSIM Simulation Program, our 20th anniversary. What began in 2005 as a bold and innovative idea by Dr. Vince Grant has grown into a world-renowned leader in medical simulation, education, and research.

In the early days, simulation was an emerging field, and our program was humble in both space and resources. With only a few mannequins and a small, dedicated team, we operated out of makeshift spaces—storage closets, emergency department classrooms, and wherever we could find room to teach. Yet even then, the potential of simulation to transform healthcare was undeniable.

Today, two decades later, that potential has become our reality. KidSIM has evolved into a cornerstone of pediatric simulation education and research. Our state-of-the-art 3,600 square foot simulation centre now houses 16 high-fidelity mannequins and supports a team of 14 full and part-time staff. We have educated over 80,000 learners, from nurses to physicians, paramedics to allied health practitioners, families and school staff, using immersive, team-based simulation experiences that improve real-world clinical care.

Our impact reaches far beyond education. The KidSIM-ASPIRE research program has become a global leader in pediatric simulation research, advancing knowledge in resuscitation science, cardiac arrest, patient safety, quality improvement, artificial intelligence, and return on investment. As the most published simulation program in the world, the program's research has changed practice, informed policy, and most importantly, improved outcomes for children and families.

The ASSET (Advanced Skills for Simulation Educators and Teachers) course remains internationally recognized as a gold standard in simulation debriefing training, continuing to shape a new generation of simulation educators around the globe.

Our work also extends into systems improvement. From informing hospital design and optimizing clinical workflows to supporting family-centered care for medically complex children and helping strengthen pediatric care in rural and remote communities, KidSIM plays a vital role in shaping the future of healthcare delivery.

None of this would have been possible without the unwavering support of our community and partners. We are deeply grateful to the Alberta Children's Hospital Foundation, the Alberta Children's Hospital, Alberta Health Services, and the countless donors and community members who have championed our mission over the years. Their belief in the power of simulation has made our work possible—and impactful.

As we look to the future, we anticipate exciting advances in virtual reality, augmented reality, and artificial intelligence. At KidSIM, we will continue to embrace innovation as we always have, all while staying grounded in the values that have defined us since day one: Respect, Supportiveness, Honesty, Integrity, Collaboration, Innovation, and Inclusivity.

These values guide everything we do, with one clear vision in mind: to provide children and families with the highest quality of healthcare possible.

Here's to the next 20 years!

Dr. Kerri Landry
Medical Director, KidSIM Simulation Program


Innovative Technology & Research
IMSH
Society for Simulation in Healthcare
JANUARY 18 - 22, 2020 | SAN DIEGO, CA USA
20TH ANNIVERSARY

# KIDSIM PEDIATRIC SIMULATION PROGRAM

The KidSIM Pediatric Simulation Program based out of the Alberta Children's Hospital has been training health care professionals both as individuals and as part of interprofessional teams since October of 2005. Since that time, the KidSIM Program has trained over 80,000 learners and become a world-class program known internationally for delivering top-notch educational programs and conducting cutting-edge research. The KidSIM program works to provide learners surrogate clinical experiences with pediatric patients in as close to a 'real-life' situation as possible through the use of high-fidelity mannequins as well as a teaching space that mimics the clinical setting. Additionally, KidSIM provides education and support to help families, schools, and other non-clinical care providers to be better prepared for looking after children with high-risk medical situations that might occur outside the healthcare setting.

In 2022, the KidSIM Program was accredited for another 5 year term by the Royal College of Physicians and Surgeons of Canada. As an accredited simulation program, all activities developed and provided by KidSIM are automatically approved as accredited activities within the Maintenance of Certification (MOC) Program. The Royal College of Physicians and Surgeons of Canada established a formal accreditation system for simulation programs with the goal of building capacity in simulation-based medical education. Simulation program accreditation is a voluntary process that reflects a simulation program's ability to provide simulation-based education activities that model the highest administrative, educational, and ethical standards. Accredited simulation programs are internationally recognized as leaders in simulation-based learning and providers of activities that are planned and delivered according to the latest educational research to ensure patient safety and quality care provided by health professionals.

The KidSIM Program will honor our vision, mission & values by:

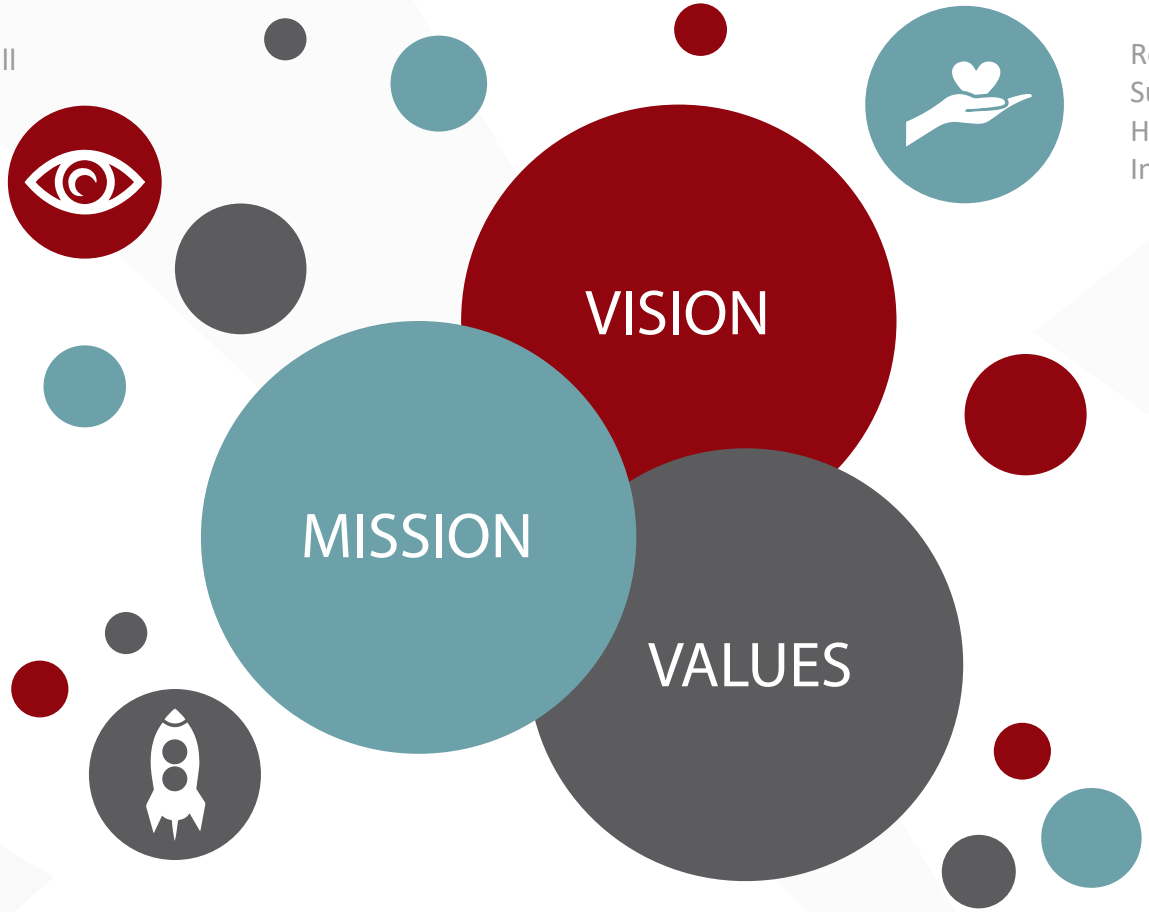
- Using medical simulation technology to enhance and assist with the ongoing professional development of front-line providers in our health care communities.
- Improving efficiency, availability and integration of simulation technology and scenarios into the educational programs of all pediatric stakeholders.
- Using medical simulation technologies to provide pediatric-focused acute care education and training to clinical areas within the ACH, as well as facilities that perform pediatric care in the Calgary Health Region, and rural and regional centers in Southern Alberta, Central Alberta and Southeastern British Columbia.
- Recruitment and facilitation of the training and development of future simulation educators providing a respectful, supportive and non-threatening learning environment for learners.
- Promoting excellence in simulation-based research by securing grant funding, mentoring novice researchers, collaborating with global experts, and engaging community partners to ensure broad dissemination of evidence.
- Creating an environment for improved patient safety and quality of care through uncovering and addressing patient safety threats.

## VISION

High quality healthcare for all children and families

## VALUES

Respect
Supportive
Honesty
Inclusivity
Integrity
Collaborative
Innovative




## MISSION

Promote and measure high quality interprofessional pediatric education by:
Ensuring optimal accessibility to this education tool;
Providing leadership and excellence in academic delivery and evaluation of simulation-based education;
Developing and mentoring high quality simulation educators;
Innovating and disseminating best practice;
Supporting quality and patient safety initiatives;
Conducting high quality simulation-based research

# KIDSIM TEAM

## Dr. Kerri Landry, Medical Director

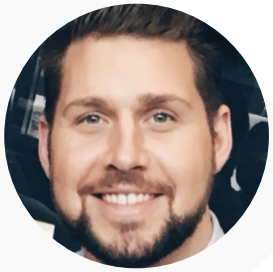
Dr. Kerri Landry is originally from Montreal, Quebec where she attended McGill University and completed her MD/MBA, her Pediatrics' Residency and finally her Pediatric Emergency Medicine Fellowship. During her time at McGill, her interest in simulation education was sparked when they opened the Steinberg Centre for Simulation and Interactive Learning in 2006. She quickly fell in love with sim and became an active participant and educator in their emergency program. In 2009, she left the east, excited to join the Emergency Medicine Group at the Alberta Children's Hospital. Once in Alberta, Kerri became an active instructor with the KidSIM program, teaching at the undergraduate, resident, fellowship and staff levels as well as helping out with the Mobile Outreach Education program and various conferences and workshops. Delighted by the chance to take on a more formal role with the KidSIM program, in the spring of 2016, Kerri jumped at the chance to become an Assistant Medical Director overseeing the Mobile Outreach Education program. While she loved her role as the lead for Mobile Education, Kerri is now the Medical Director of the KidSIM Program. So far, she has worked with the team to navigate the Covid-19 pandemic and the program's Royal College Accreditation and is excited to explore how KidSIM can contribute its simulation expertise to help further the Quality Improvement work being done at the Alberta Children's Hospital.

## Dr. Adam Cheng, Research and Development

Dr. Adam Cheng is a Professor with the Department of Pediatrics and Emergency Medicine at the University of Calgary. As a scientist and researcher at the Alberta Children's Hospital Research Institute, he oversees a program of simulation-based research focused on improving outcomes from cardiac arrest. Currently, he is leading the simulation research program (KidSIM-ASPIRE) at ACH and is also the Co-Director of the KidSIM Fellowship Program. Adam is internationally known for his work in simulation-based education and research. He has developed numerous simulation-based curricula, both at the local and national levels. His research in cardiac arrest, cardiopulmonary resuscitation and debriefing, includes a number of highly cited, simulation-based randomized controlled trials that have informed changes in international resuscitation courses. In 2018, he was lead author on the American Heart Association's Scientific Statement on Resuscitation Education that was published in the journal Circulation. He has edited several textbooks and is lead author of the Education Science of the 2020 American Heart Association Cardiopulmonary Resuscitation guidelines. Adam has been an active international leader. He is past-chair of the International Network for Simulation-based Pediatric Innovation, Research and Education (INSPIRE), which is the largest simulation research network in the world, comprised of over 250 pediatric hospitals and simulation programs. In 2025, Adam received the prestigious King Charles III's Coronation Medal in recognition of his outstanding contributions to Heart & Stroke and unwavering commitment to heart and brain health in Canada.

## Dr. Christine Kennedy, Assistant Medical Lead

Dr. Christine Kennedy is originally from Winnipeg and attended medical school at the University of Manitoba prior to moving to Calgary for her Pediatrics residency and Emergency Medicine fellowship. Throughout her fellowship she developed a passion for medical education and completed the Teaching Scholars in Medicine Certificate Program at the University of Calgary. She has been working as an Emergency Physician at the Alberta Children's Hospital since 2011 and has a very active role in teaching medical students, residents, and fellows. Christine took on a formal role with KidSIM in 2021 as an Assistant Medical Director and oversees the Mobile Outreach Education Program. She is excited to be involved in helping to develop and grow other educational programs within KidSIM.



## Dr. Donovan Duncan, Assistant Medical Lead

Dr. Donovan Duncan completed his pediatric residency at the University of Calgary in 2019, followed by a fellowship in Pediatric Critical Care Medicine at the Montreal Children's Hospital. In 2021, he returned to Alberta Children's Hospital, where he completed an advanced fellowship in simulation through the KidSIM program and is currently completing a Master of Health Professions Education (MHPE) from Maastricht University in The Netherlands. Dr. Duncan is currently a Pediatric Critical Care Attending Physician, the Director of Pediatric Critical Care Education at Alberta Children's Hospital, and he serves as the Assistant Medical Director of Quality Improvement and Patient Safety with KidSIM. In his role with KidSIM, Dr. Duncan leads initiatives that leverage simulation as a systems-based tool for healthcare improvement. In this role, he is actively involved in using simulation to surface latent safety threats, stress-test workflows, and co-design innovative solutions to persistent clinical challenges. His work focuses on applying simulation as a proactive strategy to improve system functioning, enhance patient safety, and drive meaningful change in healthcare delivery.

## Dr. Vincent Grant, KidSIM Fellowship Director

Dr. Vince Grant is the Director of the KidSIM Fellowship Program and has been the Provincial Medical Director of the eSIM Program for Alberta Health Services since 2019. He is an Emergency Physician at ACH and a Professor of Pediatrics and Emergency Medicine at the Cumming School of Medicine at the University of Calgary. Vince was the Founding Medical Director for the KidSIM Program from 2005-2020, as well as the Founding Medical Director for the ATSSL at the University of Calgary. He has been an integral part of the growth of simulation-based education locally and has developed a national and international reputation for his work in this area. His main academic interests include simulation faculty development, debriefing and feedback methods, interprofessional simulation education, rural mobile outreach simulation, and innovation in medical education technologies.

## Nicola Peiris, Team Lead

Nicola graduated with her BSc. from the University of Calgary. She has worked at the Alberta Children's Hospital since 2008 and joined the KidSIM-ASPIRE team in 2011. Nicola has managed numerous large research projects since 2009 and has worked with research teams within the PICU and the KidSIM-ASPIRE Program. From 2011 - 2020, she was the Network Manager for the International Network for Simulation-based Pediatric Innovation, Research and Education (INSPIRE), the largest pediatric simulation research network in the world. Nicola assumed the role of Team Lead for KidSIM in 2016 and works with the Medical Director, Research Director, and Patient Care Manager to oversee the day-to-day program and research operations of the KidSIM Program.

## Helen Catena, Simulation Education Consultant

Helen graduated from Oxford UK with a pediatric nursing degree and after working in the UK for 2 years moved to work at The Hospital for Sick Children in Toronto. Two years later Helen relocated to the Alberta Children's Hospital in Calgary, working in the Intensive Care Unit since 2004. She became interested in simulation in 2006 when she started teaching in the KidSIM Program. Helen helped lead the development of the Undergraduate Interprofessional Education program as well as the Inpatient Hospital Pediatrics program. Helen formally joined the KidSIM Program part-time in 2011 as the KidSIM Simulation Education Consultant helping to coordinate all aspects of education that occurs in the program.

## Amy Cripps, Simulation Education Consultant

Amy has a wide range of knowledge from her acute care experience in PICU and as a 2-person pediatric transport team as a RRT. This helps her be able to teach any level of learner from any discipline. She has been involved in simulation since 2008 and was essential for the success of the Just-In-Time inpatient program. Amy has helped this unique delivery of simulation spread into other areas including PICU, NICU and Oncology/Hematology unit, making it a huge success. Amy assumed the role of Simulation Education Consultant in 2016. She works to organize and assist in all aspects of the program, particularly mentoring and faculty development.

## Deborah Tamura, Simulation Education Consultant

Deborah's background is in pediatric nursing, calling ACH "Home" since the beginning for her nursing career. She has clinical experience in both inpatient and critical care as well as being part of ACH Nursing Education Team in various roles. She has been facilitating with the KidSIM program since 2016 and was thrilled to step into the position of Simulation Education Consultant in 2024. Deborah has participated in various KidSIM programs including the Undergraduate Interprofessional Education program, Mobile Education, PALS/PEARS courses, Family Centered Care Program and facilitating simulation in outpatient and community settings . She is excited to help co-ordinate the educational programming here at KidSIM but most inspired at the breadth of ways simulation contributes to excellence in pediatric care!

## Dr. Alexandra St-Onge-St-Hilaire, Assistant KidSIM Fellowship Director

Alexandra is a Pediatric Emergency Medicine physician originally from Montréal. She completed her medical degree at McGill University and pediatric residency at the Montreal Children's Hospital (MCH) before moving west to pursue her Pediatric Emergency Medicine fellowship at the Alberta Children's Hospital. Early in her training, Alexandra developed a strong interest in medical simulation, contributing to the development of a simulation curriculum for residents at the MCH. During her fellowship, she completed an elective with the KidSIM program, which solidified her passion for simulation-based education. Following her PEM training, she completed a Simulation Fellowship with STORK, a state-wide outreach simulation program based at the Queensland Children's Hospital in Australia. She has since returned to Alberta and enthusiastically joined the KidSIM team, where she took on the role of Assistant Director of the simulation fellowship program. Alex is passionate about teaching and is grateful for the opportunity to share the knowledge and experience gained through her fellowship. She is proud to be part of the vibrant simulation community at KidSIM.

