KidSIM

Annual Report

2021 - 2022

kidSIM™

TABLE OF CONTENTS

OVERVIEW

EDUCATION

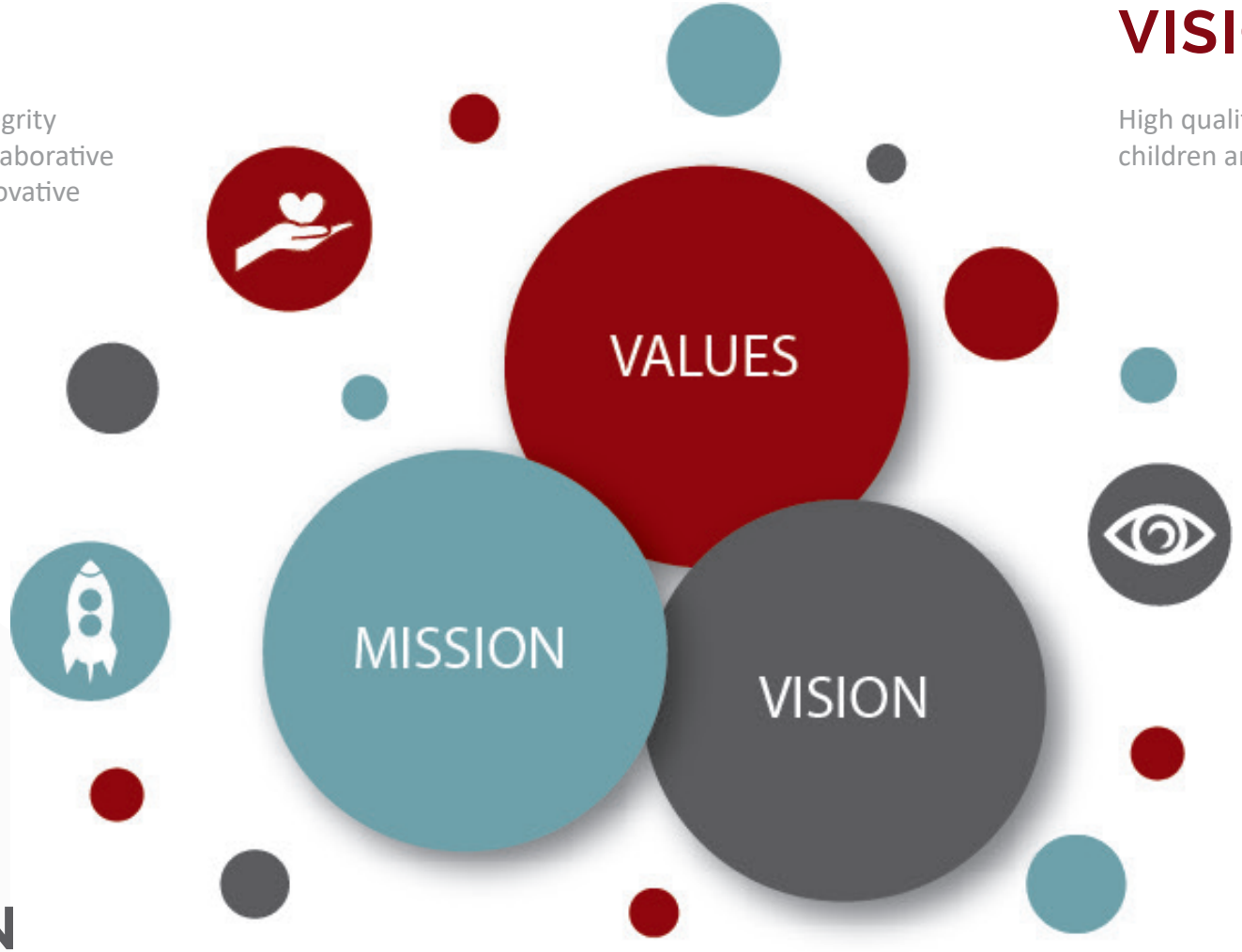
RESEARCH

VALUES

Respect
Supportive
Honesty
Inclusivity
Integrity
Collaborative
Innovative

VISION

High quality healthcare for all children and families.



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

OUR STORY

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 become a world-class program, known 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.

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.

KIDSIM CENTER

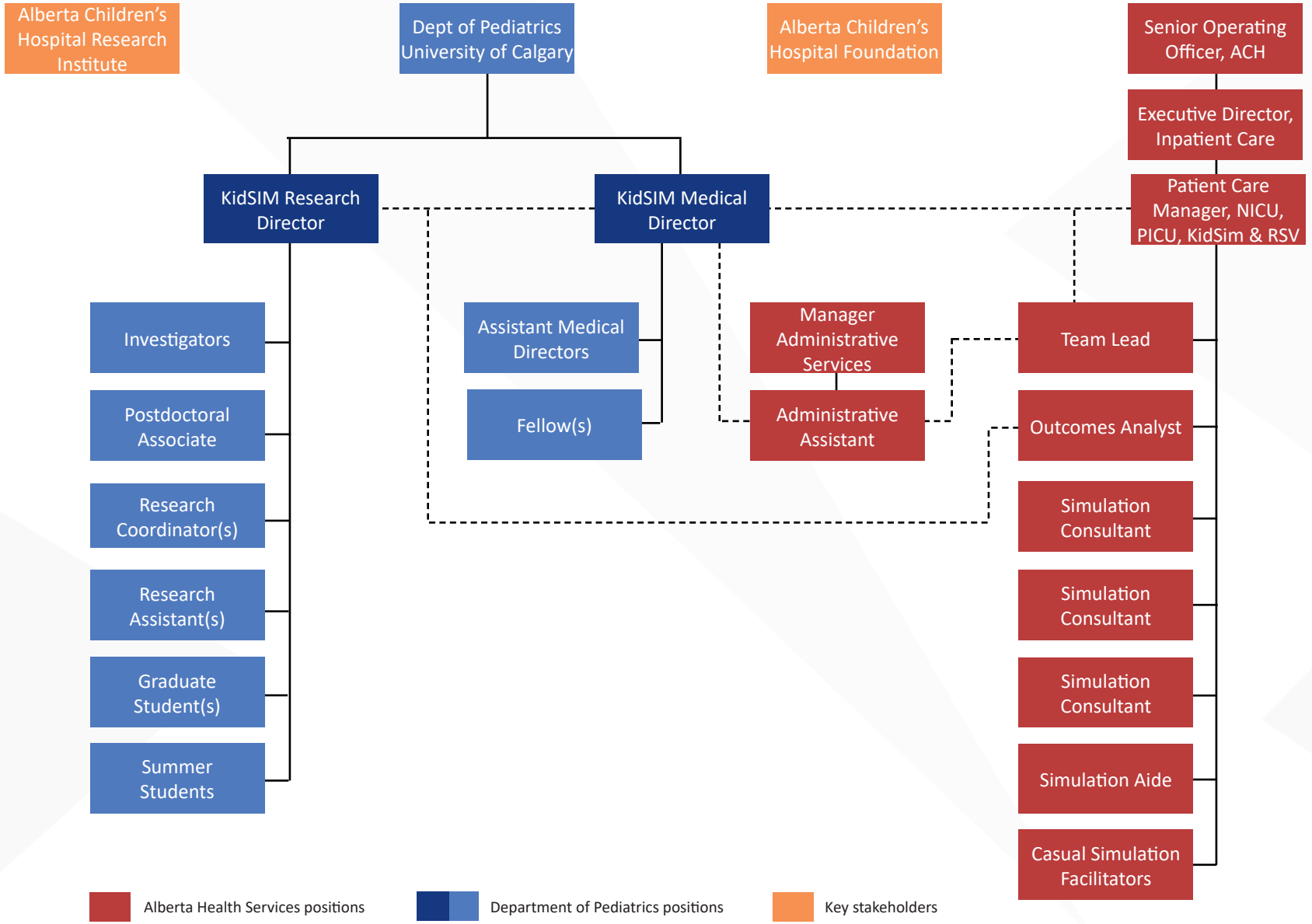
Through various fundraising endeavors, the $2.4 million dollar KidSIM Simulation Center opened in January 2014. The KidSIM Center is a 3,600 square foot facility and is the largest pediatric simulation facility in Canada. The center is housed on the 4th floor of the Alberta Children's Hospital and accommodates four simulation suites with individual control rooms, two proper debriefing rooms, a dedicated storage room, and space for administrative and 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. In 2021, KidSIM Center usage increased as the program welcomed back learners and researchers, in addition to continuing to support staff in pandemic preparedness.