## Dr. Jeffrey Lin, Senior Analyst

Dr. Yiqun Lin (aka Jeffrey Lin) obtained his medical degree and completed his pediatrics residency training in China. While he was practicing at the Children's Hospital of Fudan University in Shanghai, he was granted a budget to establish a simulation lab within the Emergency Department, which represents the first pediatric simulation center equipped with high fidelity simulators in mainland China. He moved to Vancouver in 2011 and completed a master's degree on clinical epidemiology. In addition to a simulation research fellowship with the KidSIM Simulation Research Program at the Alberta Children's Hospital, Dr. Lin completed both his PhD and postdoctoral research project at the University of Calgary. His PhD project, examining the efficacy and cost-effectiveness of distributed practice and appropriate feedback on CPR quality, is critical to resuscitation education science. In 2022, Jeffrey accepted a role as Senior Analyst, evaluating return on investment and cost-effectiveness for programs in the KidSIM Center. In 2025, Jeffrey received the prestigious King Charles III's Coronation Medal in recognition of his exceptional contributions and commitment to advancing resuscitation and research in Canada.

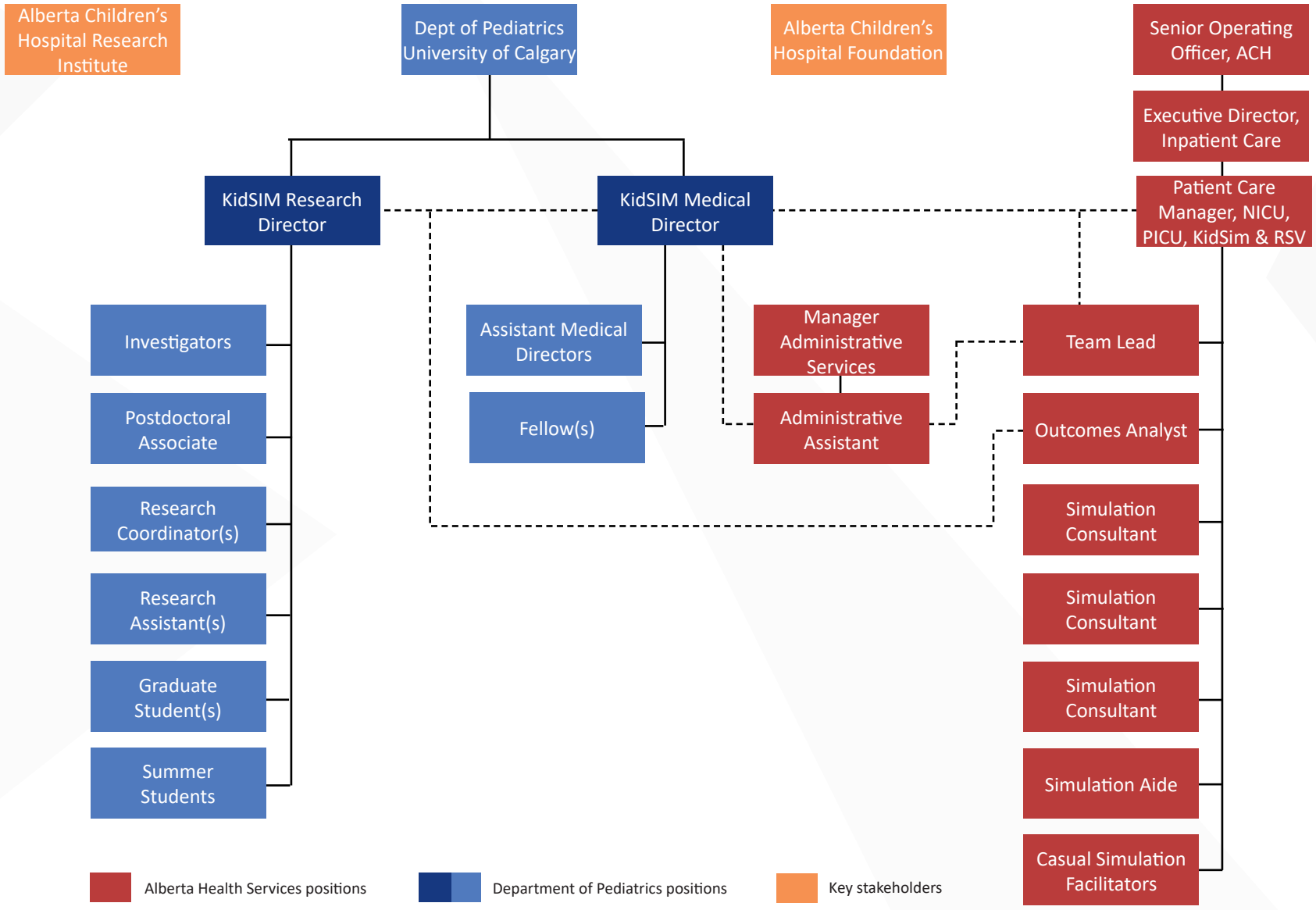
## Kerianne Craig, Simulation Aide

Kerianne has been at AHS Supply since 2003 and moved in 2009 to work in Supply management, specifically for Alberta Children's Hospital. Kerianne assumed the role of KidSIM Simulation Aide in 2016. Her previous experience has been essential in how she has been able to help ensure all the labs are constantly organized and restocked for both the facilitators and the learners. She has helped organize and tidy the center and provides technical support and equipment training. Kerianne is relied on by all of KidSIM. Kerianne's other interest is learning to run the wide range of mannequins used for all levels of sessions so that she can be more involved in the scenarios themselves.

## Keely Piscopo, Administrative Assistant

Keely has a Medical Office Administration Diploma which she obtained from CDI College. Her career with AHS started in 2012 where she worked for the Regional Scheduling Offices. Keely came to the Alberta Children's Hospital in June of 2015 where she worked for the Department of Pediatrics, Section of Emergency Medicine as administrative support for three emergency physicians. Keely assumed the role of KidSIM Administrative Assistant in 2016. She has a wide array of experience with computer software, and technology troubleshooting. She brings with her talent, organizational experience, and in depth knowledge and she has been a real asset since joining the team.

# GOVERNANCE


Alberta Children's Hospital Research Institute
Dept of Pediatrics University of Calgary
Alberta Children's Hospital Foundation
Senior Operating Officer, ACH
Executive Director, Inpatient Care
KidSIM Research Director
KidSIM Medical Director
Patient Care Manager, NICU, PICU, KidSim & RSV
Investigators
Postdoctoral Associate
Research Coordinator(s)
Research Assistant(s)
Graduate Student(s)
Summer Students
Assistant Medical Directors
Fellow(s)
Manager Administrative Services
Administrative Assistant
Team Lead
Outcomes Analyst
Simulation Consultant
Simulation Consultant
Simulation Consultant
Simulation Aide
Casual Simulation Facilitators
Alberta Health Services positions
Department of Pediatrics positions
Key stakeholders

# SIMULATION SUPPORT

### KIDSIM TEAM
Kerri Landry
Christine Kennedy
Donovan Duncan
Nicola Peiris
Helen Catena
Amy Cripps
Deborah Tamura
Jeffrey Lin
Kerianne Craig
Keely Piscopo
Alexandra St-Onge-St-Hilaire

### RESEARCH
Adam Cheng
Jennifer Davidson

### BIOMED SUPPORT
Dan Duperron

### TRAUMA SERVICES
Karl Philips
Sherry MacGillivray

### EMERGENCY MEDICINE
Andrea Boone
Antonia Stang
Caitlin Fernley
Cassidy Wyntjes
Christie Li Pi Shan
Connie Abrey
Dana Stewart
Dana Stys
Deborah Tamura
Diane Hamel
Ellen Morrison
Fiona Stewart
Gavin Burgess
Gloria Yoo
Gord McNeil
Jennifer Pearson
Jennifer Thull-Freedman
Joleen Lidberg
Julie Wallin
Kaitlyn Mousseau
Katelyn Maki
Kelly Millar
Keon Ma
Kida Stevens
Kristen Johnson
Lindsay Burke
Lorraine Mabon
Lundy Day
Mary Tong
Megan Karmann
Melanie Willimann
Michael Pierse
Michel Schlegelmilch
Michelle Fric
Naminder Sandhu
Pamela Vandenbiggelaar
Paula Espinoza
Patricia Lee
Peggy Thomson-Gibson
Rami Ableman
Robyn Buna
Russell Lam
Sean Burke
Shabnam Minoosepehr
Sherry Wilson
Shirmee Doshi
Tammy Nelson
TJ Kodeeswaran
William MacDougall

### PEDIATRIC TRANSPORT
Caitlin Brooke Moran
Chris Broderick
Eli Gilad
Jenna Camphaug
Kimberley Menzies
Neil Baribeau
Troy Carmichael

### PICU
Andrea Jesney
Jaime Blackwood
Jon Gilleland
Joy Handley
Laurie Lee
Meagan Mahoney
Rachel Brewer
Tais Da Costa Sao Pedro

### RESPIRATORY THERAPY
Andres Morin Mosquera
Hibah Hijair
Jeanine Johnson
Jennifer Oliverio
Leo Chen
Lisa Liland-Macdonald
Michelle Vizard
Mikaila Nederveen
Salvatore Cimino
Welsey Li

### STEP
Keri Price

### ECLS
Pat Yee
Steve Menzies

### NICU
Amelie Strizke
Blair Becker
Claire Wattleworth
Jan Lind
Lori Stephen
Martin Perlsteyn
Norma Oliver

### INPATIENT PEDIATRICS
Andrea Grotemeyer
Angie Arcuri
Chantel Jolivel
Chantelle Barnard
Chris Novak
Coty Ong
Danielle Maubert
Deanna Cook
Heather Breault
Jenna Wiseman
Jennifer Walker
Jennifer Shehata
Kirby Bell
Laura Davies
Lily Ragan
Lindsay Long
Marsha Bucsis
Maribeth Faustino Hill
Matthew Jansen
Megan Allison
Michael Friesen
Michelle Jackman
Preet Sandhu
Renee Jackson
Sharon Spicer
Suzette Cooke
Tobi Reisig

### SURGERY
Corey Dowler
Mary Brindle
Shantel Cunningham
Steve Lopushinksy

### OPERATING ROOM
Adam Spencer
David Lardner
Elisabeth Dobereiner
Jamin Mulvey
Jeremy Luntley
Karthik Sabapathi
Mark Gale
Megan Hayter
Meggie Livingstone
Michael Letal

### PACU
Karen Bibaud
Noemi Ly

### HOME CARE
Amber Deus
Kayla Schaab
Lee Carson

### ROTARY FLAMES HOUSE
Kathryn daSilva Curiel
Meredith Luipasco

### CLINIC
Leslie Ramos-Charlton
Rebecca Perry
Wendy Schwarz

### CASUAL
Ashley Holloway
Louise Simonot
Rob Catena
Wendy Bissett

# FUNDING

The KidSIM Program is grateful to have received financial support for infrastructure, equipment and operations from various sources since 2004. The KidSIM Program is extremely proud of its long-standing relationship with the Alberta Children's Hospital Foundation, without whose support the pediatric simulation program would likely not exist.

| ALBERTA CHILDREN'S HOSPITAL FOUNDATION (ACHF) | | |
|---|---|---|
| 2004 | $262,898 | Purchase of School-Aged Mannequin (METI) and AV equipment |
| 2005 | $7,400 | Purchase of Multimedia Equipment |
| 2006 | $60,000 | Purchase of Infant Mannequin (METI) |
| 2007 | $203,740 | Purchase of Portable Infant (Laerdal), School-Aged (METI) and Adolescent Mannequins (Laerdal) |
| 2007 | $20,000 | Physiological Monitor for Simulation Laboratory |
| 2007 | $20,700 | Funding for Simulation Facilitators |
| 2008 | $76,000 | Outreach equipment and portability solutions |
| 2008 | $21,000 | Funding for Simulation Facilitators |
| 2008 | $2,394,500 | Construction and Outfitting of the KidSIM Centre (2012-2013) |
| 2009 | $150,000 | Three year funding commitment for Simulation Facilitators (2010-2013) |
| 2014 | $100,000 | Funding for Simulation Facilitators |
| 2015-2019 | $1,582,000 | Funding for Infrastructure Support and Simulation Facilitators |
| 2018-2019 | $181,000 | Support for KidSIM Innovation: ACH 3D Printing Challenge |
| 2019 | $93,685 | Radiothon Support for purchase of new mannequins |
| 2019 | $90,000 | Radiothon Support for KidSIM Innovation: Virtual and Augmented Reality at ACH |
| 2019-2022 | $1,350,000 | Funding Extension for Infrastructure and Operations Support |
| 2019-2020 | $67, 204 | Baby Sim Doll, 4 Little Junior CPR Trainers, 4 Resusci Juniors CPR Trainers, Radiothon 2019 |
| 2019-2020 | $26,480 | Additional Funding, Radiothon 2019 |
| 2019-2020 | $490,000 | Virtual & AR Technology, Radiothon 2019 |
| 2022-2027 | $3,457,368 | Funding for Infrastructure Support and Simulation Facilitators |
| 2023 | $15,000 | CMAC blades, Rhythm Generators, AEDs Radiothon 2023 |
| 2024 | $56,000 | Laerdal Vitals Bridge, Trauma Child |

| | | |
|---|---|---|
| **FAMILY CENTERED CARE AND TECHNOLOGY PROGRAM (FUNDED BY ACHF)** | | |
| 2011 | $30,000 | Purchase of Toddler-Aged Mannequin (Gaumard) |
| **PGME PROGRAM - DEPARTMENT OF PEDIATRICS** | | |
| 2010 | $30,000 | Purchase of School-Aged Mannequin (Gaumard) |
| 2010 | $30,000 | Purchase of Toddler-Aged Mannequin (Gaumard) |
| 2013 | $25,000 | Purchase of School-Aged Mannequin (Laerdal) |
| 2015 | $30,000 | Purchase of Toddler-Aged Mannequin (Gaumard) |
| 2021 | $26,200 | Purchase of School-Aged Mannequin (Laerdal) |
| 2023 | $3,161 | AirSim Child Tracheostomy Trainer |
| **DEPARTMENT OF PEDIATRICS** | | |
| 2005-present | 0.2 FTE | Medical Director, KidSIM |
| 2005-present | 0.3 FTE | Program Coordinator/eSIM Consultant, KidSIM |
| 2005-2013 | $129,372 | KidSIM Operations Supplies, Minor Equipment, Warranties |
| 2006-present | | MD Facilitation Hours |
| 2011-present | 0.75 FTE | Research & Development Director, KidSIM-ASPIRE |
| 2011-present | 0.5 FTE | Administrative Assistant, KidSIM |
| 2021 | $60,000 | KidSIM Fellow |
| **eSIM PROVINCIAL SIMULATION PROGRAM** | | |
| 2008-present | 0.2 FTE | eSIM Consultant, KidSIM |
| 2011-present | 0.4 FTE | eSIM Consultant, KidSIM |
| 2018-present | 0.2 FTE | eSIM Consultant, KidSIM |
| 2010 | $30,000 | Infant Mannequin (Gaumard) |
| 2012 | $30,000 | Infant Mannequin (Gaumard) |
| **OTHER PROGRAMS** | | |
| 2017 | $20,000 | Purchase of Premie-Aged Mannequin (Gaumard) - NICU Program, Family Donor |
| 2017 | $3,000 | Purchase of Premature Anne Task Trainer (Laerdal) - NICU Program, Family Donor |

# THE KIDSIM CENTER


Through various fundraising endeavors and the generous support of the Alberta Children's Hospital Foundation, the $2.4 million dollar 3,600 square foot KidSIM Simulation Center opened in January 2014.

Located on the 4th floor of the Alberta Children's Hospital, the KidSIM Center accommodates 31 mannequins, 28 task trainers, four state of the art simulation suites each with individual control rooms, two proper debriefing rooms, a dedicated storage room, and space for program staff. Each of the teaching spaces is outfitted with an advanced multimedia system to be able to enhance the education experience and continue to offer the possibility of video recording for both research and quality assurance purposes.

With the ability to run concurrent simulations in multiple labs, the KidSIM Program has been able to provide more learning opportunities than ever before, especially for large interprofessional teams. The versatility of the space has allowed it to serve the diverse needs of both clinical and academic/research groups, including clinical education and training, faculty development, research, advocacy, family centered care and community outreach.

# EDUCATION COMMITTEE

The KidSIM Program supports interprofessional education by working together with physicians, nurses and allied health care providers to ensure optimal accessibility, innovation, leadership and excellence in pediatric experiential learning and simulation education. Simulation is an essential component to meet current and future demands related to healthcare education, experiential learning, team crisis resource management, patient safety, workforce utilization, and research.

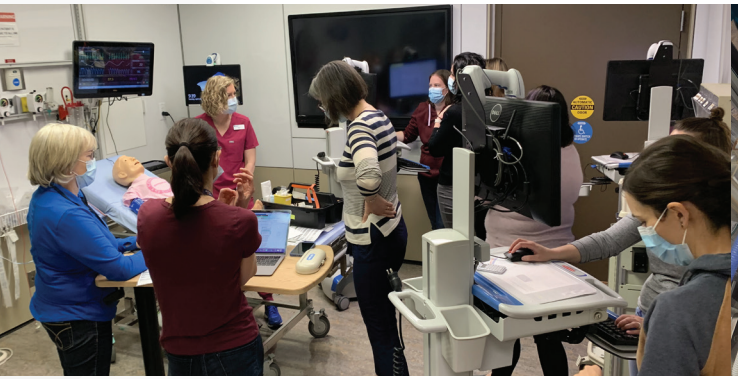
In 2024, the KidSIM Program introduced an updated education committee. The purpose of the Pediatric Simulation Education Oversight Committee (PSEOC) is to provide leadership, expertise and guidance in relation to the dissemination of pediatric simulation education, simulation curriculum, scenario design, evaluation, and simulation research. These objectives include:

- To assist in the development, review and dissemination of peer-reviewed scenarios for use within the simulation program.
- To evaluate needs assessments from various user groups and help them design curriculum and scenarios to support these needs.
- To critically evaluate education provided by the KidSIM Program and its affiliates and ensure the objectives are tied to the needs of the group
- To review summative evaluations of user groups.
- To advise the Medical Director of the KidSIM Program as to resource needs from various user groups.
- To provide guidance to programs in the use of simulation for competency-based assessment.
- To ensure Patient Safety Competencies are integrated into simulation activities.