KidSIM Center
80%

In situ
18%

Mobile
2%

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

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

Director, 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.

DR. CHRISTINE KENNEDY

Assistant Medical Director

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. VINCENT GRANT

Director, Fellowship Program

Dr. Vince Grant is the Co-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 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, Patient Care Manager and Education Consultants to oversee the day-to-day program and research operations of KidSIM.

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. 2 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 co-ordinate 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 has been essential for the success of the Just-In-Time inpatient program that started in 2011 and continues to run bi-monthly. 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.

LOUISE SIMONOT

Simulation Education Consultant

Louise graduated from the College of Nursing at the University of Saskatchewan and moved into general pediatrics for a year before transitioning to the Cardiac PICU. She quickly moved to Calgary to continue her work in the PICU which took on many roles. She was involved in family centered care, transport and other committees which eventually lead to the Nurse Educator role in the PICU. Her love of teaching led her to the KidSIM Program in 2013, where her passion for teaching and family centered care has continued to grow. She is also involved in assisting and organizing aspects of the undergraduate program, mentoring and program development for family centered care.

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 our team.

JEFFREY STONE

Administrative Assistant

Jeffrey joined the KidSIM Progam in 2022, providing administrative support during Keely's maternity leave. Jeff has a Bachelor's degree in Communication Studies, which he obtained from the University of Calgary. His career at Alberta Health Services is fresh, as this is his first year with the organization. Jeff came to the Alberta Children's Hospital after spending 5+ in a patient care coordinator role at an optometry practice. Jeff is thrilled to bring his communications background to the Children's Hospital, where he brings a wealth of administrative support and organizational experience to the KidSIM team.

SIMULATION SUPPORT

ADMINISTRATION
Kerri Landry
Christine Kennedy
Nicola Peiris
Helen Catena
Amy Cripps
Louise Simonot
Kerianne Craig
Keely Piscopo
Jeffrey Stone
Karly Pauls

FELLOWSHIP PROGRAM
Donovan Duncan
Louise Ing
Martin Perlsteyn
Chris Young

RESEARCH
Adam Cheng
Jeffrey Lin
Jennifer Davidson
Brandi Wan

MOBILE EDUCATION
Christine Kennedy
Amy Cripps

BIOMED SUPPORT
Dan Duperron
Darren Steidel

EMERGENCY MEDICINE
Andrea Boone
Antonia Stang
Caitlin Fernley
Christie Li Pi Shan
Connie Abrey
Dana Stys
Deborah Tamura
Diane Hamel
Gord McNeil
Hussein Unwala
Ian Wishart
Jennifer Boulton
Jennifer Graham
Jennifer Thull-Freedman
Jillian Gautschi-Nichol
Jodi Christoffersen
Julie Wallin
Johnson Fong
Kelly Millar
Kida Stevens
Kristen Johnson
Laura Tak
Lorraine Mabon
Melanie Willimann
Michele Bjornson
Naminder Sandhu
Pamela Vandenbiggelaar
Peggy Thomson-Gibson
Roxanne Turnbull
Russell Lam
Sean Burke
Shabnam Minoosepehr
Sherry Wilson
Shirmee Doshi
Tammy Nelson
TJ Kodeeswaran

TRAUMA SERVICES
Jonathan Guilfoyle
Sherry MacGillivray

PEDIATRIC TRANSPORT
Caitlin Colvin
Chris Broderick
Eli Gilad
Jenna Camphaug
Kimberley Menzies
Neil Baribeau
Shannon Lindsay
Troy Carmichael

PICU
Andrea Jesney
Eli Gilad
Dori-Ann Martin
Jaime Blackwood
Joy Handley
Laurie Lee
Meagan Mahoney
Rachel Brewer
Rob Catena
Tais Da Costa Sao Pedro
Tanya Drews
Wendy Bissett

RESPIRATORY THERAPY
Alicia Tisnic
David Neufeld
Jeanine Johnson
Jennifer Oliverio
Michelle Vizard

STEP
Kathryn Le-Williams
Leslie Ramos-Charlton

ECLS
Pat Yee
Steve Menzies

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

INPATIENT PEDIATRICS
Angie Arcuri
Carolyn Robson
Chantelle Barnard
Coty Ong
Danielle Maubert
Deanna Cook
Dominique Eustace
Heather Breault
Jenna Wiseman
Jennifer Walker
Jennifer Shehata
Jodi Meyer
Kirby Bell
Laura Davies
Lily Ragan
Lindsay Long
Marsha Bucsis
Maria Clowater
Maribeth Faustino Hill
Matthew Jansen
Megan Allison
Michael Friesen
Michelle Jackman
Preet Sandhu
Renee Jackson
Sarah Schindel
Sharon Spicer
Suzette Cooke
Tobi Reisig

SURGERY
Corey Dowler
Laura Dunbar-Pubben
Shantel Cunningham
Steve Lopushinksy

OPERATING ROOM
Adam Spence
David Lardner
Elisabeth Dobereiner
Jamin Mulvey
Jeremy Luntley
Mark Gale
Mary Brindle
Michael Letal

PACU
Karen Bibaud

HOME CARE
Amber Deus
Deborah Tamura
Juanita Davis
Meredith Luipasco

ROTARY FLAMES HOUSE
Kathryn daSilva Curiel
Suzanne Tinning

CLINIC
Eileen Pyra
Nilufer Hasanova
Rebecca Perry
Wendy Schwarz

SPEECH
Laura Sawers

CASUAL
Ashley Holloway
Caitlin Chester

EDUCATION COMMITTEE

The purpose of the Pediatric Simulation Education Committee (PSEC) is to provide leadership, expertise and guidance in relation to the dissemination of pediatric simulation education, simulation curriculum, scenario design, evaluation, and simulation research. PSEC objectives include:

- To develop, review and disseminate peer-reviewed scenarios for use within the simulation program.
- To ensure excellence in the quality of program curricula and scenarios.
- To evaluate needs assessments from various user groups and design curriculum and scenarios to support these needs.
- Encourage and champion interprofessional education.
- Support the development of education models which integrate simulation technology.
- To review summative evaluations of user groups.
- To critically evaluate education provided by the KidSIM Program.
- To advise the Medical Director of the KidSIM Program as to resource needs from various user groups.
- Through the Medical Director of the KidSIM Program: To advise the Department Chair, Pediatrics; the Facility Medical Director and the Vice President of the Alberta Children's Hospital, the Child Health Advisory Committee, the Executive Director of eSIM, the Director of eSIM South, and the ACH Foundation about resource issues and needs in pediatric simulation.
- To provide a leadership role in experiential education related to pediatric patient simulation in Southern and Central Alberta, and Southeastern British Columbia.
- At the request of the Medical Director, KidSIM Program: To provide representation on related local, regional and provincial committees when required.
- To facilitate and support research projects incorporating pediatric human patient simulation.

Nicola Peiris (chair) - Team Lead, KidSIM
Dr. Kerri Landry - Medical Director, KidSIM
Dr. Adam Cheng - Lead, Research & Development, KidSIM-ASPIRE
Dr. Christine Kennedy - Assistant Medical Director, Mobile Education, KidSIM
Dr. Vincent Grant - Medical Director, eSIM Provincial Simulation Program
Helen Catena - Simulation Consultant, KidSIM
Amy Cripps - Simulation Consultant, KidSIM
Louise Simonot - Simulation Consultant, KidSIM
Kerianne Craig - Simulation Aide, KidSIM
Marlene Franklin - Patient Care Manager, PICU/NICU/RSV Program/KidSIM
Jeffrey Lin - Post Doc Researcher, KidSIM-ASPIRE
Jennifer Davidson - Research Coordinator, KidSIM-ASPIRE
Chris Young - KidSIM Fellow
Donovan Duncan - KidSIM Fellow
Louise Ing- KidSIM Fellow
Martin Perlsteyn- KidSIM Fellow
Sherry MacGillivray - ACH Trauma Program
Andrea Jesney - Pediatric Intensive Care Unit
Juanita Davis - Pediatric Trach Coordinator
Dr. Eli Gilad - ACH Transport Program
Dr. Mark Gale / Dr. Michael Letal - Department of Anesthesia
Dr. Suzette Cooke - Section of Hospital Pediatrics
Corey Dowler - PACU
Karen Bibaud - PACU
Tara Bourque - PACU
Connie Abrey - PALS Program Coordinator
Dr. Sharron Spicer - Child Health Safety Committee
Resident/Fellow representatives (up to 2)

FUNDING

The KidSIM Program is privileged and grateful to have received financial support for infrastructure, equipment and operations from various sources since 2004. In particular, 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	$51,784	Baby Sim Doll, Radiothon 2019
2019-2020	$985	4 Little Junior CPR Trainers, Radiothon 2019
2019-2020	$14,435	4 Resusci Juniors CPR Trainers, Radiothon 2019
2019-2020	$490,000	Virtual & AR Technology, Radiothon 2019
2019-2020	$26,480	Additional Funding, Radiothon 2019
2022-2027	$3,457,368	Funding for Infrastructure Support and Simulation Facilitators

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)
DEPARTMENT OF PEDIATRICS		
2005-present	0.4 FTE	Medical Director, KidSIM
2005-present	0.5 FTE	Program Coordinator/eSIM Consultant, KidSIM
2005-2013	07/08 - $15,000 08/09 - $27,886 09/10 - $26,285 10/11 - $22,258 11/12 - $18,716 12/13 - $19,227	KidSIM Operations • General Supplies • Small / Minor Equipment • Program Travel (Continuing Education) • Warranties
2006-present		MD Facilitation Hours
2011-present	0.5 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

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.

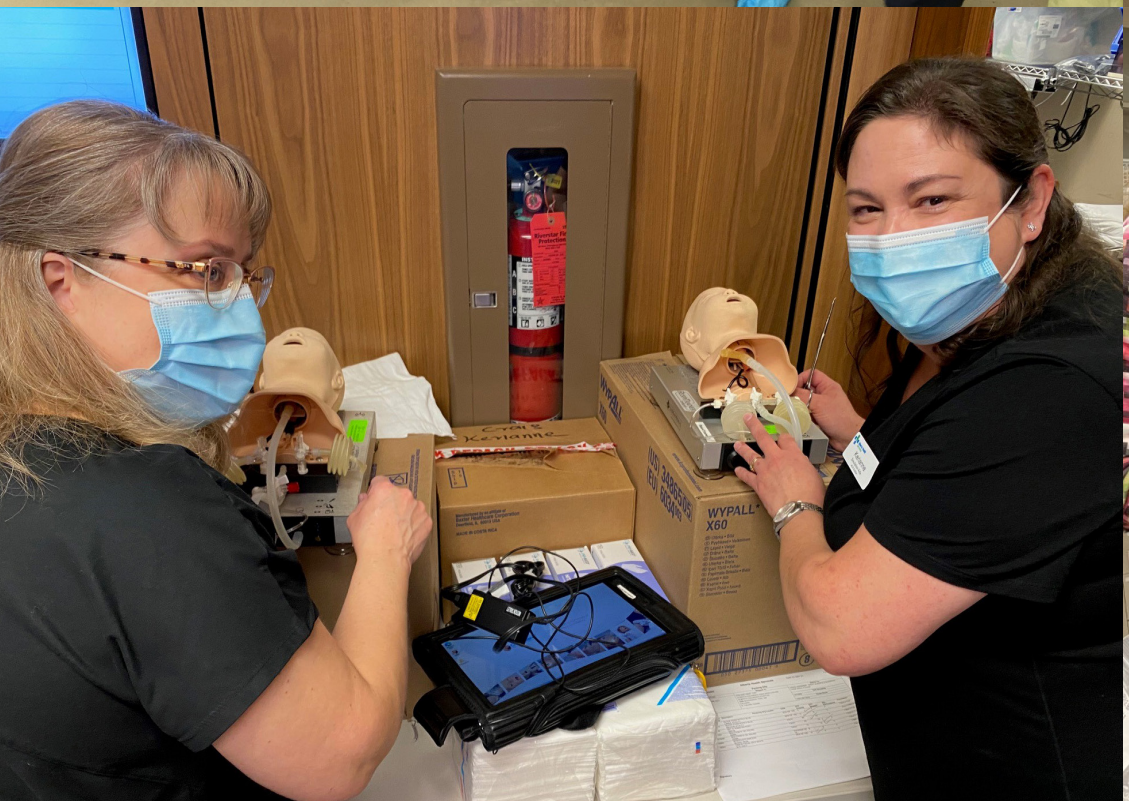
Our objective of delivering simulation-based education to all individuals and interprofessional teams across the ACH and our focus on expanding this education to families aligns our work with the ACH vision of providing excellence in family-centered care. Our track record also demonstrates alignment 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.

As a Royal College of Physicians and Surgeons of Canada 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 (Royal College) 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.

ROYAL COLLEGE
OF PHYSICIANS AND SURGEONS OF CANADA
COLLÈGE ROYAL
DES MÉDECINS ET CHIRURGIENS DU CANADA


WYPALL
X60


DO NOT OPEN
IF ROOM IS
BEING USED
FOR
ISOLATION

PEDIATRIC EMERGENCY MEDICINE

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 on a weekly basis year round.

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 Emergency Medicine Junior Resident Simulation Education

This program runs monthly and is aimed at junior residents (PGY1 and 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 / Fellow Interprofessional Team Training

The Emergency Medicine interprofessional team training program links senior residents (typically PGY3 and above) who are performing their rotation in Pediatric Emergency Medicine, as well as Pediatric Emergency Medicine Fellows (as part of their academic half-day schedule) with experienced emergency department nurses from the Alberta Children's Hospital. This session runs monthly and incorporates cases related to complex emergency department patients. The program focuses on allowing senior residents and pediatric emergency medicine fellows the opportunity to lead resuscitation teams from the pediatric emergency department. Team training is a compulsory part of the education curriculum for emergency room nurses and they must attend one session per year. The curriculum focuses on teamwork skills and management of complex pediatric acute care patients.