Dr. Kerri Landry (chair)- Medical Director, KidSIM
Nicola Peiris - Team Lead, KidSIM
Dr. Adam Cheng - Research & Development Director, KidSIM-ASPIRE
Dr. Christine Kennedy - Assistant Medical Director, KidSIM
Dr. Donovan Duncan - Assistant Medical Director, KidSIM
Helen Catena - Simulation Consultant, KidSIM
Amy Cripps - Simulation Consultant, KidSIM
Deborah Tamura - Simulation Consultant, KidSIM
Kerianne Craig - Simulation Aide, KidSIM
Keely Piscopo, Administrative Assistant, KidSIM
Jeffrey Lin - ROI Outcomes Analyst, KidSIM
Jennifer Davidson - Research Coordinator, KidSIM-ASPIRE
KidSIM Fellow(s)

Sherry MacGillivray - Coordinator, ACH Trauma Program
Corey Dowler - Clinical Nurse Specialist, Surgical/Ambulatory Services
Karen Bibaud - Clinical Nurse Educator, PACU
Connie Abrey - Clinical Nurse Educator, Emergency Department
Danielle Maubert - Clinical Nurse Educator, Unit 4
Dr. Amonpreet Sandhu - Pediatrics
Dr. Chantelle Barnard - Pediatrics
Dr. Renee Jackson - Pediatrics
Kirby Bell - Clinical Nurse Educator, Nursing Support Team
Leslie Pihlstrom - Instructor, Ambulatory
Meredith Luipasco - Clinical Nurse Educator, Rotary Flames House
Neil Baribeau - Coordinator, Pediatric Critical Care Transport Program

# PROGRAMS



KidSIM is responsible for the training of up to 6, 000 learners per year. These learners come from all levels of training, from undergraduate learners all the way through to practicing health professionals, and also includes the parents and family supports who care for children at home or in schools. The breadth of the education programs offered by KidSIM demonstrate our commitment to providing accessible, comprehensive, integrated, and coordinated health education delivery to both healthcare providers and families.

Our objective of delivering simulation-based education to all individuals and interprofessional teams across the ACH and our focus on expanding this education to families aligns our work with the ACH vision of providing excellence in family-centered care. Our track record also demonstrates alignment with the strategic directions of AHS, in that we are bringing health care education to the communities that serve their local populations, striving for a safer and more efficient care system, and increasingly showing that we are working towards better health outcomes.

KidSIM Program Outcomes:

- Improved performance of skills of ACH staff and emergency staff in hospitals across the catchment area.
- Improved adherence to established clinical guidelines and protocols of ACH staff and emergency staff in hospitals across the catchment area.
- Improved teamwork and collaboration of ACH staff and emergency staff in hospitals across the catchment area.
- Improved performance of skills of family/caregivers providing in-home care to children with acute illness.
- Improved patient safety and quality of care through uncovering and addressing patient safety threats.
- Conduct innovative, high-quality, simulation-based research to inform healthcare providers, administrators and families of best practices, which will optimize pediatric patient outcomes from illness.

# PEDIATRIC EMERGENCY MEDICINE

### Emergency Department inSITU Simulation

After a successful pilot program from June 2023 to May 2024, the inSITU simulation was incorporated into regular biweekly sessions in the Pediatric Emergency Department at the Alberta Children's Hospital. Cases are selected based on high acuity, low occurrence presentations that present to the ACH ED. The participants include members of the trauma team on shift (RNs, RRTs, LPNs, Emergency Physician) and have expanded this past year to include the ED pharmacist. The sessions are run by the clinical nurse educators and a pediatric emergency physician. The cases and debrief sessions are short (30 minutes total time) and focus on patient care themes that the leadership team has reviewed, as well new protocols and medications. System and safety issues that are identified are discussed by ED leadership at site-operation meetings so changes can be made to improve patient care. Over the past year, there were 139 learner participants. This program has improved staff confidence with new processes, improved staff engagement, and improved identification and mitigation of potential safety issues. This program has been well supported by the ED management team and will continue on as a regular program.

### Undergraduate Interprofessional Education

The Undergraduate Interprofessional Education Program is one of the first of its kind in the entire world. This program allows undergraduate learners from different health professions in their final year of training to work together to manage common pediatric illnesses and injury. These sessions include nursing students from the University of Calgary and Mount Royal University, respiratory therapy (RT) students from SAIT, licensed practical nurse (LPN) students from Bow Valley College, Emergency Medical Services (EMS from SAIT), pharmacy students from University of Alberta and medical students from the University of Calgary during their clerkship rotation in Pediatric Emergency Medicine. These sessions focus primarily on teamwork skills such as communication, roles and leadership while also learning to manage common pediatric acute care presentations (such as shock, respiratory distress, seizures and anaphylaxis). This program runs weekly year-round.

### Pediatric Emergency Medicine Junior Resident Simulation Education

This program runs monthly and is aimed at junior residents (PGY1-2) during their Pediatric Emergency Medicine rotation. These residents come from various postgraduate programs and this program is intended to teach them various aspects of the care of common pediatric acute care scenarios, including respiratory distress, shock, seizures, anaphylaxis and trauma care.

### Pediatric Emergency Medicine Senior Resident and Fellow Team Training

The Emergency Medicine team training program links senior residents (typically PGY3 and above) who are performing their rotation in Pediatric Emergency Medicine with Pediatric Emergency Medicine Fellows. This session runs monthly and incorporates cases related to complex emergency department patients. The program focuses on allowing senior residents and fellows the opportunity to lead resuscitation teams from the pediatric emergency department and focuses on their teamwork skills as well as management of complex pediatric acute care patients.

### Pediatric Emergency Medicine Fellowship Simulation Education

The curriculum for pediatric emergency medicine fellowship training focuses on the medical management of the patient, as well as developing and improving teamwork and communication skills by ensuring that all sessions are interprofessional. Nursing and Respiratory Therapists from the emergency department are a vital component in these monthly sessions. The national curriculum adopted by the Royal College of Physicians and Surgeons of Canada has 16 required subjects embedded into it over the 2 years, to create a total of 24 scenarios.

### Pediatric Emergency Medicine Attending Physician Interprofessional Simulation Education

Recognizing the importance of team training and continuing competence, the emergency department has implemented monthly simulation sessions involving attending physicians, staff nurses and respiratory therapists. Whenever possible, the training occurs in the Trauma room of the Alberta Children's Hospital Emergency Department to enhance the realism of the scenario and evaluate current systems. These sessions focus primarily on the management of acutely ill pediatric patients.

### Pediatric Trauma Services Simulation Program

The Pediatric Trauma Program provides simulation opportunities to any healthcare providers that work with trauma patients to teach both teamwork and medical management. Trauma simulation sessions help to look at issues, guide revisions to the system and educational needs. Learners come from a variety of clinical backgrounds that include: the pre-hospital environment for Emergency Medical Services, the Emergency Department, Diagnostic Imaging, Transfusion Medicine, the Intensive Care Unit, the Operating Room, and the inpatient Trauma Unit (Unit 4). Involving multiple services across the trauma care continuum enables better communication and care management necessary to effectively treat multiple injured pediatric patients; doing this with simulation is felt to be the best, most realistic technique.

The Pediatric Trauma Program also collaborates with KidSIM in the Mobile Education Program. As a Level 1 Pediatric Trauma Centre, the Trauma Program is mandated to provide education for the ACH referral centers. Scenarios are developed on needs assessment from those centers, as well as real cases that were identified as being challenging. The interprofessional teams take part in the scenario in their own resuscitation/trauma room which helps to identify equipment, resources, logistical and educational needs. This proves to be invaluable for the referral centers in multiple ways. Of note, the Accreditation Canada survey September 2019 for Provincial Trauma Distinction highlighted this robust outreach program as a clear demonstration of commitment to provide quality trauma care to the pediatric population of Southern Alberta.

### Managing Pediatric Emergencies for Adult Emergency Department Nurses

This program provides valuable experience and teaches basic management of pediatric emergencies to adult emergency department nurses during their orientation period. The learners are new nurses from all Calgary Emergency Departments and Urgent Care Centers. Objectives of this program are based on management and identification of common pediatric emergency presentations.

### Child Life Simulation Support in the Emergency Department

In collaboration with KidSIM, Child Life specialists have integrated simulation into their training to strengthen staff confidence and skills in the fast-paced Emergency Department. As demands on the ED grew, so did the need for Child Life staff to effectively support children and families during stressful procedures. Simulation sessions were designed for both new and experienced staff, focusing on common ED scenarios such as preparing children for stitches, sedations, IVs, and blood tests. Training emphasized strategies for preparation, distraction techniques, anticipating clinical steps, and optimal positioning to provide emotional and procedural support. These simulations created a safe learning environment where staff could share insights, practice real-life scenarios, and build skills without risk to patients. All Child Life staff participated, helping to expand their capacity and improve the care experience for children and families in the emergency setting.

# PEDIATRIC INTENSIVE CARE UNIT (PICU)

### Mock Code Program

This program provides code blue teams and the corresponding 'host' staff where the mock code blue occurs to practice resuscitation skills monthly. Various areas around the hospital are selected to 'host' mock code training. Scenarios are built specifically for the 'host' area and involve a deterioration of a patient that would typically be seen in that clinical area. The scenarios are geared to the interprofessional on-call resuscitation team. However, staff from the 'host' unit is also included in the simulation. There is a focus on process related components within the mock code to identify gaps or issues around those aspects of calling a code blue. This program involves the real team that would be running the code. To maintain a safe learning and debriefing environment, there is always a hospital pediatrician and intensivist as part of the team facilitating the mock. Following each mock code the team discusses learning points from the event.

### Pediatric Intensive Care Unit (PICU) Just-In-Time Training

The education team in the PICU has established regular interprofessional sessions based on real patients. The benefit is that the worst-case scenario of a deterioration of a patient is practiced in a safe environment so that the team knows what to do and how to manage the change in condition.

### Extracorporeal Life Support (ECLS) Team Training

ECLS is a major life saving therapy that requires connecting an Extra Corporeal Membrane Oxygenation (ECMO) machine to a patient to assist the heart and/or lungs. This therapy is used when maximized conventional intensive care therapies including CPR, are insufficient for patient support and recovery.

To provide this treatment, Dr. Jaime Blackwood developed an innovative program in October 2011 that trains interdisciplinary professionals to work as a well-coordinated team to initiate ECLS in critically ill pediatric patients. The team is composed of Pediatric Intensive Care Registered Nurses, Respiratory Therapists, Pediatric Critical Care Physicians, Pediatric General Trauma Surgeons, Operating Room Registered Nurses, Pediatric Cardiologists, and Cardiac Perfusionists, that are committed to fulfill their role responsibilities and being well-practiced to save critically ill pediatric patients. As part of their training, the team is placed in various medical scenarios that require the use of specialized infant and pediatric mannequins, a specialized ECLS simulator, and the ECMO machine. Practice scenarios include simulating the medical management of the critically ill patients as the team prepares to place them on ECLS; preparation of the ECMO machine and surgical equipment; surgical cannulation of neck vessels during CPR and non-CPR events; securing circuit attachment to cannulas; providing appropriate prescriptive circulation on ECMO; as well as troubleshooting and managing any other potential complications or events. In conjunction with Dr Shelina Jamal, the ECLS Co-Medical Director, intensive ECLS case review processes with continuous quality improvement activities are regularly conducted to ensure the team functions well at a high standard. Quality improvement reviews findings are incorporated into ECLS simulation to allow for continued growth and improvement of the overall program.

The ECLS program at ACH is rare and unique worldwide for initiating ECLS at a non-cardiac center that covers all Inpatient areas, PICU, NICU, OR, and the emergency department. As of February 2025, the ECLS program has cared for a total of 88 neonatal and pediatric patients. Survival to hospital discharge for patients is 65%, as compared to the ELSO Registry International average that is between 56-64%. Program success can be largely attributed to regular simulation sessions and continuous quality improvement activities.

### PICU Nursing Orientation

Nurses hired for the PICU are provided an orientation which prepares them to work in this challenging environment. KidSIM offers a space for educators to engage these staff in simulation-based skill development opportunities which augments the didactic content.

### PICU Interprofessional Team Training

This program focuses on critical care medicine and team training in the Intensive Care Unit. The participants are PICU Nurses, Respiratory Therapists and Attending PICU physicians. The objectives focus primarily on teamwork skills and medical management of the most critically ill and complex children cared for in the PICU. They have used simulation to change systems and introduce new equipment to staff ensuring that they are well trained and prepared for any situation.

### PICU Continuous Renal Replacement Therapy (CRRT) and Therapeutic Plasma Exchange (TPE) Programs

This PICU-based team of 30 Specialists receives initial training sessions of 2-3 days, and then annual re-certifications of 4 hours. All these sessions incorporate simulation approaches to create optimal learning for the participants. A big challenge for the team has been maintaining skills for these low volume/high acuity therapies and we have found simulation helps the team feel confident providing excellent care for critically ill pediatric patients.

### STEP Team Training

The STEP team is a pediatric critical care response team who provides early assessment, education and management of evolving unstable pediatric patients admitted to inpatient units, outpatient clinics, as well as transition care for patients being transferred out of the PICU/NICU to the inpatient units. The STEP team is involved in a number of interprofessional simulation sessions and use the venue to provide education to healthcare teams on the role of the STEP team, as well as patient management of acutely ill children. The team uses simulation to orientate new team members, maintain skills and practice management of the deteriorating pediatric patient. The team is involved in many different educational courses that simulate the need for the healthcare team to activate the STEP team. If the STEP team is available and not busy with a real patient they will respond to this call and take part as a participant in the simulation.

### Pediatric Transport Program

The Pediatric Critical Care Transport Team (PCCTT) is responsible for the safe transfer of critically ill children from across southern Alberta and southeastern British Columbia to the Alberta Children's Hospital for escalating care, and to transfer patients to the Stollery Children's Hospital (Edmonton) for cardiac surgical services. This team currently has 31 RN's and RT's. In 2024 the Transport team paused training of new staff and focused on education for existing staff members . At the present all 31 members of the PCCTT are certified to fly transport patients without physician accompaniment (RN/RT team only). In 2024, 313 children were transported by the transport team, and 85% of pediatric transports performed used a two-person (nurse and respiratory therapist) transport team, and a medical control physician consulting via phone.

Simulation is a key component to the educational curriculum, including a formalized simulation program that runs the team through weekly sessions. Simulation is used for initial training, skill maintenance, process improvement, and equipment familiarizations. The transport team partners with EMS, STARS and Air Ambulance to run simulation sessions incorporating their team members and to utilize their vehicle simulators to run scenarios in the real environment. The program utilizes a simulation exam as a part of the certification process for RNs and RTs. The transport team has partnered with the mobile education program over the last number of years to have a transport team member trained as a facilitator to participate on every mobile outreach session. In 2024 the pediatric Critical Care Transport Team utilized the KidSONO platform to train our RN's in the use of U/S guided PIV insertion.

The past 10 years have seen the transport team regularly incorporate telehealth during mobile education sessions. This provides an added layer of realism and education to mobile education and is a launching pad for the transport program to widely implement the use of telehealth technology for all calls coming in to the team. Simulation provides the opportunity to be one of the most well-trained pediatric transport teams in the country.

# NEONATAL INTENSIVE CARE UNIT (NICU)

SANTS (Southern Alberta Neonatal Transport) Outreach NEW!

The SANTS transport team working out of Foothills Medical Center has organized several outreach teaching sessions for centers across rural southern Alberta. These sessions provide frontline staff with high fidelity simulation scenarios in order for them to practice their neonatal resuscitation skills. This program is taught primarily by KidSIM ASSET alumni.

Neonatal Resuscitation Program (NRP)

The ACH NICU Education team has incorporated simulation in the Neonatal Resuscitation Program. This is a required course for all nurses, respiratory therapists and physicians. They run monthly courses to ensure all the staff are kept up to date and maintain their skills. This course has been very successful; simulation has added to the realism for the learners.

NICU Interprofessional Team Training

The NICU educational team has worked hard providing regular in situ simulation sessions for the entire medical team working that day. They have created common scenarios that they would see and have managed to engage the staff in taking part in simulation. They are also focusing on medical management, teamwork and communication as well as systems. Simulation has helped them adapt the unit to fit their needs better with simple changes helping the staff become more efficient.

Neonatal Intensive Care Unit (NICU) Just-In-Time Training

The NICU has established a Just-In-Time simulation on real patients that are admitted in the unit. This provides the entire team, novice to expert the skills and knowledge to predict and anticipate potential deterioration of that patient with the hope that the change in condition is able to be prevented.

NICU Proskills Pediatric Resident Training

The NICU Proskills team has provided pediatric residents the opportunity to learn and practice NRP via high fidelity simulation at KidSIM. They also provide residents the chance to learn more focused hands on skills that relate to caring for the most critically ill newborns of southern Alberta.

Allied Health Team

Simulated learning experiences offer allied health teams valuable opportunities to refine their skills in the delicate care of fragile and complex NICU infants. These interprofessional sessions, which bring together Speech-Language Therapists, Physiotherapists, and Occupational Therapists, focus on promoting the safe handling and movement of infants during care. This includes techniques for passing infants to parents, facilitating physiotherapy, and encouraging healthy movement while in the arms or lap instead of a crib. Additionally, the training incorporates feeding techniques, ensuring that allied health professionals are equipped to support families in integrating these tools after discharge. By learning these approaches in a controlled, simulated environment, professionals can build their confidence in supporting both the infants' and parents' needs, ensuring comprehensive care that extends beyond the NICU.