Pediatric Emergency Medicine Fellowship Simulation Education

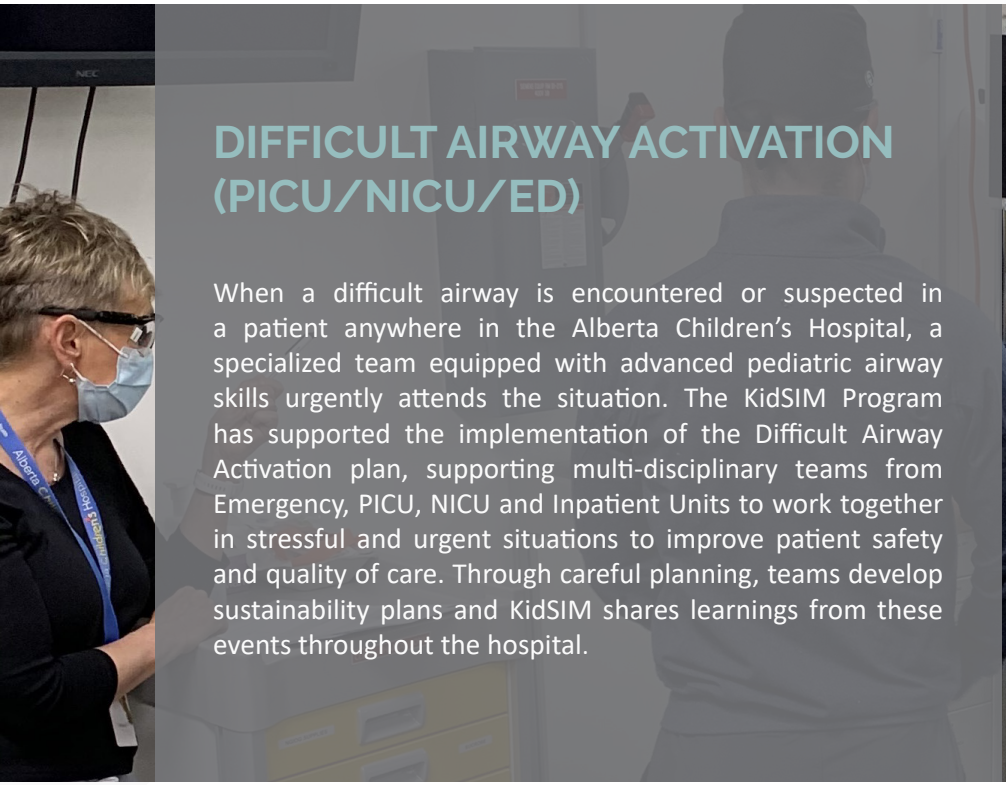
The curriculum for pediatric emergency medicine fellowship training was developed with help from leaders the Alberta Children's Hospital. The new national curriculum adopted by the Royal College of Physicians and Surgeons of Canada has 16 required subjects embedded into it over the 2 years, to create a total of 24 scenarios. This fellowship training not only focuses on the medical management of the patient in these scenarios but also developing and improving teamwork and communication skills by ensuring that they are all interprofessional. Nursing and Respiratory Therapists from the emergency department are a vital component in these monthly sessions.

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.

Pediatric Trauma Services Simulation Program

This Pediatric Trauma Program provides simulation opportunities to any healthcare providers that work with trauma patients to teach both teamwork and medical management. These 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 includes: 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.



DIFFICULT AIRWAY ACTIVATION (PICU/NICU/ED)

When a difficult airway is encountered or suspected in a patient anywhere in the Alberta Children's Hospital, a specialized team equipped with advanced pediatric airway skills urgently attends the situation. The KidSIM Program has supported the implementation of the Difficult Airway Activation plan, supporting multi-disciplinary teams from Emergency, PICU, NICU and Inpatient Units to work together in stressful and urgent situations to improve patient safety and quality of care. Through careful planning, teams develop sustainability plans and KidSIM shares learnings from these events throughout the hospital.

PEDIATRIC INTENSIVE CARE UNIT (PICU)

Mock Code Program

This long-standing program provides code blue (resuscitation) teams and the corresponding 'host' staff where the mock code blue occurs to practice resuscitation skills on a monthly basis. 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 also a significant 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 there is a summary document circulated with learning points from the event (system, communication / teamwork skills, etc.)

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

The PICU based CRRT program was initiated in the fall of 2016 and the team consists of PICU physicians and RN specialists. For 2020 we have just launched a TPE program using the same CRRT equipment and team members. This team of 30 Specialists receives initial training sessions of 2-3 days, and then annual re-certifications of 4-8 hours. All these sessions incorporate simulation approaches to create optimal learning for the participants and help the educators evaluate education processes. 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 our 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, as well as transition care for patients being transferred out of the PICU 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.

Difficult Airway Activation

When a difficult airway is encountered or suspected in a patient anywhere in the Alberta Children's Hospital, a specialized team equipped with advanced pediatric airway skills urgently attends the situation. The KidSIM Program has supported the implementation of the Difficult Airway Activation plan, supporting multi-disciplinary teams from Emergency, PICU, NICU and Inpatient Units to work together in stressful and urgent situations to improve patient safety and quality of care. Through careful planning, teams develop sustainability plans and KidSIM shares learnings from these events throughout the hospital.

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.

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

This essential care was initiated in October 2011 and is a program involving training interprofessional and interdisciplinary teams to manage critically ill pediatric patients requiring initiation of ECLS. Curriculum for this training has been created with objectives focusing around the initiating of ECLS for pediatric patients (newborn to 18yrs) who have received maximal medical management including CPR requiring heart and/or lung support similar to bypass. These sessions include a large interprofessional team including Nurses/Respiratory therapy, General Surgeons, Intensivists, Cardiologists and Perfusionists. This allows them to practice the entire procedure of stabilizing and connecting a patient to the ECLS and can include simulating complications and rare events that the team may face during this complex process. The program owns its own ECLS simulator which allowing staff to train on circuit and patient troubleshooting complications. The ECLS team have developed their own cannulation mannequins in both infant and pediatric sizes that allow appropriate CPR delivery, cannulation of neck vessels, and attachment and circulation on pump. Simulation is also routinely used to map out process throughout different aspects of the program. All patients at ACH have access to ECLS therapy as the program has now expanded to include all inpatient areas, the NICU and the emergency department. The ACH ECLS program is unique worldwide and success can be largely attributed to simulation as the core of the educational curriculum. As of January 2022, the program has placed 59 children on ECLS with 41 of those children surviving to hospital discharge. Survival to hospital discharge for ACH ECLS patients is 69%, as compared to international averages of 42-73% (depending on diagnosis).

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 34 RN's and RT's trained to fly transport patients without physician accompaniment (RN/RT team only). In 2021, 82% of pediatric transports performed used a two person (nurse and respiratory therapist) transport team, and a medical control physician consulting via phone. Last year the Transport numbers tapered off with the surge of the pandemic in our province. 2021 had 208 children transported by the transport team. 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. The past 5 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)

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 Neonatal Intensive Care unit 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.

OPERATING ROOMS/DAY SURGERY/POST-ANESTHETIC CARE UNITS

Day Surgery

This program runs monthly simulation sessions capitalizing on previous set education time, currently 45 minutes on Friday mornings. 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, and recently, the addition of safest together initiatives.

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. Historically this program runs session 2-3 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.

Operating Room and Post Anesthetic Care Unit Just-In-Time Training

This unit has been successful in implementing Just-In-Time training into the OR and PACU. They have the unique situation in being able to prepare educational sessions based on the planned surgical cases. This allows them time to predict potential situations that need to be practiced to ensure the best possible outcomes.

OR Education On Demand

This simulation program within the Operating Room has a similar design to Just In Time Simulation. The intent of this program is to provide a simulation experience based on potential situations that have a high probability of occurring within the OR clinical environment. These scenarios require a high functioning team to manage and the OR team may not experience these situations on a regular basis. With Education on Demand sessions, everyone gets an opportunity to work through an acute situation and together determine how to provide the best care to the patient. The OR team involved in these scenarios work together throughout the rest of the day; the idea is that participating in these simulations will provide them with the ability to plan, practice and discuss how they will work together in the event of an actual crisis. In order to respect the needs of our learners and the flow of patients through the OR, these simulation experiences are kept to 30 minutes. Targeted learning objectives focus mainly on potential system issues that can arise during an acute situation and on building the perioperative team.

Surgical Services Simulation - Combined OR/PACU/SSSU

This program runs monthly with members from all three nursing teams in surgical services (OR, PACU and the Short Stay Surgical Unit). Scenarios are based on a variety of emergency management scenarios that all areas may see. A big focus is to facilitate communication and team building by bringing nurses from all areas of Surgical Services together. These sessions have allowed teams to work and learn together while helping to identify the different skill sets and supports that each area brings to the care of our surgical patients.

Objectives depend on the environment that the scenario is set but focus mostly on the nursing management of common surgical complications. This simulation was used to help implement the Entonox program, so the nurses could have a scenario on what using Entonox would look and feel like.

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.

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 his program facilitates simulations which are germane to the proceeding lectures for that particular session.

Perioperative Crisis Management Course (POCM)
POCM is a full one-day course at ACH designed and 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 4 simulated crises scenarios based on the last 1 year of experience in the peri-operative environment. Cases which have been reviewed at Quality Improvement/Quality Assurance rounds are used as a foundation for scenario development, uniting QI/QA initiative with a simulation initiative with a goal to optimize patient care. POCM participants receive extensive feedback on their performance. In addition to self-assessment, participants engage in prolonged debriefings where team assessment is the focus. Both individual and team performance are highlighted within each debrief and all members of the team are involved in each scenario and debrief. The objectives include the recognition of the importance of a multidisciplinary team and the impact of human factors on the delivery of safe and effective care during a perioperative crisis.

PALLIATIVE CARE

Rotary Flames House
This program has utilized simulation in a variety of ways. 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.

INPATIENT PEDIATRIC UNITS

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 with In-patient Nurses

On a yearly basis, each post-graduate year (PGY) level of resident is offered two complete afternoons dedicated to simulation team training with in-patients nurses (total 8 times per year). During these sessions, the pediatric residents are paired up with nurses from the various in-patient units and work through pediatrics scenarios. The cases are run with respect to the unit from which the nurses come, so that these are the types of patients they would be likely to see on their unit. For example, the PGY2 residents might run a scenario of shock, which would be modified to fit an oncology patient if the nurses are from Unit 1. The residents are given the opportunity to act both as team leaders and team members during each of the scenarios. These sessions focus on teamwork skills, as well as medical management.

General Nursing Orientation Programs

Clinical Nursing Educators (CNEs) from across the hospital created a new orientation for every RN and LPN that starts at the Alberta Children's hospital. This is an intense 2 week course allowing the new staff to obtain all the information they need to in a short time. New in 2018, the program has incorporated 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.

Inpatient Just-In-Time Training

The In-patient Just-in-Time Program, focuses on in-patient teams that include nurses, pediatric residents and respiratory therapists. Simulation scenarios are designed around 'real' admitted patients identified by the in-patient medical teaching teams as being 'high risk' for potential deterioration. The scenario objectives are designed specifically around the most likely type of deterioration of that patient. Each scenario incorporates at least 1 core teamwork principle and 1 core medical objective. The learners for these sessions are the actual healthcare team that is currently caring for or potentially providing care for that patient. As such, it is hoped that deteriorations in the actual patient will be better cared for as a result of this deliberate practice. Specific care concerns identified during these sessions might actually be incorporated into the patient's plan of care.

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 which is similar to sepsis and assessing for neurologic Toxicity. As this is new to everyone (Oncology unit and PICU healthcare workers) and required collaboration with many different groups 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 included theory information followed by simulation to provide them the opportunity to practice this management and experience all the potential deterioration to help them prepare. This also included targeted simulation for each unit, with the scenarios being just for each unit.

Oncology and Hematology Inpatient Unit Just-In-Time Training

The Oncology and Hematology unit has been using Just In Time simulation training to assist interprofessional team's care for these complex patients more effectively. This unit found this has been a useful way of integrating simulation into the unit for all the staff to get familiarized with simulation and how it can improve patient care. They have been able to successfully predict and practice high risk scenarios using simulation prior to a patient's deterioration, allowing the healthcare team to manage the situation more effectively.

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.

SYSTEMS SIMULATIONS

Evacuation Simulations

In preparing for the unknown, simulation can play a valuable role in systems simulations which allow the team to practice potential real events. In 2018, the Alberta Children's Hospital, along with KidSIM, practiced evacuation simulations with several different pieces of equipment. Staff involved safety, simulated within the hospital, what it might be like to have to evacuate patients. Going down different staircases, over different types of flooring and with multiple sizes of patients. By preparing for evacuation events, it can allow for all disciplines within the hospital to be equipped and supported if a real event was to occur.

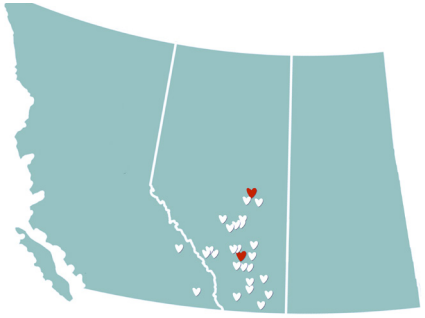
Systems Simulations

Simulation is being used on a regular basis to test systems/environments in most areas within the hospital. This has included simulating moving sick children from one area to another (ER to OR, inpatient unit to PICU during CPR), to work out new processes and discover some unforeseen challenges in caring for the child in this situation. The simulation helps identify high risk processes that are often unpredicted and also allows staff to experience these scenarios prior to them occurring. Simulation has also been utilized to practice new or changes in processes or test new areas of patient care prior to an adverse event occurring.

Emergency Management Disaster Preparedness

Simulation is the foundation of testing emergency management disasters to prepare staff for an unpredicted event. This has included Code purple (Hostage or threatening situation) and Ebola exposure allowing staff to safely practice an event occurring within the hospital. The staff involved are fully supported during and after the event with a special focus on maintaining psychological wellness while practice distressing events. Systems issues or gaps in education can be identified and a solution created prior to real event.

MOBILE EDUCATION



Mobile Education is an interprofessional program designed to deliver in-situ pediatric education to our Rural and Community partners. We foster 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. Participants talk with their patient, gather information, work as a team, perform physical examinations and procedures and work on team communication. A great benefit to having scenarios in your own working environment is being able to find your own equipment, medications, and pediatric references, in order to identify potential problems and challenges prior to having an actual patient. An adjunct to our Simulation Education is a hands-on workshop where key critical resuscitation skills are reviewed and practiced. Our program is committed to supporting our rural partners and helping to identify and correct any obstacles to our pediatric population being able to receive the best possible care. Telehealth is used to regularly incorporate the transport team 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.

In 2021, the Mobile Education team continued to adapt to the evolving Covid-19 pandemic and staffing challenges across sites. Despite intermitent pauses to mobile operations during peak times during the pandemic, once cases stabilized and sites were no longer overwhelmed, we were able to resume the program. Following strict guidelines and ensuring that the receiving sites had the capacity, staffing and room to accommodate mobile education, we took up once again the important work of providing pediatric simulation and education to our rural partners. Despite the occasional shut down, we were still able to visit 4 sites in 2021 and we returned with a renewed sense of enthusiasm and commitment to continue this important work.

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 2018 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 and is currently actively engaged with "spoke" sites in this quality improvement intervention.