# INPATIENT PEDIATRIC UNITS

### Resident Indigenous Communication Simulation

This Indigenous themed simulation is a collaborative effort between eSIM, KidSIM and the Indigenous Health Program. These sessions serve as platforms for meaningful conversation and sharing, enriched by the involvement of Indigenous Advisors and Hospital Liaisons who act as experts and actors at each session. Traditional practices such as smudging, prayer, and talking circles are also incorporated. Through simulation, the aim is to advance the integration of cultural competence knowledge, encompassing attitudes towards personal bias, communication strategies, and awareness of organizational resources into the practice of healthcare providers. The experiences of learners thus far overwhelmingly underscore the value of this education and highlight the ongoing need for experiential learning to foster culturally competent care. The participation of pediatric residents at KidSIM further enriches these endeavors.

### Pediatric Interdisciplinary In-patient Simulation Education

The section of Hospital Pediatrics has been running interprofessional training sessions with in-patient unit nurses and respiratory therapists since 2007. This is a truly novel program that includes the attending staff hospital pediatricians. These bi-monthly sessions incorporate specific cases related to the inpatient unit where the participating staff normally works. The sessions are designed to highlight both medical objectives and teamwork skills. The section of Hospital Pediatrics has made this a mandatory education session for all Pediatric Attending Hospital Pediatricians working at the Alberta Children's Hospital. Simulation sessions have incorporated other departments to highlight new policies and processes, including PICU and the ECMO team, anesthesia, sub-specialty medical and surgical services, and Child Life, to make these simulations truly relevant to current in-patient practice.

### Pediatric Residents' Academic Half-Day Interprofessional Simulation Team Training

The University of Calgary's pediatric residency program incorporates Proskills and simulation sessions to cultivate exceptional leadership, communication, and clinical skills in a psychologically safe learning environment. Proskills, or procedural skills, training allows residents to practice hands-on techniques on task trainers, crucial for skill mastery before real-life application—especially vital with the transition to competency-based medical education. These half-day sessions enable trainees to complete simulation-eligible entrustable professional activities (EPAs) without risk to patients.

### General Nursing Orientation Program

This is an intense 2 week course for new RN and LPN staff. The program has incorporated the Pediatric Emergency Assessment, Recognition, and Stabilization course (PEARS, Heart & Stroke Foundation) along with simulation to consolidate the knowledge that they obtain from the lectures. The feedback has been very positive in both how much they enjoy the simulation and how much they learned during it. Following this positive introduction to KidSIM and simulation the hope is that they will become more comfortable in taking part in simulation as their career develops at ACH.

### The "First Five Minutes" Program

The "First Five Minutes" program is a training initiative that targets in-patient teams, consisting of nurses, respiratory therapists, occupational therapists, physiotherapists, and other members involved in providing care on a given unit. The program employs simulation scenarios that simulate serious events and challenges the team and how to respond appropriately. During the simulation, the team identifies how to call for help and which team is required, the roles that are necessary and how to assign them, and how to manage the patient using available resources on the unit while waiting for the advanced team to arrive. By participating in these sessions, the team becomes more knowledgeable about the resources available to them, how to call for help, and the roles required while waiting for advanced assistance to arrive.

### CAR-T

Unit 1 started a transplant process in the unit called CAR-T. The side effects of this treatment can be life threatening, and a significant number of patients need PICU admission to support them through these side effects and assessing for neurologic toxicity. The Oncology unit and PICU healthcare workers collaborate to understand the process and be aware of the side

effects and the process of managing the symptoms for Oncology teams and PICU teams. Training includes theory information followed by simulation to provide the opportunity to practice this management and experience all the potential deterioration to help them prepare. This also includes targeted simulation for each unit, with the scenarios being just for each unit.

### Nursing Education Programs

Clinical Nursing Educators (CNEs) from across the hospital regularly build simulation into a variety of their educational programs. This includes everything from orientation of new staff to mandatory annual education to targeted education days. New policies and procedures are introduced using simulation as a teaching tool. Scenarios are built to be unit specific and focus on teamwork and patient management. Simulation is used to help staff familiarize themselves with new equipment and create a safe environment for trouble shooting issues that may have arisen.

## OUTPATIENT SIMULATION PROGRAM

### Outpatient Simulation Program

KidSIM routinely offers training to specific outpatient clinical areas. The learners practice skills as a first-responder and come from a variety of backgrounds such as infectious diseases, cardiology (including ECG technicians), dentistry and diagnostic imaging, among others. Scenarios and objectives are specific to the clinical area and are based on rare and uncommon patient adverse events. These sessions often include the STEP team or Mock Code program.

## PALLIATIVE CARE

### Rotary Flames House

Rotary Flames House has grown to care for patients with greater medical needs, such as ventilated tracheotomy patients. They have incorporated interprofessional in-situ simulation for the staff to become more familiar with the specialized needs of their patients. They have also adopted the 'Just-In-Time' philosophy and run scenarios based on the care needed for their patients that are presently admitted in the Rotary Flames House.

## MENTAL HEALTH

### Work Reintegration and Return to Wellness Simulation Program

This innovative program uses simulation as a form of exposure therapy to support health care providers—including EMS personnel, Registered Nurses, and any staff impacted by operational stress injuries such as Post-Traumatic Stress Injury (PTSI). Grounded in trauma and motivation theory, the initiative creates psychologically safe, individualized simulation experiences that help participants gradually rebuild emotional readiness and function, whether returning to work or daily life. Unlike traditional training, simulation in this context is used as a therapeutic tool to help providers confront and process difficult memories, sensations, or situations they may have avoided due to trauma. Scenarios are carefully designed in collaboration with psychologists and occupational therapists to expose participants to triggers in a controlled, supportive way, helping to reduce avoidance, rebuild confidence, and re-establish a sense of safety in their professional environment. These sessions are paced according to the individual's recovery goals, allowing for reflection, emotional processing, and peer support throughout. Since launching in 2024, the program has helped seven health care workers successfully return to work. By using simulation for psychological recovery and reintegration, this program is redefining how we care for the caregiver.

## NEURO CRITICAL CARE

### Neurocritical Resident Simulations

The aim of this program is to provide neurocritical care residents with exposure to patient conditions that are not frequently encountered and to equip them with the necessary skills and knowledge to manage such situations. KidSIM played a pivotal role in the program by providing a simulated environment, facilitating the sessions, and collaborating in the development of scenarios. The program has proven to be a success, with neurocritical residents becoming more engaged and confident in their ability to manage these patients. The collaboration between KidSIM and the neurocritical fellows has facilitated the creation of an effective training program that has demonstrated its value in enhancing the skills and confidence of neurocritical residents.

# OPERATING ROOMS/DAY SURGERY/POST-ANESTHETIC CARE UNITS

### Anesthesia Assistant AHS Course

Alberta Health Services (AHS) has identified anesthesia workforce supply shortages across Alberta. With the surgical recovery from COVID-19 and the implementation of the Alberta Surgical Initiative (ASI), the annual volume of surgical procedures is increasing. However, the current anesthesia workforce will not be able to absorb this increase. AHS has committed to sustaining and increasing anesthesia services across Alberta using multiple iterations of the Anesthesia Care Team Model. As part of this commitment, AHS has initiated a 24-week training course for Anesthesia Assistants. Embedded within this program is simulation training. KidSIM is involved in a 1-day training session at ACH, which includes a half-day dedicated to simulation exercises.

### Short Stay Surgical Unit (SSSU)

This program runs quarterly simulation sessions. These sessions are uni-professional focusing on nursing staff of the Short Stay Surgical Unit and occasionally the Nursing Support Team. The objectives focus on managing a variety of routine post-surgical complications, emergency scenarios, addressing past complex cases or safety concerns, expansion of patient population and safest together initiatives. Simulation is also incorporated into new hire orientation and annual education days.

### Post-Anesthetic Care Unit (PACU)

Simulation education is built right into existing education time for PACU staff which is currently 45 minutes on Friday mornings, of which simulation sessions are approximately 4-6 times per year for nursing staff. The team is trying to include Anesthesia into the sessions when they are available. Most of the sessions to date have focused on emergency events that may happen in PACU, such as airway management. PACU also includes simulation in annual continuing education skills day, which every staff member must complete. The KidSIM Lab is also used for new hires to teach PACU specific scenarios.

### Pediatric Anesthesia Core Sessions

This is a 9-week program offered every two years at ACH. Over 9 Thursday afternoons, all U of C anesthesia residents (from R1-R4) participate in a four-hour session with didactic lectures covering a broad range of pediatric anesthesia subjects. Prior to the lectures this program facilitates simulations which are germane to the proceeding lectures for that particular session.

### MEPA (Managing Emergencies in Pediatric Anesthesia)

This is an all-day simulation course focusing on 4 Pediatric Anesthesia Crises. Every resident in the U of C Anesthesia Program has been taught through this internationally recognized program that is offered every 6 months. MEPA is a well-established course in the UK which was brought to the ACH to improve comfort and competence in Pediatric anesthesia management for trainees.

### Perioperative Crisis Management Course (POCM)

POCM is a full one-day course at developed to improve crisis management in operating rooms. POCM is a multidisciplinary, inter-professional course involving operating room RNs, post-operative recovery room RNs, Pediatric Anesthesiologists, Pediatric Surgeons, and Respiratory Therapists. This 6-hour course involves 3-4 simulated crises scenarios based on real scenarios that have happened in the peri-operative environment. Cases which have been reviewed at QI/QA rounds are used as a foundation for scenario development, with a goal to optimize patient care. POCM participants receive extensive feedback on their performance.

# SYSTEMS SIMULATIONS

### Systems Simulations

System-level simulations are regularly used throughout the hospital to evaluate and strengthen complex, high-risk processes that span multiple departments and care areas. These simulations replicate critical scenarios, such as transferring a deteriorating patient from the Emergency Department to the OR, or from an inpatient unit to the PICU during CPR, identifying latent safety threats, optimizing team coordination, and improving patient flow. By mimicking real-world conditions, these simulations help staff experience rare or high-stress situations before they occur, reducing variability and improving confidence and preparedness. They are also instrumental in testing newly designed care areas, updated equipment, or revised workflows to ensure systems function safely and effectively under pressure. This proactive approach allows teams to identify and resolve issues before adverse events occur, reinforcing a culture of safety, collaboration, and readiness across the organization.

### Ebola Preparedness

In response to the global concern surrounding the Ebola virus, KidSIM partnered with the Environmental Protection department to deliver targeted PPE training for staff working in high-risk areas at ACH. Using in-situ simulation and real protective equipment, staff gained hands-on experience in the safe donning and doffing of PPE, while also reinforcing essential safety practices such as the buddy system. These simulations helped staff identify a core PPE management team, understand available resources, and implement consistent safety protocols. The success of this program reflects the value of interdisciplinary collaboration in preparing for high-consequence infectious diseases. This remains an ongoing initiative, with regular refresher sessions to ensure staff retain critical skills and confidence when working in high-risk environments.

### Emergency Management and Disaster Preparedness Simulations

Simulation plays a critical role in preparing staff for unexpected and high-risk events within the hospital. Through realistic, scenario-based training, teams can safely rehearse responses to emergencies such as Code Purple (hostage or threatening situations) and infectious disease exposures like Ebola. These simulations allow staff to practice in a controlled, supportive environment, with a strong emphasis on maintaining psychological safety during and after the training. By simulating distressing scenarios, participants build resilience, improve response strategies, and strengthen teamwork under pressure. Importantly, simulations also help identify system gaps or educational needs before a real event occurs, allowing for proactive solutions and more effective emergency management across the organization.

### Code Orange: Mass Casualty Response & KidSIM Support

Code Orange is Alberta Children's Hospital's emergency code for responding to mass casualty incidents (MCI), events where the number or severity of patients may overwhelm hospital resources. It ensures a coordinated, hospital-wide response when large-scale emergencies occur. KidSIM supports Code Orange preparedness through simulation-based education, helping teams understand their roles, test response workflows, and practice under realistic conditions. These simulations enhance coordination across departments, identify system gaps, and ensure staff are confident and ready to respond effectively when real emergencies happen.

# QUALITY IMPROVEMENT

### Intrathecal Chemotherapy Simulation and Pathway Development NEW!

KidSIM is currently partnering with Oncology, Patient Safety, and Policy Services to explore and optimize the process of intrathecal chemotherapy administration in the Hematology, Oncology and Transplant (HOT) Program. Intrathecal chemotherapy involves chemotherapy given into the fluid around the brain and spinal cord. Using simulation as a collaborative design tool, frontline practitioners and system leaders are working together to map workflows and co-develop best-practice-informed clinical pathways. This initiative supports safe, standardized care delivery in a high-risk setting. Next steps include the development of targeted educational programming to support both new and existing staff in implementing the processes.

### PCA Pump Education Initiative NEW!

To proactively address patient safety concerns related to opioid administration via patient-controlled analgesia (PCA) pumps, KidSIM collaborated with Clinical Nurse Educators and the Acute Pain Service to develop a "roving cart" model of nursing education. This mobile approach brought hands-on learning directly to nurses during their shifts, enabling real-time practice with PCA pump programming and reinforcing best practice guidelines without pulling staff away from patient care. By partnering with front-line staff to champion and sustain the initiative, KidSIM not only improved accessibility to critical education but also hopes to foster a culture of continuous learning and safety-focused innovation across units.

### ENFit Implementation Simulation NEW!

As part of a hospital-wide AHS initiative, KidSIM supported the transition to ENFit, a global safety standard for enteral feeding systems designed to reduce the risk of misconnection errors, such as oral feeds being accidentally administered intravenously. Simulation played a key role in this rapid, large-scale implementation by offering a hands-on learning experience that allowed staff to explore how the new products would integrate into existing workflows. Through simulation, teams were able to understand the changes, identify improvements, and troubleshoot challenges in a safe and controlled environment. This proactive approach ensured that critical information was delivered efficiently and effectively across departments, allowing the hospital to adopt the new system quickly while maintaining patient safety and continuity of care.

### Alberta Children's Hospital Wellness Survey NEW!

A survey was developed and administered to all staff and physicians working at ACH to establish an understanding of the mental well-being of the workforce. The survey included questions regarding exposure to workplace stress and traumatic events, what supports people feel are available and what supports are accessed. Time away from work and factors affecting return to work after stress leaves were also addressed. The data will be analyzed and used to inform the further development of the KidSIM Work Reintegration and Return to Wellness Program. The findings will be shared with hospital leadership to help guide ways for the facility to better support caregivers in this inherently stressful industry.

### Hospital-Wide Simulation Support for New High Flow Nasal Canula (HHHFNC) Implementation

Heated Humidified High Flow Nasal Cannula (HHHFNC) is primarily indicated for infants with bronchiolitis. As part of the rollout of the HHHFNC therapy, simulation has been used to educate staff across the hospital and ensure a consistent, safe approach to care. KidSIM supported this implementation by designing interdisciplinary simulations that allow staff from Emergency, Inpatient Units, and the PICU to practice new workflows and decision-making in real-time scenarios.

### Difficult Airway Activation

When a difficult airway is suspected anywhere in the Alberta Children's Hospital, a specialized pediatric airway team is urgently activated. These high-risk events require seamless coordination across departments, including the ED, PICU, NICU, and inpatient units. KidSIM supports the Difficult Airway Activation Plan through ongoing interprofessional simulations that help teams practice critical skills, improve communication, and prepare for real emergencies. These simulations create a safe space to learn, debrief, and refine team-based responses under pressure. By helping units develop sustainability plans and sharing key learnings from real activations, KidSIM ensures continuous improvement in patient safety and quality of care across the hospital.

# FAMILY CENTERED CARE

### Teaching on Central Venous Line and Medical Needs in Schools NEW!

KidSIM provided education to school staff to support students who attend school with a Central Venous Line (CVL). While the child may not need immediate intervention, it is important that education staff are aware of the inherent risks of having a CVL in place. KidSIM educated staff about the CVL's purpose, the associated risks, and the appropriate actions to take should a problem arise. Additionally, the training covered other medical needs of the student, such as managing seizures, ensuring that school staff are fully equipped to respond to emergencies and are providing a safe environment for students with complex health conditions. This comprehensive approach ensures that staff are prepared, confident, and able to act swiftly in the event of a medical situation.

### FCC Simulation in Educational Centers

Challenges in integrating children with complex health care needs into the educational system (preschool, daycare, kindergarten and schools) have been identified. Simulation has been used regularly to help the educational centers have a better understanding of the child and their needs, and to practice the specialized emergency care that child may require. This program occurs in the educational centers and provides education and simulation for all the staff involved in the child's care, including bus drivers in their centers and utilizes the child's personal equipment such as wheelchairs and standing frames. The staff become prepared for an emergency situation and have had the opportunity to create and trial an emergency plan prior to an incident. Emergency Medical Services (EMS) have also been involved in these simulations to create a plan identifying the unique emergency care requirements of each child to mitigate risks and to prepare EMS staff. A key benefit of this training has been in the staff's increased confidence in using their training to provide a safe and supportive environment for students with unique medical requirements.

### School Bus Driver Simulations

4Seasons Transportation Services are a team of Transfer Care Specialists who are uniquely trained to transport students with disabilities to school in a caring and safe way. Medically fragile students spend considerable time traveling on school buses, with some spending up to three hours a day. Through Homecare's collaboration with clients both at home and in schools, a safety gap was identified. With the assistance of KidSIM and Homecare, simulation was introduced on the school buses. Two different scenarios are repeated for all staff members who work on the bus (bus drivers, aids, LPNs) within their actual teams until they felt competent and had practiced these potential situations. Both skills and process perspectives were addressed during these sessions. Staff members have reported increased confidence in managing medical emergencies on the bus and improved skills following these training sessions.