5

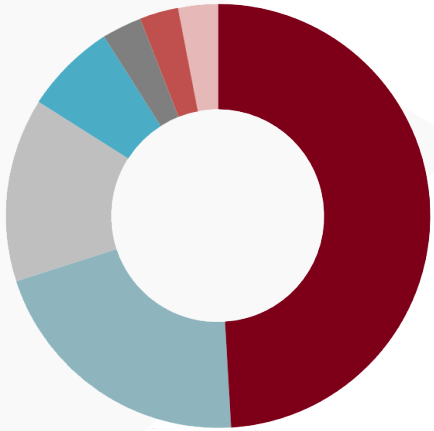
MOBILE TRIPS

In 2021, the KidSIM Mobile Education Team went on 5 visits across 4 sites.

4

SITES

Vulcan Community Health Centre
Chinook Regional Hospital
Okotoks Health & Wellness Centre
Sheldon Chumir Health Centre



59

LEARNERS

- Attending Physicians 21%
- Fellows/Residents 7%
- Medical Students 0%
- Nurse Practitioners 0%
- Registered Nurses 49%
- Nursing Students 3%
- Licenced Practical Nurses 3%
- Respiratory Therapists 0%
- Emergency Medical Services 3%
- Other 3%

FAMILY CENTERED CARE

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 appreciated their 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. This program has slowed slightly due to the COVID-19 pandemic and the number of children homeschooling.

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. Traditional CPR courses do not address these unique types of situations. 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.

Seizure Teaching Pamphlets

When teaching families how to manage their child's seizures at home, a need was recognized to provide visual and written information and also provide a reference for the families in order to teach other support persons. In conjunction with Neurology clinic, Pharmacy and KidSIM, teaching pamphlets have been developed to target those identified learning needs. The Family Centered Resource center has provided full support and has involved families to help review the material and ensure it is approachable and pertinent to those that have children with seizures.

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 a 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.

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. The past 2 years have been very difficult for the program due to COVID-19. Restrictions on visitors, training on site, and increased patient loads affected all training of both families and staff. Pediatric Home Care also switched to a vendor form of caregiver hiring, which led to difficulties with training. CCAN adapted to training via Zoom and increased resources available online to help with these training constraints. 6 families went through the program with 126 caregivers trained via the tandem caregiver training program. Revisions of all materials are underway, as well as a redesign of the FCRC website. 2021 brought 2 unique patients to the Tracheostomy Program - both of these unique patient scenarios demonstrate how simulation, KidSIM, and the CCAN program can adapt to support whatever these children with complex airway needs require to help them live their best lives out in the community:

The trach team received a child with a tracheostomy tube into the ER in October 2021 directly from India. This child received a tracheostomy tube in India 2 months prior for seizure induced encephalopathy affecting airway tone. No trach training or training of any kind was offered to the family in India and the family decided to return to Calgary for care. The Dad accompanied this child on the plane without any equipment or training, a 24 hour trip. In the ER, Dad reported all of this to the RT staff, and the trach team met with both parents and immediately started trach training to support this family. The family was quickly trained, supported to receive all equipment and supplies, and went home in Calgary 6 weeks after coming to ER with home care supports and clinic follow up.

The trach team received a call from a Respirologist in October of 2021 in regards to a teenager with a tracheostomy tube that was new to a Pediatrician in Calgary. The Pediatrician was concerned that the child had not had any monitoring or care for their trach tube for many years. The family had been managing and felt that they did not need any extra support since they moved to Calgary from South America. The trach team met with the family in KidSIM and reviewed trach care and emergency care, helped them get equipment and supplies, and then met the family in their home to follow up with a trach change that the child did successfully herself. The family then felt they had enough supports and was followed up in clinic and with home care supports. This child was successfully decannulated May 2022 and no longer requires a tracheostomy tube.

42

Total number of FCC Sessions

74

Family members trained

85

Caregivers and teachers trained

4

Schools/daycares recieved training

COVID-19 SUPPORT

The KidSIM Program provided invaluable support and training within the Alberta Children's Hospital during the Covid-19 pandemic. Simulation played a key role in designing and practicing new protocols in order to adapt to new safety measures and to minimize the risk of cross contamination.

Standardize Processes

Using simulation to coach staff on proper donning and doffing of PPE

Standardizing PPE processes

Identifying and testing a checklist to minimize exposure to staff members inside the room and determine the roles of the staff members outside the room

Reduce Risk of Cross Contamination

Identifying and testing new locations for COVID-19 patient treatment

Identifying and testing the need to declutter resuscitation rooms and hallways

Identifying and testing of new patient drop off location for EMS

Identifying and managing risk factors associated with a variety of specific environments

Optimize Systems

Testing the transfer process of a COVID-19 patient to reduce the possible contamination of the environment, staff, equipment and patients, and to reduce the possible contamination to other departments

Improve Patient Care

Testing new COVID-19 screening processes for families and patients

Identifying and testing patient safety techniques

Lending KidSIM equipment to real patient areas

AREAS SIM SUPPORTED

Calgary Lab Services
Cancer Care/Hematology
Cardiology Clinic
Child Life & Speech Language Clinic
CT
Dental Clinic
Diabetes & Dietician
Diagnostic/Radiology
Emergency Department
Environmental Services
Home Care
Inpatient Units
Mental Health
NICU
Optometry
Orthopedic Clinic
Outpatient Clinics
PACU/OR/Surgical Services
PICU
Porters
Protective Services
Sensory Clinic
FCC

Personal Protective Equipment (PPE)

PPE was identified as being the main target for all simulations at the start of the COVID-19 pandemic. KidSIM and Safest Together worked with staff in all areas of the hospital who come into contact with patients to improve PPE adherence with the support of a PPE Coach. The role of the PPE Coach is to walk staff through the donning and doffing process and double check their PPE has been properly applied.

Emergency Department

Simulation was used to test a new patient care trauma space for COVID-19 patient treatment and to manage covid positive patients without the wasting of equipment and supplies that may have been contaminated. Simulation was also used to test new COVID-19 screening processes for families and patients coming to the Emergency Department and to trial the flow of patients through the process of initial screening to transferring the patient to the appropriate department.

Resident Code Blue Response

Simulation was used for resident teaching of a code blue situation where residents manage a patient who is a code blue until the code team arrives. Staff practice COVID-19 precautions, communication and proper PPE.

Code Blue Response

Protocols to protect patients and staff during a code blue were trialled, adapted and taught to the bedside health care providers. Simulation was used on all units to run simulated code blue sessions, testing the uptake of new protocols and how to support and educate staff during a code blue, highlight potential risks for cross contamination and trial solutions.

NICU Code Blue Response

The NICU trialled code blue and intubation guidelines; making amendments to these to fit the unit and their patients.

Outpatient Clinics

Staff trailled management of patient load, clinical space, patient flow between units, and how to make the overall process of screening and communication between clinics and families as efficient as possible, all while maintaining the safety of families, patients and staff.

Adult Patients

To prepare for a potential surge in adult ICU patient admissions and the possibility ofcaring for adult patients, simulation was used by PICU staff to become familiar with different equipment used for adult patients.

ANNUAL SUMMARY

1736
SESSION HOURS

In 2021, the KidSIM Program's total hours were up from the previous year.

95%
TEAM TRAINING

Team training continues to be a main priority for the KidSIM Program.

391
SESSIONS

In 2021 the KidSIM Program was able to start welcoming back groups who had been paused during the pandemic.

50%
CAPACITY

The KidSIM Center continues to explore opportunities to maximize center usage.