### FCC CPR Training

KidSIM supports families whose children have a life-threatening cardiac condition that would require them to perform compressions and rescue breathing (CPR) and potentially the need to use an AED to treat the cardiac arrhythmias through defibrillation, the application of electricity to reset the heart into an effective rhythm. Teaching occurs in the Cardiology clinic on the use of the AED and then they are referred to KidSIM to have CPR and AED training that is adapted to suit their specific child. Traditional CPR courses do not address these unique types of situations. Families and their supports attend a 3-4 hour individualized course allowing them to practice CPR with feedback and practicing an emergency situation from start of the emergency, initiating CPR, using the AED, and to simulating EMS arriving. Families have shown improved confidence and feeling of readiness. KidSIM has also been asked by families and schools to help them prepare for a child with a medical emergency in a school setting. Similar to Fire or Lock Down drills these schools are now incorporating medical emergency drills. This training has helped schools create, trial and train staff in their medical emergency plan.

### FCC Seizure Program

This program benefits families through the use of simulation to support traditional seizure discharge teaching when going home from the hospital with a child who has a seizure condition. Using simulation, the families practice managing a seizure and administering medications in the simulated home environment. This program increases the confidence and skill level of family members who are discharged home with children who are at high risk of suffering seizures. This program was developed from a project that was generously supported by a grant through the ACH Foundation.

### FCC Seizure Program with CPR Training

This program allows families the opportunity to practice the emergency management and care of their child while seizing who stops breathing. A need was identified that families are sent home with children who can have life threatening conditions and these families do not have any opportunity to learn how to deal with these emergencies. Families and their supports attend a 3-4 hour individualized didactic and hands-on teaching session which includes seizure management teaching and lifesaving skills and CPR training. The goal of these sessions is to provide the family and the child's support system the opportunity to practice using high fidelity simulators and CPR feedback manikins to become skillful at lifesaving skills.

### Home Nutrition Support Program (HNSP)

The Home Nutrition Support Program (HNSP) plays a crucial role in assisting families in caring for their children with nasogastric tubes at home. Recognizing the challenges families face in providing adequate care, the HNSP team has explored innovative methods to enhance their support. Simulation has been utilized to prepare all families for caregiving tasks and to alleviate the stress associated with providing this care at home. Incorporating simulation into the Home Nutrition Support Program represents a proactive approach to enhancing family education and support. By providing families with practical experience and confidence in caregiving tasks, simulation empowers them to navigate these unfamiliar tasks with greater proficiency and peace of mind. As the HNSP team continues to innovate and adapt to the evolving needs of families, simulation stands out as a valuable tool in promoting successful transitions from hospital to home for children requiring enteral nutrition support.

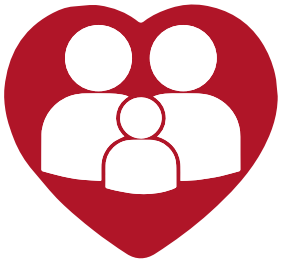
### FCC Home Care

Children with complex health care needs are cared for in the community. Simulation has been used to train home care staff to care for the children in a variety of settings including home and schools. This training includes new equipment that a child requires, maintenance of competency and to prepare staff for emergencies in the community.

### FCC Tracheostomy Program

The CCAN (Children with Complex Airway Needs) Program, which was supported by the ACH Foundation in development and design, has been in place since January 2019. Thirty-one policies and procedures were revised into one large practice support document that encompasses the spectrum of care for these complex children from PICU, inpatients, home, and Rotary Flames House.

# FCC ANNUAL SUMMARY



## 87
### TOTAL FCC SESSIONS

The KidSIM Family Centered Care Program supports families and caregivers of children with complex health care needs.

## 56
### FCC CAREGIVERS

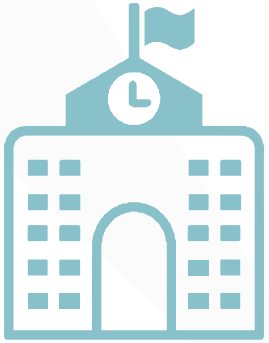
KidSIM provides training to a variety of caregivers supporting children in the community.

## 154
### FAMILY MEMBERS

KidSIM provides ongoing support and customized care plans to all family members requesting education.

## 220
### SCHOOL STAFF

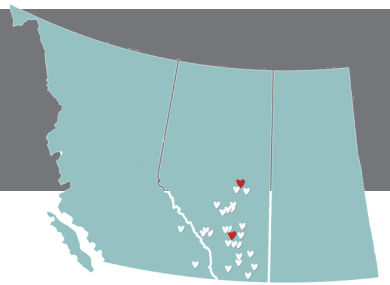
KidSIM provides onsite specialized training to daycare, school bus and school staff.



## 17
### SCHOOLS/DAYCARES

KidSIM provided 17 sessions of education at 13 different sites to support daycare, school bus and school staff.

# MOBILE EDUCATION



Since 2007, the KidSIM Mobile Education program has delivered in-situ pediatric education to rural and community partners. KidSIM fosters supported learning environments where team members can work through common pediatric scenarios and have the opportunity to respond in real time to pediatric medical emergencies in a controlled and safe environment. These sessions, provided by a multi-disciplinary team of pediatric experts, ensure front-line providers at rural sites are supported and trained to provide pediatric patients across central and southern Alberta with the best quality of care. KidSIM also uses these opportunities to enhance team skills and identify latent safety threats in the work environments. An adjunct to our Simulation Education is a hands-on workshop where key critical resuscitation skills are reviewed and practiced.

**Mobile Education Medication Calculator QI Project NEW!**

This year the mobile outreach team is doing a QI project to assess the readiness of rural sites in regards to their ability to find/utilize a medication calculator for pediatric resuscitation medications. The leadership team at ACH had developed a medication calculator and over the past two years the mobile education team has been working to disseminate education on the availability and use of this calculator. It allows rural teams to ensure they are giving the correct weight based dosing of uncommonly used medications in critical situations. This will alleviate significant stress and potential for medication error when using rare but life saving medications.

Impact: improved staff confidence with new processes, improved patient safety and outcomes, latent safety threats identified and mitigated.

**Improving Pediatric Acute Care through Simulation (ImPACTS)**

The ImPACTS (Improving Pediatric Acute Care through Simulation) collaborative was created to ensure that ill and injured children receive the highest quality of emergency care whenever and wherever it is needed. Currently, there are disparities in pediatric emergency readiness, quality of care and outcomes across emergency departments in Canada and the U.S. and the majority of children are cared for in non-pediatric hospitals who may lack the resources and personnel to effectively care for pediatric emergencies. The ImPACTS protocol is an innovative improvement intervention involving Children's Hospitals "hubs" collaborating with Community Hospital "spokes" supported by a central "core" based out of Yale University with the goal of improving overall pediatric readiness at "spoke" sites. The KidSIM Mobile Education Program joined ImPACTS in January 2019.

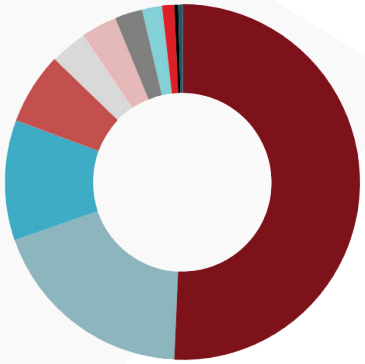
## 26 EDUCATION DAYS

The Mobile Education team visited 19 different sites, including overnight and return trips, this provided 26 days of education.

## 19 SITES

Airdrie, Banff, Brooks, Canmore, Lethbridge, Claresholm, Didsbury, Drumheller, Innisfail, Medicine Hat, Diamond Valley, Okotoks, Red Deer, Rocky Mountain House, Three Hills , Vulcan, Sheldon M. Chumir Health Centre, South Calgary Urgent Care, South Health Campus

## 274 LEARNERS



- Attending Physicians 52
- Fellows/Residents 30
- Medical Students 5
- Registered Nurses 139
- Nursing Students 9
- Licenced Practical Nurses 18
- Nurse Practitioner 3
- Respiratory Therapists 7
- Emergency Medical Services 9
- Pharmacy 1
- Other 1

*"We are always so thankful to host your team. I have had so much positive feedback. It is so valuable to rural sites like ours". (Banff)*

*"The KidSIM mobile program is invaluable for our small rural site here at Didsbury. It provides a non-threatening environment that allows our team to learn, play and contribute as a team within our own setting. Expert guidance and suggestions are invaluable. Not only do we learn at every session, we also are able to implement something new afterwards. Please continue to provide us with your knowledge and hands-on simulations. It ultimately provides our community with high quality training/education to better serve our pediatric population and is so very much appreciated!" (Didsbury)*

*"What an excellent sim team! They were kind, engaging, accommodating and had a wealth of knowledge. So, big thanks again to all your team!" (Rocky Mountain House)*

# ANNUAL SUMMARY

## 2780
### SESSION HOURS

The KidSIM Program has provided over 35,000 hours of training since 2005.

## 5025
### LEARNERS

The KidSIM Program has trained over 80,000 learners since 2005.

## 716
### SESSIONS

The KidSIM Program has run over 10,000 simulation sessions since 2005.

## 137
### FACILITATORS

The KidSIM Program collaborates with 137 trained simulation facilitators and educators across ACH.

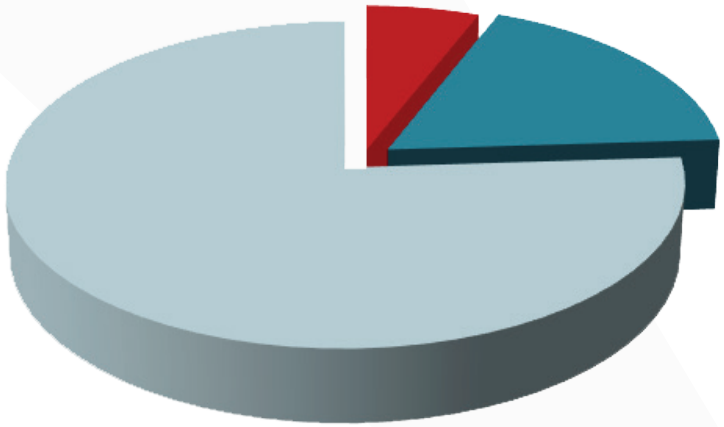
## 76%
### KIDSIM CENTER

The majority of simulation sessions take place in the KidSIM Center. In 2024, 18% took place in-situ within ACH and 6% took place off-site.

## 122
### FACULTY DEVELOPMENT

The KidSIM Program provided ASSET training to 122 individuals in 2024.

## DISTRIBUTION OF KIDSIM SESSION LOCATIONS IN 2024

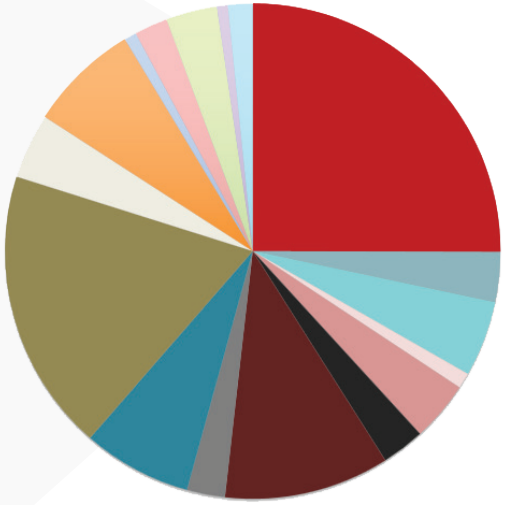


Mobile/Off-Site 6%

In-Situ 18%

KidSIM Center 76%

## SIMULATION HOURS BY PROGRAM IN 2024



Emergency Department 696.5

Pediatric Intensive Care Unit 91

Neonatal Intensive Care Unit 137

Respiratory Therapy 28.5

Transport 109

Operating Room/Post-Anesthetic Care Unit 78

Inpatient Units 299.75

Outpatient 63

Mobile Education 198

Courses/Formalized Training 513.5

Research 118.5

Family Centered Care 207.25

Palliative Care 22

Other 60.5

GNO 93

Mental Health 20

Return to Wellness 44.5

## 2024 LEARNERS BY GROUP

Attending Physician 345

Resident 766

Fellow 127

Medical Students 167

Nurse Practitioner 15

Registered Nurse 2198

Nursing Student 210

Licensed Practical Nurse 253

Health Care Aide 24

Family Member 154

School Staff 220

Respiratory Therapist 256

RT Student 36

EMS/Paramedic 27

Pharmacy 5

Housekeeping 1

Security 4

Other 217

## SIMULATION HOURS BY PROGRAM

| User Group | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ED | 622 | 695.5 | 766.5 | 989 | 935 | 752 | 368 | 460 | 610 | 720.5 | 696.5 |
| ICU | 81.3 | 104.5 | 107 | 202 | 189 | 75 | 47 | 30 | 86 | 80.5 | 91 |
| NICU | 2 | 73 | 101 | 214 | 131 | 200 | 106 | 198 | 197 | 212.5 | 137 |
| RT | n/a | n/a | n/a | n/a | n/a | 185 | 1 | 56 | 54 | 16 | 28.5 |
| Transport | 39.25 | 38.25 | 133 | 133 | 163 | 94 | 10 | 88 | 96 | 100 | 109 |
| OR/PACU | 55.4 | 46 | 77.5 | 91 | 159.5 | 114 | 7 | 30 | 98 | 94 | 78 |
| In-patient Units | 124.15 | 202.5 | 267 | 350.5 | 403 | 325 | 182 | 138 | 235 | 250 | 299.75 |
| Out-patient Clinics | 0 | 0 | 28 | 18 | 50 | 15 | 44 | 50 | 7 | 23.5 | 63 |
| Mobile | 145.25 | 187 | 205 | 178 | 133 | 191 | 80 | 44 | 145 | 135 | 198 |
| Courses | 183.5 | 426 | 465 | 586 | 250.5 | 568 | 356 | 361 | 294 | 561.5 | 513.5 |
| Research | 8.4 | 31 | 120 | 41 | 48 | 93 | 57 | 65 | 42 | 111 | 118.5 |
| FCC | 10.75 | 30 | 150.5 | 430 | 298 | 224 | 120 | 115 | 194 | 220 | 207.25 |
| Palliative Care | 13.25 | 5 | 8 | 0 | 9 | 17 | 1 | 1 | 24 | 16.5 | 22 |
| Other | 3.5 | 15 | 5 | 2 | 0 | 49 | 44 | 0 | 8 | 32 | 60.5 |
| GNO | n/a | 28 | 106.5 | 46 | 32 | 62 | 0 | 100 | 131 | 140 | 93 |
| Mental Health | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 3 | 1 | 20 |
| Return to Wellness | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 10 | 44.5 |
| TOTAL | 1288.75 | 1881.75 | 2540 | 3280.5 | 2801 | 2964 | 1423 | 1736 | 2224 | 2724 | 2780 |

# LEARNERS

| Year | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Learners | 4446 | 4436 | 4892 | 6514 | 6132 | 5481 | 3248 | 2680 | 3851 | 5114 | 5025 |

# SIMULATION SESSIONS BY PROGRAM

| User Group | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ED | 154 | 143 | 160 | 201 | 179 | 151 | 107 | 97 | 150 | 174 | 173 |
| ICU | 38 | 65 | 58 | 86 | 76 | 54 | 27 | 21 | 46 | 39 | 29 |
| NICU | 1 | 14 | 13 | 24 | 19 | 26 | 10 | 27 | 31 | 26 | 19 |
| RT | n/a | n/a | n/a | n/a | n/a | 22 | 1 | 8 | 13 | 11 | 13 |
| Transport | 27 | 18 | 11 | 68 | 33 | 37 | 3 | 23 | 22 | 43 | 49 |
| OR/PACU | 27 | 19 | 34 | 37 | 45 | 44 | 6 | 13 | 28 | 51 | 35 |
| In-patient Units | 49 | 77 | 90 | 111 | 101 | 60 | 127 | 48 | 69 | 106 | 100 |
| Out-patient | 0 | 0 | 3 | 9 | 11 | 9 | 37 | 31 | 4 | 17 | 32 |
| Mobile | 31 | 24 | 28 | 30 | 22 | 29 | 10 | 5 | 20 | 18 | 26 |
| Courses | 36 | 80 | 43 | 55 | 34 | 56 | 27 | 34 | 40 | 42 | 44 |
| Research | 11 | 21 | 39 | 28 | 11 | 49 | 23 | 32 | 14 | 37 | 49 |
| Palliative Care | 9 | 3 | 2 | 0 | 4 | 5 | 1 | 1 | 7 | 2 | 2 |
| FCC | 8 | 21 | 50 | 75 | 76 | 69 | 38 | 42 | 72 | 72 | 87 |
| Other | 2 | 6 | 3 | 2 | 0 | 8 | 9 | 0 | 6 | 13 | 16 |
| GNO | n/a | 4 | 13 | 6 | 7 | 7 | 49 | 9 | 9 | 14 | 12 |
| Mental Health | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 3 | 1 | 7 |
| Return to Wellness | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 4 | 23 |
| TOTAL | 393 | 495 | 547 | 732 | 618 | 626 | 475 | 391 | 534 | 670 | 716 |

# KIDSIM FELLOWSHIP

The KidSIM Pediatric Simulation Program offers a Fellowship in Simulation Education and Research in collaboration with the Medical Education Specialization Program at the University of Calgary. The overall aim of this fellowship is to prepare the candidate for an academic career as a simulation educator, with advanced knowledge and skills in the delivery of simulation-based education and research. Educators from the University of Calgary have developed a longitudinal simulation-based education and research curriculum for fellows from across the various simulation fellowship programs associated with the University of Calgary. The program aims to foster a solid grounding in the theory and practice of simulation via interactive teaching on various elements of simulation in education, research, and integration into systems, quality, and patient safety programs.