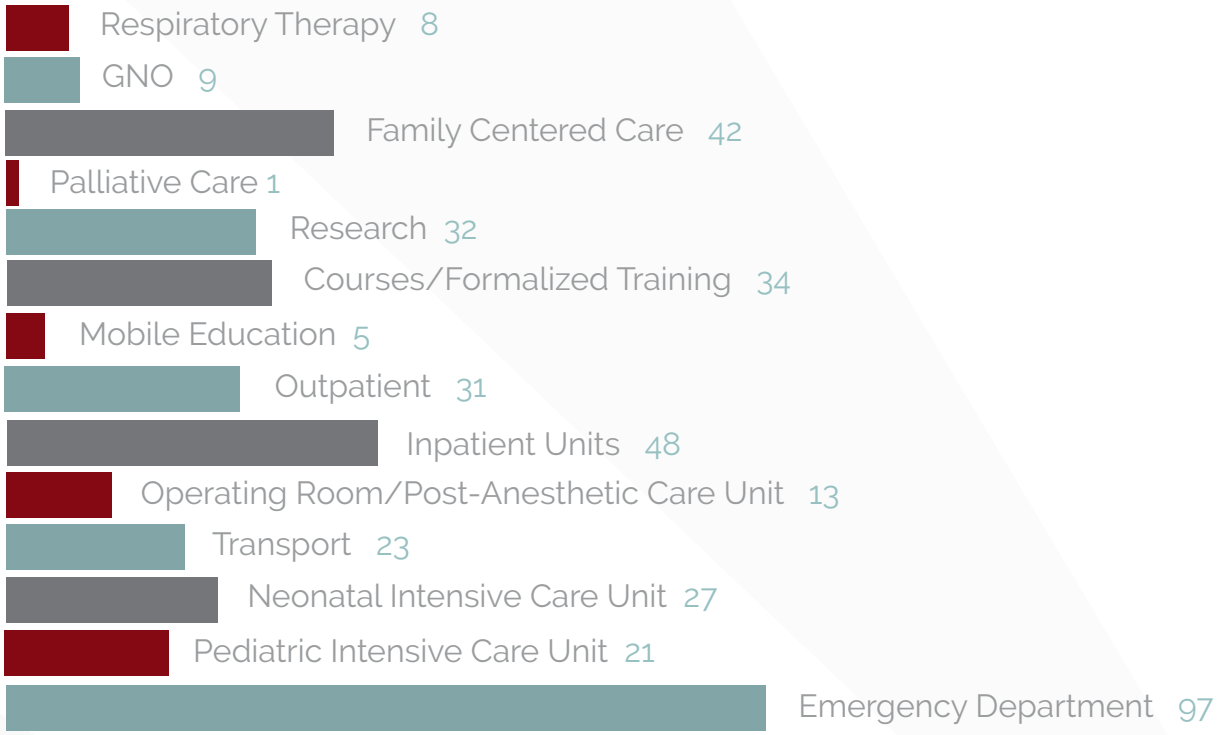
2680
LEARNERS

The KidSIM Program continued to support learners form different programs and institutions.

52%
INTERPROFESSIONAL

The KidSIM Program maintains a steady, yet impressive interprofessional rate.

TYPES OF SESSIONS



TYPES OF LEARNERS

Attending Physician	**165**	Registered Nurse	**78**	Respiratory Therapist	**137**
Resident	**562**	Nursing Student	**287**	Respiratory Therapist Student	**23**
Fellow	**162**	Licensed Practical Nurse	**50**	Emergency Medical Services	**41**
Medical Students	**148**	Transport Team	**125**	Other	**65**
Nurse Practitioner	**4**	Family Member/School	**122**		

KIDSIM FELLOWS




The KidSIM Pediatric Simulation Program offers a Fellowship in Simulation Education and Research. This Fellowship is offered 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. KidSIM trained 4 fellows in 2021: Donovan Duncan, Pediatric Critical Care; Louise Ing, Hospital Medicine; Martin Perlsteyn, Neonatology; and Chris Young, Anaesthesia.

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. It is hoped that this curriculum will provide an opportunity for fellows to collaborate and work with a broad array of simulation-based educators and researchers in 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. The KidSIM Program was involved in the planning and launch of this curriculum and several KidSIM Faculty are instructors.

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

KidSIM Fellows and Graduate Students participate in a regular monthly 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.

LECTURE SERIES

The KidSIM Fellowship Program offers a monthly lecture series inviting different experts in the simualtion and debriefing community to present on a highlighted topic each month. In the 2021-22 fellowship academic year, the following guest lecturers presented:

- D. Kristin Fraser - Cognitive Load and Emotion in Simulation
- Dr. Jon Duff - Team Training and Interprofessional Education, Assessment in Simulation
- Dr. Stuart Rose - Clinical Debriefing
- Mirette Dube - Patient Safety and Systems Integration
- Dr. Marcia Clark, Mersime Berkolli, Dary Michalchul - Curriculum Design and Program Evaluation
- Dr. Vince Grant - Virtual & Augmented Reality

ROUNDS

As the KidSIM program continues to grow, program leadership recognized the need to provide on-going simulation-based professional development opportunities for all facilitators. In the Spring of 2016, KidSIM introduced monthly KidSIM Rounds. These hour long sessions are open to anyone who teaches in the program and includes a variety of both practical and academic topics. Rounds have been on hold due to COVID-19, but KidSIM plans to resume these sessions in the future.

KIDSIM ELECTIVES

The KidSIM program developed an elective rotation for residents and fellows with an interest in developing skills and experience in simulation-based education. In 2021, 3 residents completed the elective rotation; 2 from the University of Manitoba and 1 from the University of Alberta.

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 provides hands-on teaching for emergency physicians, pediatricians, family physicians, NPs, nurses and allied healthcare professionals using the latest evidence-based medicine practice. The PACE courses all have a simulation component and take place at the KidSIM Center. Learners receive hands-on training in an as real as possible scenario using high-fidelity patients. In 2020, KidSIM redeveloped the PALS Provider course to a hybrid virtual / in-person format in order to continue to provide valuable education and training, while minimizing the amount of time trainees needed to come onsite during the COVID-19 pandemic.

The PACE Program offers the following courses:

- Pediatric Advanced Life Support (PALS) Provider
- Pediatric Advanced Life Support (PALS) Provider Hybrid
- 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)

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 Educators and Teachers (ASSET)

KidSIM is a leader in simulation based faculty development courses. The Advanced Skills for Simulation Educators and Teachers (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 redeveloped ASSET courses to a virtual format in order to continue to provide valuable simulation and debriefing education and training during the COVID-19 pandemic. in 2021, KidSIM formally trained 105 Simulation Facilitators. The overall KidSIM Facilitator retention rate from the previous year was 88%.

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.
66 trained facilitators in 2021.

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.
12 trained facilitators in 2021.

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 ADVANCED

Advanced Toolbox for Difficult Debriefing Situations

ASSET Advanced is a one-day course for intermediate simulation instructors (ideally with at least 12 months of simulation and debriefing experience) 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.
19 trained facilitators in 2021.

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 trained facilitators in 2021.

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, research methodology, education, human factors 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. 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 several 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.

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

CPR AND CARDIAC ARREST

Develop, assess and implement novel techniques for improving CPR and care of pediatric patients suffering from cardiac arrest.

FAMILY CENTERED CARE

Design and evaluate unique simulation-based training opportunities for families of pediatric patients to help enhance the care they provide to their children in the home environment.

TECHNOLOGY IN THE RESUSCITATION ROOM

Develop and study new technology designed to interact with healthcare providers in the resuscitation environment to improve process of care and patient outcomes.

TEAM TRAINING

Develop, assess and implement innovative techniques for team training in order to improve life-saving care for pediatric patients.

DEBRIEFING AND FEEDBACK

Evaluate existing and new methods of post-simulation and post-resuscitation debriefing for the purposes of improving healthcare provider performance and patient outcomes.

INTERPROFESSIONAL EDUCATION

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

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.