KidSIM welcomed two fellows for the 2024-2025 acadmeic year. Vikhashni (Winnie) Nagesh, Pediatric Hospital Medicine, Alberta Children's Hospital, and Viviane Mallette, Neonatal and Perinatal Medicine, Centre Hospitalier de l'Université Laval.

## KIDSIM FELLOWSHIP OBJECTIVES

1. Demonstrate knowledge of concepts in adult learning theory, experimental design, evaluation, and computer applications in simulation-based education.
2. Participate in the development of innovative simulation-based teaching strategies for all levels of learning: undergraduate and postgraduate trainees, as well as continuing education for healthcare providers.
3. Participate in the delivery of interprofessional education by an interprofessional teaching team.
4. Demonstrate knowledge of key issues in simulation-based education relevant to both the simulation learner and the simulation educator.
5. Initiate, design, conduct, present and or publish a simulation-based research project with the mentorship of the KidSIM-ASPIRE research program leaders.
6. Participate in the structured KidSIM Simulation Fellowship curriculum and other educational opportunities (ie outreach simulation, rounds).
7. Demonstrate a commitment to medical education by considering enrollment in a graduate degree program in education (Masters or PhD).

## JOURNAL CLUB AND LECTURE SERIES

KidSIM partners with the Hospital for Sick Children in Toronto to offer joint journal club, hot topic and lecture series for fellows at both ACH and SickKids. KidSIM Fellows and Graduate Students participate in a regular monthly lecture series and journal club, which serves three main purposes:

1. To review the latest evidence and best practices in simulation; and
2. For the trainees to be exposed to the various methods of conducting simulation-based research; and
3. To provide the trainees further experience in formal presentation skills.

# KIDSIM ELECTIVES

The KidSIM program offers an elective rotation for residents and fellows with an interest in developing skills and experience in simulation-based education. Residents will mentor and train with KidSIM's simulation education and research experts, develop and run their own scenarios, as well as participate in any faculty development courses, journal clubs, workshops or visiting professor rounds that occur during their rotation. In the 2024-2025 academic year, 4 residents completed the elective rotation.

## FOUR MAJOR COMPONENTS

### SIMULATION PROGRAM OPERATIONS

Residents will demonstrate an understanding of the basic planning, organization and operation of a simulation center. Residents will also understand the value of experiential learning in adult education and how simulation is an ideal tool for that type of learning. Residents will also demonstrate an understanding of the different simulation equipment available.

### SIMULATOR TECHNICAL SKILLS

Residents will demonstrate the basic use of the simulation equipment and software being used in the KidSIM Program. Residents will also demonstrate how to facilitate a scenario for learners.

### DEBRIEFING SKILLS

Residents will demonstrate how to run an effective debriefing session following a simulation scenario. Most of the time in the rotation will be spent practicing and consolidating these skills. Residents are encouraged to get involved in as many sessions as possible, and to take advantage of this practice in the presence of an experienced facilitator.

### SCENARIO DEVELOPMENT

Residents will demonstrate an understanding of the aspects and development of an objective-based scenario, including relevant roles, props and audiovisual aides.


# FACULTY DEVELOPMENT

## PACE PROGRAM

www.pace4kids.org
pace@kidsim.ca

PACE is Pediatric Acute Care Education for health care providers. The PACE Program at KidSIM works to provide learners surrogate clinical experience with pediatric patients in as close to a 'real-life' situation as possible through the use of high-fidelity mannequins as well as teaching space that mimics the clinical setting as closely as possible. PACE incorporates leading-edge simulation technology run by Western Canada's top pediatric emergency medicine and critical care educators. Hands-on teaching using the latest evidence-based medicine practices is a key focus, making PACE the best choice for emergency physicians, pediatricians, family physicians, NPs, nurses and allied healthcare professionals to maintain their Pediatric Acute Care Education.

The PACE Program offers the following courses:

- Pediatric Advanced Life Support (PALS) Provider
- Pediatric Advanced Life Support (PALS) Provider Hybrid
- Pediatric Advanced Life Support (PALS) Provider ED Staff
- Pediatric Advance Life Support (PALS) Renewal
- The Pediatric Airway Course (TPAC)
- Basic Cardiac Life Support (BCLS)
- Pediatric Emergency Assessment, Recognition, and Stabilization (PEARS) Provider Course
- Neonatal Resuscitation Program (NRP) Course
- Emergency Nursing Pediatric Course (ENPC)
- Trauma Nurse Core Course (TNCC)
- Trauma Resuscitation in Kids (TRIK)

## DEBRIEF 2 LEARN

www.debrief2learn.org

Effective feedback and debriefing play a critical role in healthcare education in both simulated and workplace-based environments. Developed by KidSIM leadership in collaboration with global experts in simulation, Debrief2Learn supports clinical educators by sharing resources to guide faculty development and exploring the latest innovations. We aim to create an online community of practice for health professions educators while advancing knowledge through cutting-edge collaborative research.

## ADVANCED SKILLS FOR SIMULATION EDUCATION & TEACHERS (ASSET)

www.kidsim.ca
info@kidsim.ca

The ASSET program introduces participants to all of the concepts of simulation, as well as provides practical experience in the delivery of simulation-based education. Courses consist of learners from various healthcare provider backgrounds, including medicine, nursing, respiratory therapy, among other healthcare professionals. KidSIM offers both in-person and virtual ASSET courses. In 2024, KidSIM formally trained 122 Simulation Facilitators.

### ASSET FOUNDATIONS

Foundation of Simulation Education and Debriefing

ASSET Foundations is a two-day course that provides a broad overview of core simulation concepts and principles to novice and intermediate simulation educators. By the end of the course, the participants will be able to design and run their own simulation and feel comfortable facilitating the debriefing session that follows. KidSIM also offers a one-day ASSET Foundations Refresher course for those who have already taken Foundations and require an overview of core simulation concepts and principles. 67 facilitators were trained in 2024.

### ASSET ADVANCED

Advanced Toolbox for Difficult Debriefing Situations

ASSET Advanced is a one-day course for intermediate simulation instructors designed to provide advanced debriefing skills and techniques. Participants will be introduced to common debriefing challenges and pitfalls, including some important ways to avoid them. Participants will also be introduced to an advanced toolbox of debriefing skills designed to help overcome difficult debriefing situations. Videos of simulation scenarios will be used as the basis for discussion, debriefing practice and feedback. 12 facilitators were trained in 2024.

### ASSET FAMILY

Strategies to Integrate Simulation Education into Discharge Teaching

ASSET Family is a one-day course for anyone involved in patient and family education or discharge teaching. By the end of the course the participants will learn specific strategies to design, deliver, and debrief simulation scenarios targeted specifically to patients and families.

### ASSET PEER COACHING

Strategies for Providing Effective Feedback to Peers and Colleagues

ASSET Peer Coaching is a one-day course for intermediate simulation instructors who have experience running simulations with another colleague. Participants will explore how to provide effective feedback to peers and colleagues in a way that is non-threatening and how to seek constructive feedback from colleagues to identify learning gaps in their own practice. By the end of the course the participants will learn techniques to define and describe the benefits of peer coaching; highlight strategies for creating a culture for peer coaching; describe elements of pre-briefing, scenario execution and debriefing performance that can be explored when coaching peers; and apply tools designed to help with peer coaching. 8 facilitators were trained in 2024.

### ASSET CO-DEBRIEFING

Strategies for Effective Co-Debriefing

ASSET Co-Debriefing is a one-day course for intermediate simulation instructors who have experience with running simulation with another colleague and the difficulties that arise from doing this. By the end of the course the participants will learn techniques to address these challenges and skills to effectively run scenarios and debrief with colleagues. 22 facilitators were trained in 2024.

In 2024, the Co-Debriefing course was adapted for the Clinical Nurse Educator team, equipping them with the tools to enhance the quality of simulation-based education and foster a unified approach to debriefing within their teams. 13 facilitators were trained in 2024.

# RETURN ON INVESTMENT

Return on Investment (ROI) Overview

Over the past few decades, simulation has been integrated into the fabric of medical education across specialties and professions. Simulation-based medical education is effective, but the establishment and maintenance of a program is also incredibly resource-intensive. Although it is generally believed that investing in medical education will benefit society by improving the quality of delivery of healthcare, decision makers will need some means to know that an investment will be fruitful compared with other alternatives that might be available. The determination of ROI consists of the 3 main parts below:

(1) Estimation of the costs
(2) Measuring the benefits
(3) Linking the costs and benefits

All stages of simulation activities need to be considered when estimating the costs of a simulation program. The cost components include personnel, equipment/supply, operation and maintenance, facility/space, administration, productivity loss, and others. Some situations need special consideration such as depreciation of the equipment, shared costs across programs, volunteer time and discount rate of the cost.

The benefits of simulation-based training include but not limited to improved self-confidence, improved knowledge, technical skills, and non-technical skills, changed behavior and improved patient outcomes. When simulation is used to improve the system, the benefits are improved patient safety, detection of latent safety threats. We will attempt to turn these benefits into monetary units for the calculation of ROI. To deal with some intangible benefits, we measure the willingness-to-pay for the learners. The return-on-investment is calculated by linking the costs and benefits. Most of the previous literature used cost avoidance. The comparison of willingness-to-pay and actual costs is an alternative for ROI. For those projects with a comparation, incremental cost-effectiveness ratio (ICER) is usually used to determine cost-effectiveness.

ROI Program Spotlight - Mobile Education Program NEW!

The Mobile Education Program is a forward-thinking initiative designed to improve pediatric care in rural and community hospitals across Alberta. Led by the KidSIM team, the program brings hands-on, simulation-based training directly to local healthcare providers. By practicing real-life pediatric scenarios and medical emergencies in their own work environments, teams can sharpen their skills and identify potential challenges before facing actual patients.

This approach creates a safe, supportive space for learning and problem-solving. It also makes use of valuable resources such as Telehealth and the Alberta Children's Hospital (ACH) Transport Team to ensure expert guidance

is always within reach, no matter the location. Ultimately, the program helps reduce care gaps and improve health outcomes for children across the province. In the 2024–2025 academic year, the KidSIM team visited 20 sites across Alberta and delivered in-situ simulation training to 214 healthcare professionals working in rural and community hospitals.

### Cost Estimation

The cost estimate for the training program encompasses three key components: (1) equipment and supplies, (2) personnel, and (3) travel-related expenses. A detailed breakdown of activities and associated costs was developed using a micro-costing approach, drawing on data from 20 education trips. The average estimated cost per participant in the Mobile Education Program was $618.91, which includes an average productivity loss (equivalent to 4 hours of clinical time) estimated at $249.35.

### Benefit Measurement

Participants overwhelmingly praised the Mobile Education Program for its relevance, realism, and organization. The simulations and debriefings were seen as valuable and impactful, with strong interdisciplinary collaboration enhancing the experience. Learners reported a marked increase in their preparedness for pediatric emergencies and rated the program as significantly more effective than other professional development opportunities.

### Linking Cost and Benefit

(1) Willingness-to-Pay vs. Actual Costs:

- Estimated cost per participant: $369.56
- Measured willingness-to-pay: $139.28, ranged from 98.05 to 180.50

Interpretation: Although participants rated the program highly and reported significant personal and professional gains, their willingness-to-pay did not match the actual cost. This suggests a strong perceived value but limited financial capacity or expectation to pay. These findings highlight the importance of institutional support or alternative funding models to ensure long-term sustainability.

(2) Mobile Education vs Other Professional Development:
Assuming the cost of a typical 4-hour continuing medical education (CME) session ranges from $200 to $400, we estimate the average cost of conventional education to be approximately $550 ($249.35 + $300). To achieve the same effectiveness as the mobile education program, the adjusted cost would be $957 ($550 × 1.74). The return on investment (ROI) for providing mobile education, relative to other professional development for healthcare providers in rural and community hospitals, is:
ROI = (957 – 619) / 619 × 100% = 54.6%

Interpretation: From a cost-effectiveness standpoint, for every $100 invested in mobile education, the perceived benefit is equivalent to $154.60.

### ROI Forecasting from a Healthcare Cost Perspective

The benefits of the Mobile Education Program go beyond educational outcomes. By strengthening the capacity of community healthcare providers, the training contributes to improved patient care and may help reduce avoidable hospitalizations. According to the 2022 AHS report, the average cost of a single hospitalization is approximately $9,175. If just half of the participating sites (10 out of 20) were able to prevent one hospitalization each, the healthcare system could save an estimated $91,750. This represents a projected 16% return on investment based solely on patient-related cost savings, which highlights the program's value from both economic and clinical perspectives.

### Return on Investment Summary

While participants reported high satisfaction and meaningful learning from the mobile education program, their willingness-to-pay fell short of covering the actual costs, underscoring the need for institutional funding. However, when compared with conventional professional development, the program demonstrated a strong return on investment. Furthermore, its potential to reduce hospitalization rates suggests added value from a healthcare system perspective. Together, these findings support the continued investment in mobile education as both an effective and economically viable training strategy for rural and community healthcare providers.

## ROI Program Spotlight - The Advanced Skills for Simulation Educator and Teachers (ASSET) Foundation course NEW!

The Advanced Skills for Simulation Educators and Teachers (ASSET) course offers structured training in the core principles and practical applications of simulation-based education. Designed for novice to intermediate simulation educators, the course covers key concepts including experiential learning, realism, pre-briefing and debriefing techniques, teamwork, and scenario development. It employs a blended approach that includes didactic sessions, small group activities, and hands-on simulation exercises. The course has been delivered for over a decade and consistently receives strong evaluations from participants, reflecting its effectiveness in building educational capacity in simulation.

### Cost Estimation

The costs for each session are estimated based on six facilitators for 24 participants. The estimation of the costs considered all three facets of the training program: (1) Equipment; (2) Personnel; and (3) Facility rental. A detailed description of the training program is provided. Excluding the costs of course development and the two-day productivity loss for participants, the cost per participant was approximately $317. Considering an average productivity loss of 16 hours (salary for 2-day clinical work = $840), the total costs per participant is around $1150.

### Benefit Measurement

Evaluation of ASSET (foundation) includes (1) Reaction, Learning and Behavior change of participants, (2) Perceived learning value relative to other professional development (i.e. reading, conference), and (3) willingness-to-pay.

Data indicates that the ASSET course delivers substantial educational value across multiple dimensions. All participants (100%) agreed or strongly agreed that the course met its objectives, was relevant to their work, and was overall satisfactory. Self-reported skill levels improved markedly across key areas, with average scores rising from 4.8/10 to 8.8/10 post-course. The most notable improvements were seen in debriefing and pre-briefing skills. All participants also reported being able to apply what they learned in their practice. When compared to other educational strategies, the ASSET course was rated significantly higher (10 vs. 4.2), indicating a perceived relative value of 2.4 times.

### Linking Cost and Benefit

(1) Willingness-to-Pay vs. Actual Costs (Excluding Productivity Loss):

- Actual estimated cost per participant: $316
- Measured willingness-to-pay (WTP): $714.28
- Return on Investment (ROI): ($714.28 – $316) / $316 × 100% = 125%
- Range of ROI: 42.5% to 204.5%

Interpretation: From the participants' perspective, for every $100 invested in delivering the ASSET Foundation course, the perceived benefit is equivalent to $225.

(2) ASSET Foundation Course Relative to Other CME Strategies:
Assuming the typical cost of professional development for 16 hours is $840 (excluding expenses such as textbooks and conference registration), achieving equivalent effectiveness to the ASSET Foundation course would require an estimated cost of $2,016 ($840 × 2.4), based on participants' perceived relative value. The ROI of delivering the ASSET Foundation course, compared to alternative professional development methods, is:
ROI = ($2,016 – $1,156.67) / $1,156.67 × 100% = 74.3%

Interpretation: From a cost-effectiveness standpoint, for every $100 invested in delivering the ASSET Foundation course to simulation educators, the perceived benefit is equivalent to $174.30.

### Return on Investment

The ROI analysis shows that the ASSET Foundation course offers strong value, with a return on investment of 125% based on participants' perceived benefit, meaning that for every $100 spent, the course delivers an estimated value of $225. When compared to other continuing education methods, the ASSET course was seen as 2.4 times more effective, resulting in a relative ROI of 74.3%, or $174.30 in perceived value for every $100 invested.

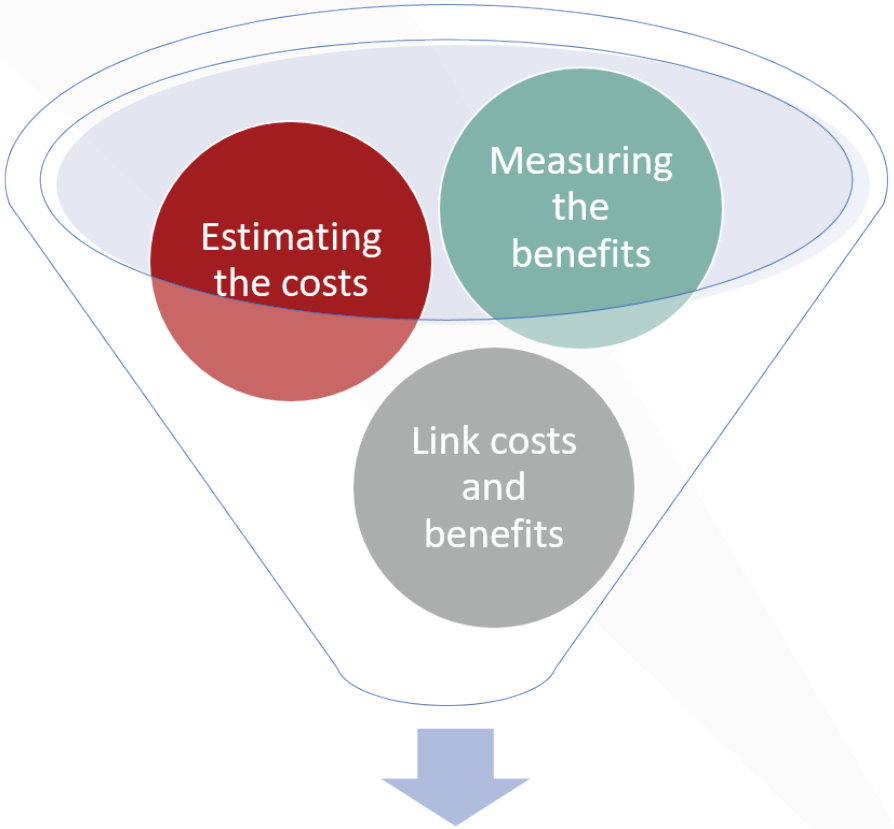
# ROI FRAMEWORK

ESTIMATING THE COSTS

1. Cost Components
- Personnel
- Equipment/supply
- Operation/maintenance
- Administration
- Facility (space)
- Productivity loss
- Others

2. Consider costs in all phases
- Needs assessment
- Scenario design/development
- Implementation of simulation
- Post event activities (assessment/ evaluation/follow-up/PDSA cycle)

3. SPECIAL CONSIDERATIONS
- Consider shared costs/depreciation rate/discount rate




Return on Investment / Cost Effectiveness

MEASURING THE BENEFITS

1. Education
- Kirkpatrick pyramid
- Satisfaction, confidence, reaction
- Learning
- Behavior change
- Patient outcome

2. System Imporvement
- Latent safety threat detection
- Patient safety
- Retention of healthcare providers

3. Intangible
- Willingness to pay

LINKING COSTS AND BENEFITS

1. Cost Avoidance
- Potential decreased costs due to the intervention

2. Incremental cost-effectiveness ratio
- Actual cost vs willingness-to-pay

3.Return On Investment
- Percentage of additional benefits over costs

# KIDSIM-ASPIRE PROGRAM

The KidSIM-ASPIRE (Assessing Simulation in Pediatrics: Improving Resuscitation Events) Simulation Research Program at Alberta Children's Hospital was established to bring together an interprofessional group of Alberta-based leaders in clinical care, education, human factors, engineering, computer science and psychology interested in improving the delivery of healthcare to sick infants and children. Our team has developed a solid foundation which positions us well to address the main objectives of the acute and life-saving care pillar of ACH. Studies are formulated to identify novel and innovative methods of healthcare delivery in order to improve effectiveness and efficiency of care. In our collaborative research model, we also aim to facilitate the academic growth of young investigators and trainees by exposing them to established mentors both locally and worldwide and nurturing the skills necessary to become successful researchers.

The KidSIM-ASPIRE Research Program has become the most published simulation program in the world. After completion of several successful large-scale studies that have provided significant results and insight into acute care, KidSIM-ASPIRE is committed to translating the knowledge gained by the research findings. National pediatric emergency and pre-hospital care conferences, annual nursing education sessions, local nursing conferences, and international simulation conferences are venues where the research team has presented findings. Perhaps most importantly, these presentations focused on how recent findings need to be applied to improve provider education and patient care.

## CONGRATULATIONS DR. CHENG AND DR. LIN

Congratulations to Dr. Adam Cheng for being nominated by the Heart and Stroke Foundation of Canada to receive the prestigious King Charles III's Coronation Medal in recognition of his outstanding contributions to Heart & Stroke and unwavering commitment to heart and brain health in Canada.

Congratulations to Dr. Jeffrey Lin for being nominated by the Heart and Stroke Foundation of Canada to receive the prestigious King Charles III's Coronation Medal in recognition of his exceptional contributions and commitment to advancing resuscitation and research in Canada.

The King Charles III's Coronation Medal is a distinguished Canadian commemorative medal created to mark His Majesty King Charles III's coronation on May 6, 2023. This medal is a symbol of honour and gratitude, awarded to individuals who have made significant contributions to Canada, their province, territory, region, or community.

## PROGRAM GOAL

The goal of the program is to conduct innovative, high-quality, simulation-based research to inform healthcare providers, administrators and families of best practices, which will optimize pediatric patient outcomes from illness. As lifesaving treatment in pediatric patients involves effective interprofessional care, we strive to conduct single and multicenter studies which involve various professions (nursing, respiratory therapy, paramedics, physicians etc) in order to optimize the impact of our research on patients.

## RESEARCH PILLARS

The KidSIM-ASPIRE team has established a unified strategic research plan designed to guide the collaborative toward achieving its overarching research objectives. This strategy is built on four foundational research pillars, each representing a core focus area with a distinct aim. These pillars serve as the framework for organizing and advancing research initiatives within the KidSIM-ASPIRE program, enabling targeted efforts and measurable impact in key domains.

### RESUSCITATION AND CARDIAC ARREST

Goal: Develop and evaluate novel techniques and strategies for improving resuscitative care of pediatric patients suffering from cardiac arrest.

### ARTIFICIAL INTELLIGENCE

Goal: Design, develop and evaluate the use of artificial intelligence to improve clinical skills training and assessment.

### QUALITY IMPROVEMENT AND PATIENT SAFETY

Goal: Design and evaluate simulation-based interventions to enhance patient safety and improve patient outcomes.

### RETURN ON INVESTMENT

Goal: Assess and evaluate the cost effectiveness of simulation-based training in healthcare.

# KIDSIM-ASPIRE TEAM

Dr. Adam Cheng
Director, Research & Innovation, KidSIM-ASPIRE

Jennifer Davidson
Research Coordinator, KidSIM-ASPIRE

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Dr. Kangsoo Kim
Assistant Professor, UCalgary

Ryan Kang
Masters Student, UCalgary

Dr. Alexandra St-Onge-St-Hilaire
Assistant Fellowship Director, KidSIM

Dr. Winnie Nagesh
KidSIM Fellow

Dr. Viviane Mallette
KidSIM Fellow

Dr. Vincent Grant
Medical Director, eSIM

# RESEARCH FUNDING

| INTERNAL GRANTS | | |
|---|---|---|
| 2025 – 2026 | $8,250 CAD | Project Title: Use of ChatGPT to assess healthcare simulation debriefings. Funded By: Department of Pediatrics Innovation Award. Project Involvement: Dr. Vikhashni Nagesh and Dr. Viviane Mallette, Co-Principal Investigators; Dr. Adam Cheng, Senior Investigator NEW! |
| 2024 – 2025 | $250,000 CAD | Project Title: AR-Screen: Development of a Decision Support System for Cardiac Arrest. Funded By: Alberta Children's Hospital Research Institute, Department of Pediatrics, and Alberta Children's Hospital Foundation. Project Involvement: Dr. Adam Cheng, Co-Principal Investigator |

| EXTERNAL GRANTS | | |
|---|---|---|
| 2025 – 2026 | $6,000 USD | Project Title: The Virtual Resuscitation Assistant: Development and Usability Testing of an AI-driven and AR-based Cognitive Aid for Cardiac Arrest Resuscitation. Funded By: INSPIRE Network Shark Tank Award. Project Involvement: Dr. Vikhashni Nagesh and Dr. Viviane Mallette, Co-Principal Investigators; Dr. Adam Cheng, Senior Investigator NEW! |
| 2025 – 2026 | $4,500 USD | Project Title: AR-Screen: Use of ChatGPT to assess healthcare simulation debriefings. Funded By: INSPIRE Network Shark Tank Award. Project Involvement: Dr. Vikhashni Nagesh and Dr. Viviane Mallette, Co-Principal Investigators; Dr. Adam Cheng, Senior Investigator NEW! |
| 2024 – 2026 | $825,191 CAD | Project Title: AR-Screen: Evaluation of an Augmented Reality and Screen-based Decision Support System for Cardiopulmonary Arrest: Multicenter, Randomized Controlled Trial. Funded By: Swiss National Science Foundation. Project Involvement: Dr. Adam Cheng, Co-Principal Investigator NEW! |
| 2024 – 2027 | $750,000 CAD | Project Title: AR-Screen: Evaluation of an Augmented Reality and Screen-based Decision Support System for Cardiopulmonary Arrest: Multicenter, Randomized Controlled Trial. Funded By: LevMax Health Grant, Alberta Innovates. Project Involvement: Dr. Adam Cheng, Principal Investigator |
| 2023 – 2026 | $478,126 CAD | Project Title: Impact of Aerosol Box Use during Cardiopulmonary Arrest: A Multicenter, Randomized Trial. Funded By: Canadian Institutes of Health Research – Project Grant. Project Involvement: Dr. Adam Cheng, Principal Investigator |
| 2023 – 2025 | $38,000 CAD | Project Title: Design and Development of an Augmented Reality Decision Support System for Cardiopulmonary Arrest. Funded By: NSERC Alliance – Alberta Innovates Advance Program. Project Involvement: Dr. Adam Cheng, Collaborator |
| 2023 – 2025 | $292,000 CAD | Project Title: Development and Multicentric Evaluation of an Augmented Reality and Screen-based Decision Support System for Cardiopulmonary Arrest: An International Project. Funded By: HUG Foundation. Project Involvement: Dr. Adam Cheng, Co-Principal Investigator |

# RESEARCH ACTIVITY

## 2024 - 2025 SUMMARY

**3640** CITATIONS

**17** PUBLICATIONS

**22** PRESENTATIONS

**4** NEW GRANTS

**9** ABSTRACTS

**2** AWARDS

## PROJECTS

The Virtual Resuscitation Assistant: Development and Usability Testing of an AI-driven and AR-based Cognitive Aid for Cardiac Arrest Resuscitation

Dr. Kangsoo Kim, Dr. Adam Cheng, Ryan Kang, Jennifer Davidson RN, Dr. Jeffrey Lin, NEW!

Cognitive aids are decision support tools that present prompts to encourage recall of information, thus freeing up mental resources to increase the likelihood of desired behaviors. AR-based cognitive aids enable fast decision making by providing clinically relevant prompts and supporting anticipatory behaviors by listing upcoming tasks. Studies completed by the KidSIM-ASPIRE research team have shown that an AR device providing clinical guidance for the team leader improves compliance with pediatric and neonatal resuscitation guidelines but fell short on improving time to epinephrine or defibrillation. In these studies, the AR systems were entirely reliant upon data collected from the team leader through the AR device to determine the clinical guidance. This amplified team leader workload which contributed to delays in task completion. In designing a new system, the overarching goal is to reduce mental workload by providing role-specific and timely information to key team resuscitation team members. To achieve this goal, a mobile app (i.e. Guiding Pad app) was developed, used by the charting nurse, which provides guidance on pending tasks as the charting nurse enters completed tasks. When connected to AR device, the Guiding Pad app collects clinical data and allows for role-specific decision support to be shared with the team leader wearing the AR device. The new AR software will also be driven by artificial intelligence powered by ChatGPT, to support the team leader with clinical decision making during cardiac arrest. By utilizing ChatGPT's ability to offer dynamic, situation-specific guidance without interrupting the flow of care, we aim to explore whether this innovative tool can be seamlessly integrated into an augmented reality used by a team leader during resuscitation. This study will develop and evaluate the impact of an enhanced system, the "Augmented Resuscitation Assistant", which provides role-specific decision support to the team leader during cardiopulmonary arrest.

## Exploring ChatGPT's Capability to Assess Healthcare Simulation Debriefings

Dr. Winnie Nagesh, Dr. Viviane Mallette, Dr. Adam Cheng, Jeffrey Lin, Jennifer Davidson RN, Dr. Christine Kennedy, Amy Cripps NEW!

Simulation-based medical education is powerful educational tool for training healthcare professionals. High-quality debriefing is recognized as crucial for maximizing the benefits of experiential learning. However, facilitator training required to deliver effective debriefing is time and resource-intensive. Recent advancements in generative artificial intelligence (AI), such as ChatGPT, have shown potential in evaluating complex human communication. The application of AI to simulation debriefing has yet to be explored. Given the significant role of debriefing in experiential simulation learning, we aim to integrate AI in the evaluation of the simulation debriefings. We seek to explore whether ChatGPT can perform comparably to human experts utilizing validated assessment tools. Our project will involve providing ChatGPT with a training protocol, which will utilize debriefing transcripts of various qualities and concurrent scoring completed by human experts. We will complete a sequential analysis, comparing ChatGPT generated scores with human-expert scores. We hypothesize that with appropriate context and training that ChatGPT will perform comparably to human experts. Our primary goal is to enhance scalability of educator training and reduce the burden on resources in SBME. This project is funded by INSPIRE Shark Tank grant and the Department of Pediatrics Innovation Award.

## Design and Development of an Augmented Reality Decision Support System for Cardiopulmonary Arrest

Dr. Kangsoo Kim, Dr. Adam Cheng, Ryan Kang, Jennifer Davidson RN, Dr. Jeffrey Lin

Prior studies from research collaborators of the KidSIM-ASPIRE research team have demonstrated that the use of augmented reality (AR) technology reduces the risk of medication errors. Studies have also shown that the use of a tablet-based app has improved adherence to Advanced Life Support (ALS) guidelines, and the use of an LCD screen enhances situational awareness and team communication. The primary aim of this project was to design a novel decision support system (InterFACE-AR) for resuscitation teams and to determine if the use of the InterFACE-AR system improves adherence to guidelines during cardiac arrest.

## AR-Screen: Development and Multicentric Evaluation of an Augmented Reality and Screen-based Decision Support System for Cardiopulmonary Arrest: an International Project

Dr. Adam Cheng, Dr. Johan Siebert, Dr. Frédéric Ehrler, Dr. Sergio Manzano, Dr. Arielle Levy, Dr. Kangsoo Kim, Dr. Jonathan Pirie, Dr. Todd Chang, Dr. Jeffrey Lin, Dr. Donovan Duncan, Jennifer Davidson RN

This is a two-phase, multidisciplinary, international research project to evaluate, through phased studies and two-center trials, an innovative decision support system (InterFACE-AR) that leverages augmented reality to provide resuscitation teams with real-time, role-specific decision support during cardiac arrest. The first phase of the project aims to assess in a pilot multicenter, randomized, controlled trial (RCT) at two tertiary hospitals (Geneva children's hospital, Switzerland; Alberta Children's Hospital, Canada) the AR-Screen decision support system that will be developed using an iterative prototyping approach. This project will take place over 2 years and will involve the participation of experts in 5 countries (Switzerland, Canada, Netherlands, USA, Italy). The results of Phase 1 will be used to set up Phase 2 of the project; a multicenter RCT at eight INSPIRE network sites (Geneva, Calgary, Italy, Montreal, Toronto, Birmingham, Los Angeles and New York City).

## Evaluation of an Augmented Reality and Screen-based Decision Support System for Cardiopulmonary Arrest: A Multicenter, Randomized Controlled Trial

Dr. Adam Cheng, Dr. Johan Siebert, Dr. Frédéric Ehrler, Dr. Sergio Manzano, Dr. Kangsoo Kim, Dr. Arielle Levy, Dr. Jonathan Pirie, Dr. Todd Chang, Dr. Jeffrey Lin, Dr. Nancy Tofil, Dr. Sylvia Bressan,Dr. David Kessler, Jennifer Davidson RN

This multicenter study will determine if use of an Augmented Reality Decision Support System (InterFACE-AR) improves performance and influences provider workload during cardiac arrest. The InterFACE-AR system is comprised of four key components that are interconnected: (a) two augmented reality devices (for the team leader and medication nurse); (b) a tablet-based Guiding-Pad app; and (c) an LCD screen. Participants forming resuscitation teams will be randomized into one of 4 study arms.). Teams will participate in a simulated cardiac arrest scenario, with clinical performance metrics captured by video review and provider workload collected by survey. We expect to find that use of the new decision support system during cardiopulmonary arrest improves clinical care (i.e. time to epinephrine, time to critical tasks, reduced medication errors) and reduces provider workload. These outcome metrics have direct associations with patient survival, which will provide a strong argument for the integration of InterFACE-AR support systems into acute care environments.

## Impact of Aerosol Box Use during Cardiopulmonary Arrest: A Multicenter Study

Dr. Adam Cheng, Dr. Arielle Levy, Dr. Jonathan Pirie, Dr. Keya Manshadi, Dr. Todd Chang, Dr. Jeffrey Lin, Jennifer Davidson RN, Dr. Andrew Dixon, Dr. Jon Duff

This study involves a prospective, randomized controlled trial at six pediatric hospitals (Alberta Children's Hospital, Stollery Children's hospital, Ste. Justine Hospital, Children's Hospital of Los Angeles, Hamilton Children's Hospital and The Hospital for Sick Children). The primary aim of this study is to further explore the effectiveness of an aerosol box - a hard sided plexiglass box that fits over the torso of a patient to act as a physical barrier that contains infectious droplets. Aerosol box use will be compared with no aerosol box use for reducing Health Care Provider (HCP) and environmental contamination during the provision of Cardiopulmonary Resuscitation during a resuscitation scenario. Other secondary aims are: (a) to compare provider workload while performing CPR in aerosol box vs. no aerosol box groups; (b) to compare quality of intubation performance in aerosol box vs. no aerosol box groups; and (c) describe the pros and cons of aerosol box use during AGMPs. This study is funded by the Canadian Institutes of Health Research (CIHR).

## Portable Respiratory Simulator (PRISM) Validation Study

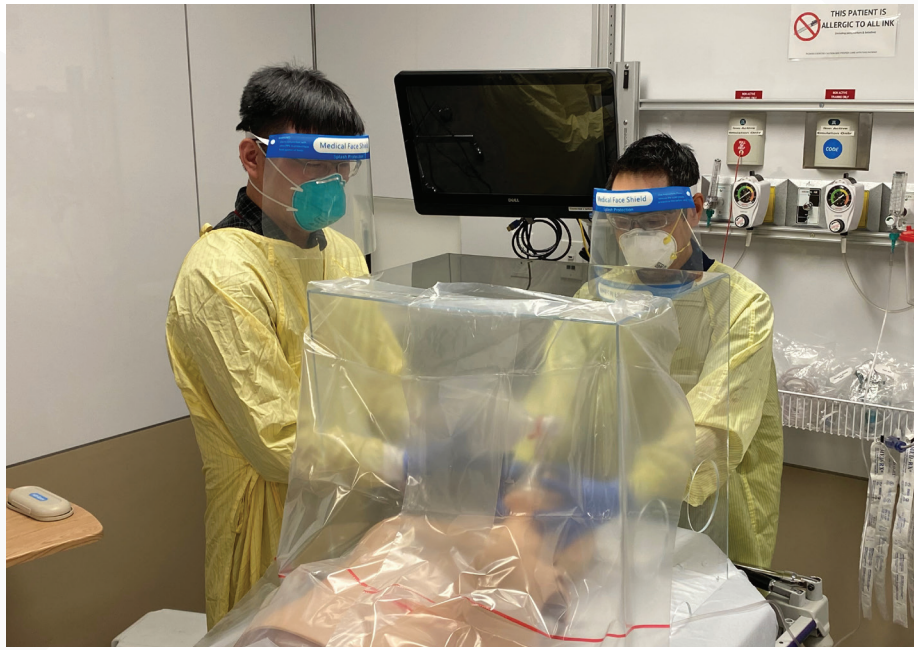
Jack Fu, Dr. Jeffrey Lin, Dr. Adam Cheng, Amy Cripps

Aerosol generating medical procedures (AGMPs) produce airborne viral particles that elevate the risk of infection for front-line health care providers (HCPs). Successive waves of the COVID-19 pandemic have heightened the importance of understanding how aerosols behave in the clinical environment. Currently, there are no pediatric aerosolization models available that can accurately simulate breathing and aerosol production during AGMPs. A realistic model will allow us to: (a) better understand how droplets are spread during AGMPs; (b) assess strategies to minimize aerosol spread; and (c) better inform infection control practices and resuscitation guidelines. The pediatric Portable Respiratory Simulator (PRISM) aerosolization device has been developed at KidSIM and is capable of simulating physiologically realistic breathing and producing respiratory aerosols. The main objective for this project is to collect data to support PRISM's ability to simulate realistic respirations and generate respiratory aerosols for a child.

Evaluation of a Faculty Development Program for Simulation Educators – The KidSIM ASSET Experience

Dr. Mary Tong, Dr. Adam Cheng, Dr. Jeffrey Lin

Simulation training has been shown to strengthen medical education by enhancing acquisition of medical knowledge, procedural skills, leadership and teamwork skills. The KidSIM simulation program has developed a specialized simulation faculty development program to teach aspiring educators the principles of simulation-based education. The Advanced Skills for Simulation Educators & Teachers (ASSET) suite of courses offered by the KidSIM Simulation Program at Alberta Children's Hospital encompasses 4 different courses. A better understanding of the impact of these courses will inform future faculty development efforts in simulation programs. The objectives of this survey-based study are to: (1) assess the downstream impact of ASSET course participation by describing participant professional profiles, involvement in simulation, and perceived utility on facilitation and debriefing skills; and 2) to identify gaps in their simulation and debriefing.




# PUBLICATIONS


1. Hsieh MJ, Ko YC, Lee TY, Breckwoldt J, Lockey A, Cheng A, Greif R. The Impact of System Performance Improvement on Patients with Cardiac Arrest: An Updated Systematic Review. American Journal of Emergency Medicine. 2025.
2. Cheng A, Calhoun A, Reedy G. Artificial Intelligence-assisted Academic Writing: Recommendations for Ethical Use. Advances in Simulation. 2025. 10:22.
3. Lin Y, Lockey A, Donoghue A, Greif R, Cortegiani A, Farquharson B, Siddiqui F, Banerjee A, Matsuyama T, Cheng A, for the International Liaison Committee on Resuscitation Education, Implementation and Teams Task Force. Use of CPR Feedback devices in resuscitation training: a systematic review and meta-analysis of randomized controlled trials. Resuscitation Plus. 2025. 100939.
4. Donoghue A, Allan K, Schnaubelt S, Cortegiani A, Greif R, Cheng A, Lockey A for the International Liaison Committee on Resuscitation Education, Implementation and Teams Task Force. Manikin physical realism for resuscitation education: a systematic review. Resuscitation Plus. 2025. 100940.
5. Lauridsen KG, Burgstein E, Nabecker S, Lin Y, Donoghue A, Duff JP, Cheng A for the International Liaison Committee on Resuscitation Education, Implementation and Teams Task Force. Cardiopulmonary Resuscitation Coaching for Resuscitation Team: A Systematic Review. Resuscitation Plus. 2025. 21:100868.
6. Cortegiani A, Ippolito M, Abelairas-Gomez C, Nabecker S, Olaussen A, Lauridsen K, Lin Y, Sawyer T, Yeung J, Lockey AS, Cheng A, Greif R for the International Liaison Committee on Resuscitation Education, Implementation and Teams Task Force. In Situ Simulation for Cardiopulmonary Resuscitation Training: A Systematic Review. Resuscitation Plus. 2025. 21:100863.
7. Stone K, Rutman L, Calhoun A, Reid J, Maa T, Bajaj K, Auerbach M, Cheng A et al. SQUIRE-SIM (Standard for Quality Improvement Reporting Excellence for SIMulation): Publication Guidelines for Simulation-Based Quality Improvement Projects. Simulation in Healthcare. 2025; 20(2): 71-80.

8. Greif R, Bray J, Djarv T, Drennan I, Liley H, Ng KC, Cheng A et al. 2024 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations: Summary from the Basic Life Support; Advanced Life Support; Pediatric Life Support; Neonatal Life Support; Education, Implementation and Team; and First Aid Task Forces. Resuscitation. 2024; 205:110414.
9. Greif R, Bray J, Djarv T, Drennan I, Liley H, Ng KC, Cheng A et al. 2024 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations: Summary from the Basic Life Support; Advanced Life Support; Pediatric Life Support; Neonatal Life Support; Education, Implementation and Team; and First Aid Task Forces. Circulation 2024; 150(24): e580-e687.
10. Solis N, Eppich W, Cheng A, Beavers L, Bhanji F. PEARLS Debriefing for Social Justice and Equity: Integrating Health Advocacy in Simulation-based Education. Advances in Simulation. 2024. 9(1), 47.
11. Meguerdichian M, Trottier D, Campbell-Taylor K, Bentley S, Bryant K, Kolbe M, Grant V, Cheng A. When Common Cognitive Biases Impact Debriefing Conversations. Advances in Simulation. 2024.
12. Singer Harel D, Lin Y, Lo C, Cheng A, Davidson J, Chang T, Matava C, Buyck M, Neveu G, Collia N, Fayyaz J, Manshadi K, Levy A, Pellerin S, Pirie J for the INSPIRE AGMP Investigators. Aerosol Box Use in Reducing Health Care Worker Contamination During Airway Procedures (AIRWAY) Study: Secondary Workload and Provider Outcomes in a Simulation-based trial. PCCM. 2024; 25(10):918-927.
13. Cheng A, Grant V, Eppich W. The PEARLS Debriefing Checklist – Optimal Use for Faculty Development. Simulation in Healthcare. 2024; 19(4):265-266.
14. Cheng A, Fijacko N, Lockey A, Greif R, Abelairas-Gomez C, Gosak L, Lin Y on behalf of the Education, Implementation and Teams Task Force of the International Liaison Committee on Resuscitation (ILCOR). Use of augmented and virtual reality in resuscitation training: a systematic review. Resuscitation Plus. 2024; 18:100643.
15. Liu Cheng-Heng, Yang CW, Lockey A, Greif R, Cheng A on behalf of the Education, Implementation and Teams Task Force of the International Liaison Committee on Resuscitation (ILCOR). Factors Influencing Workload and Stress during Resuscitation: A Scoping Review. Resuscitation Plus. 2024; 18:100630.
16. Mosher C, Gochyyev P, Cheng A, Morton A, Foronda C, Palaganas JC. Effect of Simulation Case Complexity on Engagement during Distance Debriefing - A randomized controlled trial. Clinical Simulation in Nursing. 2024; 91:101538.
17. Palaganas JC, Mosher C, Morton A, Foronda C, Cheng A, Anderson T. Engagement in Distance Healthcare Simulation Debriefing: A Concept Development and Framework. Simulation in Healthcare. 2024. 19(6):395-404.

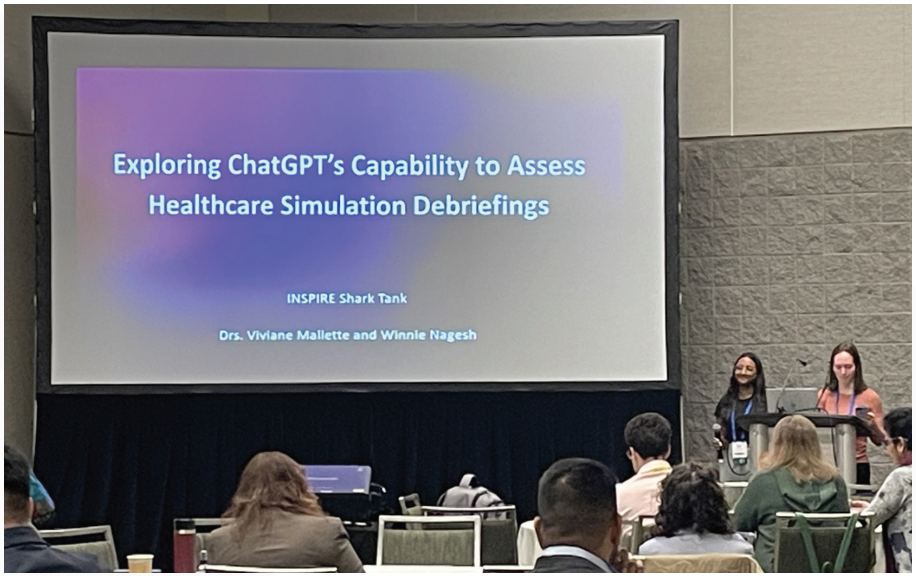
## BOOKS

1. Lin Y. Chap 2 Educational Theory. In Comprehensive Healthcare Simulation: Anesthesiology (Textbook Translation).

## PRESENTATIONS

1. Cheng, A. Building a Career in Simulation: Lessons Learned from a CV of Failures (Webinar). The International Pediatric Simulation Society Webinar Series. March 25, 2025.
2. Lin Y. The role of prebrief in simulation-based education. "Train the trainer" Simulation educator training project. Children's Hospital of Fudan University. Mar 25, 2025 (online)
3. Lin Y. Instructional Design for Procedural training. "Train the trainer" Simulation educator training project. Children's Hospital of Fudan University. Mar 20, 2025 (online)
4. Lin Y. Educational theory for simulation-based education. "Train the trainer" Simulation educator training project. Children's Hospital of Fudan University. Mar 18, 2025 (online)
5. Cheng, A. Simulation Fellowships from a Global Perspective (Expert Panel). International Meeting for Simulation in Healthcare. Orlando, USA. January 13, 2025
6. Cheng, A. Looking in the Mirror: Optimizing Learner Self-Assessment in Debriefing (Workshop). International Meeting for Simulation in Healthcare. Orlando, USA. January 12, 2025
7. Cheng, A. Psychological safety in debriefing: navigating the nuances (Workshop). International Meeting for Simulation in Healthcare. Orlando, USA. January 11, 2025
8. Cheng, A. Blind Spots in Debriefing: Implicit Bias and What to do About it (Workshop). International Meeting for Simulation in Healthcare. Orlando, USA. January 11, 2025
9. Catena H, Davidson J, Cripps A, Tamura D, Kampman R, Landry K, Kennedy C, Mossiere A. Simulation as a Reintegration Tool to Support Hospital-Based Healthcare Workers: Facilitating Return to Work after Operational Stress Injuries. International Meeting on Simulation in Healthcare (IMSH) January 2025, Orlando FL, USA.
10. Lin Y. Optimizing resuscitation instructional design for more effective lifesaving. Guangzhou Resuscitation Forum. Guangzhou, China. Nov 17, 2024 (online)
11. Lin Y. Clinical debriefing. "Train the trainer" Simulation educator training project. Children's Hospital of Fudan University. Nov 2024 (online)
12. Cheng, A. Building a Career in Research: Lessons Learned from a CV of Failures (Keynote). Department of Pediatrics Research Day. November 14, 2024.
13. Cheng, A. Psychological Safety and Difficult Debriefing: Navigating the Nuances (Pre-Conference Course). Association for Simulated Practice in Healthcare Annual Conference. England. November 1, 2024.
14. Lin Y et al. The use of feedback device in resuscitation training. ILCOR annual meeting. Taipei. Oct 8, 2024
15. Lin Y. Scenario design for simulation-based education. "Train the trainer" Simulation educator training project. Children's Hospital of Fudan University. Oct 2024 (online)
16. Cheng, A. Towards the Future: Enhancing Reflective Learning in Debriefing (Keynote). Mayo Clinic Healthcare Simulation Conference. September 27, 2024.
17. Cheng, A. Writing for Publication (Workshop). Virtual Scholars Program, Society for Simulation in Healthcare. Sept 11, 2024.
18. Lin Y. A brief discussion on the development of simulation training centers abroad. Children's Hospital of Fudan University, Shanghai, China. Aug 21, 2024
19. Lin Y. The use of cognitive aid in debriefing. Hangzhou, China. May 24, 2024 (online)
20. Lin Y. Economic evaluation in simulation-based education. Simulation Educator Training Course (Research). Chengdu, China. May 12, 2024 (online)
21. Cheng, A. Psychological safety in debriefing: navigating the nuances (Workshop). International Meeting for Simulation in Healthcare. San Diego, USA. January 23, 2024
22. Cheng, A. Blind spots in debriefing: managing our cognitive biases (Workshop). International Meeting for Simulation in Healthcare. San Diego, USA. January 22, 2024

# ABSTRACTS






1. Nagesh V, Mallette V, Cheng A. Use of ChatGPT to assess healthcare simulation debriefings. The International Meeting for Simulation in Healthcare. Orlando, USA. January, 2025.
2. Kang R, Kim K, Cheng A. The Virtual Resuscitation Assistant: Development and Usability Testing of an AI-driven and AR-based Cognitive Aid for Cardiac Arrest Resuscitation. The International Meeting for Simulation in Healthcare. Orlando, USA. January, 2025.
3. Kang R, Kim K, Cheng A. AR-Screen: Development and Usability Testing of an Augmented Reality Based Decision Support System for Cardiac Arrest. The International Meeting for Simulation in Healthcare. Orlando, USA. January, 2025.
4. Nagesh V, Mallette V, Cheng A. Use of ChatGPT to assess healthcare simulation debriefings. INSPIRE Network Annual Meeting. Orlando, USA. January, 2025.
5. Kang R, Kim K, Cheng A. The Virtual Resuscitation Assistant: Development and Usability Testing of an AI-driven and AR-based Cognitive Aid for Cardiac Arrest Resuscitation. INSPIRE Network Annual Meeting. Orlando, USA. January, 2025.
6. Kang A, Cheng A, Lin Y, De Masi A, Rajic A, Davidson J, Fu J, Ehrler F, Siebert J, Manzano S, Kim K. Augmented Reality Decision Support System for Cardiopulmonary Arrest. SimVentors at International Meeting on Simulation in Healthcare (IMSH) Jan 2025, Orlando, FL, USA.
7. Kang A, Cheng A, Lin Y, De Masi A, Rajic A, Davidson J, Fu J, Ehrler F, Siebert J, Manzano S, Kim K. Augmented Reality Decision Support System for Cardiopulmonary Arrest. Research Study Development and Presentation Program (DPP) at International Meeting on Simulation in Healthcare (IMSH) 2025, Orlando, FL, USA.
8. Cheng A, Davidson J, Lin Y. Completedness and accuracy of digital charting vs. paper charting in simulated paediatric cardiac arrest – a randomized controlled trial. International Pediatric Simulation Symposium and Workshops. Denver, USA. May 7, 2024.
9. Mossiere A, Davidson J, Cripps A, Kampman R, Cheng A, Simonot L, Catena H. Simulation as a Reintegration Tool to Support Hospital-Based Healthcare Workers: Facilitating Return to Work After Operational Stress Injuries. The International Pediatric Simulation Symposium and Workshops. Denver, USA. May 2024.

# KIDSIM INTERNATIONAL

## MISSION

To improve the quality of healthcare provided to infants and children around the world by collaborating with global partners through education, research and innovation using simulation.

## PRIMARY STRATEGIES

### INTERPROFESSIONAL EDUCATION

KidSIM has a wealth of experience in the provision of interprofessional simulation-based education, where healthcare providers from various professions train together in a collaborative work environment. Training in this type of environment using simulation helps to improve collective knowledge and skills, teamwork, communication and efficiency, which ultimately improve the care delivered to real patients.

### RESEARCH

As one of the most successful simulation research programs in North America, KidSIM-ASPIRE will conduct research to study the impact of the education and innovation being delivered through KidSIM international programs, and also work hard to share and integrate knowledge acquired from existing research to global partners.

### ASSESSMENT & EVALUATION

Assess and evaluate the impact of various models of interprofessional training on healthcare provider skills, knowledge and behaviors.

### SIMULATION EXPERTISE & PROGRAM BUILDING

KidSIM has been the 'model' program in North America for growth based on little operational funding while keeping the education 'free' for the learners. Our experience in collaboration, identifying and grooming champions and growth based on limited resource will be a valuable asset to developing programs.

### FACULTY DEVELOPMENT

As some educational techniques in simulation are more effective than others, our team have worked hard disseminate this knowledge to simulation educators locally and internationally by creating an instructor training course called ASSET.

### FELLOWSHIP TRAINING

We train fellows to be future global leaders in simulation, who will take the knowledge, skills and experience from KidSIM fellowship back to their respective countries in order to save lives and improve outcomes of children in their area of the world.

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