39

KIDSIM-ASPIRE TEAM

Dr. Adam Cheng
Director, Research
KidSIM-ASPIRE

Dr. Vincent Grant
Medical Director,
eSIM

Jeffrey Lin
Post Doc Associate,
KidSIM-ASPIRE

Jennifer Davidson
Research Coordinator,
KidSIM-ASPIRE

Nicola Peiris
Team Lead, KidSIM

Dr. Kerri Landry
Medical Director,
KidSIM

Dr. Christine Kennedy
Assistant Medical
Director, KidSIM

Brandi Wan
Research Assistant,
KidSIM-ASPIRE

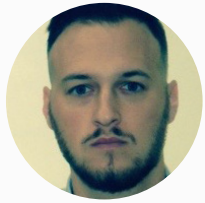
Helen Catena
Simulation Education
Consultant, KidSIM

Amy Cripps
Simulation Education
Consultant, KidSIM

Kerrianne Craig
Simulation Aide,
KidSIM-ASPIRE

Keely Piscopo
Administrative Assistant,
KidSIM-ASPIRE

Dr. Donovan Duncan
KidSIM Fellow



Dr. Martin Perlsteyn
KidSIM Fellow

Dr. Louise Ing
KidSIM Fellow

Dr. Chris Young
KidSIM Fellow

Wendy Bissett
Research Educator, ACH

Dr. Omar Damji
Emergency Medicine
Physician, ACH

Rob Catena
Associate Professor,
Mount Royal University

Kent Hecker
Researcher,
University of Calgary

Sherry MacGillivray
Trauma Coordinator, ACH

Alyshah Kaba
Provincial Scientific Lead,
eSIM, PI & IHOT

Tom O'Neill
Psychologist,
University of Calgary

Dr. Steve Lopushinsky
Pediatric General Surgeon,
ACH

ANNUAL SUMMARY

16
PUBLICATIONS

28
PRESENTATIONS

3775
CITATIONS

3
ABSTRACTS

6
GRANTS

2
AWARDS

GRANTS

INTERNAL GRANTS		
2021 – 2023	$25,000 CAD	Project Title: Postdoctoral Scholarship. Funded By: Cumming School of Medicine. Project Involvement: Yiqun Lin, Postdoctoral Associate
2021 – 2022	$12,500 CAD	Project Title: Postdoctoral Fellowship Award. Funded By: Alberta Children's Hospital Research Institute. Project Involvement: Yiqun Lin, Postdoctoral Associate
2021 – 2022	$3,000 CAD	Project Title: VITAL – Virtual Reality for Intubation Training as a Lifesaving Measure. Funded By: Alberta Children's Hospital Research Institute - ACHRI Trainee Small Research Grant. Project Involvement: Omar Damji, Co-Investigator

EXTERNAL GRANTS		
2021 – 2023	$248,625 CAD	Project Title: Impact of Aerosol Box Use on Patterns of Contamination Healthcare Provider and Environmental Contamination during Aerosol Generating Medical Procedures: A Multicenter Study. Funded By: Canadian Institutes of Health Research – Project Grant, COVID-19 Initiative. Project Involvement: Adam Cheng, Principal Investigator
2021 – 2023	$30,000 USD	Project Title: Impact of Aerosol Box Use on Patterns of Contamination Healthcare Provider and Environmental Contamination during Aerosol Generating Medical Procedures: A Multicenter Study. Funded By: International Network for Simulation-based Pediatric Innovation, Research and Education. Project Involvement: Adam Cheng, Principal Investigator
2021 – 2023	$10,000 USD	Project Title: Patterns of Inattentional Blindness during Cardiac Arrest Care: Do Healthcare Providers See and Correct Critical Errors? Funded By: International Network for Simulation-based Pediatric Innovation, Research and Education Project Involvement: Adam Cheng, Senior Investigator; Yiqun Lin, Principal Investigator

42

RESEARCH PROJECTS

Patterns of Contamination from Aerosol Generating Medical Procedures (AGMP)

Dr. Adam Cheng, Dr. Arielle Levy, Dr. Jonathan Pirie, Dr. Todd Chang, Dr. Jeffrey Lin, Jennifer Davidson

This study involves a prospective, randomized controlled trial at four INSPIRE network sites (Alberta Children's Hospital, Ste. Justine Hospital, and Children's Hospital of Los Angeles and The Hospital for Sick Children). The primary aim of this study is to evaluate 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 performance of AGMPs. These airway procedures will be carried out by a trained airway team during care of a simulated patients in respiratory failure due to COVID-19. The secondary aim is to determine if aerosol box use influences the time to successful completion and first-pass success rate for ETI and LMA insertion in trained airway teams. We aim to describe patterns of HCP and environmental contamination caused by AGMPs during the care of a simulated patient in respiratory failure due to COVID-19. Other secondary aims are: (a) to compare provider workload during AGMPs 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) and the International Network for Simulation-based Pediatric Innovation, Research, & Education (INSPIRE).

Patterns of Inattentional Blindness during Cardiac Arrest Care: Do Healthcare Providers See and Correct Critical Errors?

Dr. Adam Cheng, Dr. Vince Grant, Dr. Jeffrey Lin, Dr. Elaine Gilfoyle, Tyler Williamson, Jeff Caird

Each year, more than 15,000 infants and children in Canada and the United States receive cardiopulmonary resuscitation (CPR) as a treatment of cardiac arrest. Survival rates from pediatric cardiac arrest are very poor. Providing

effective care involves effective team function, dynamic leadership and situational awareness amongst all team members. In order to improve the quality of care provided to cardiac arrest patients, it is imperative to have a better understanding of the types of errors that are missed during cardiac arrest. Inattentional blindness is a phenomenon defined as the failure to see things that are in plain sight on account of being unexpected. The notion of inattentional blindness has been largely unexplored in healthcare, and specifically, in the context of resuscitation. In our study we propose to describe patterns of inattentional blindness by identifying the types of mistakes that are missed by team leaders and members during cardiac arrest. This study is funded by the Laerdal Foundation for Acute Medicine, the Department of Pediatrics Innovation Award (University of Calgary), the Cumming School of Medicine Bridge Grant, and a Seed Grant from the University of Calgary.

Quantifying Simulated Contamination Deposition on Healthcare Providers Using Image Analysis

Dr. Jeffrey Lin, Dr. Adam Cheng, Jennifer Davidson, Dr. Kent Hecker

Simulation-based research has played an important role in improving care for communicable diseases. Unfortunately, few studies have attempted to quantify the level of contamination in these simulation activities. This study aimed to assess the feasibility and provide validity evidence for using integrated density values and area of contamination (AOC) to differentiate various levels of simulated contamination. An increasing number of simulated contamination spots using fluorescent marker were applied on a manikin chest to simulate a contaminated healthcare provider. An ultraviolet light was used to illuminate the manikin to highlight the simulated contamination. Images of increasing contamination levels were captured using a camera with different exposure settings. Image processing software was used to measure 2 outcomes: (1) natural logarithm of integrated density; and (2) AOC. Mixed-effects linear regression models were used to assess the effect of contamination levels and exposure settings on both outcome measures. A standardized “proof-of-concept” exercise was set up to calibrate and formalize the process for human subjects. A total of 140 images were included in the analyses. This study is currently in press.

Keeping Fragile Feeders Safe: Utilizing Simulation Education to Enhance Patient Safety

Stacey Dalgleish, Helen Catena, Rachelle Wanotch, Dr. Alixe Howlett, Dr. Sharron Spicer, Dr. Beverly Collisson

Acquisition of safe infant feeding and swallowing care can be facilitated through guided practice using simulation scenarios (sims). The 'Safe Feeding Experiences for Fragile Infants' sim was co-created by a multi-specialist team comprised of Speech Language Pathologists, a KidSIM Nurse Educator, and a Neonatal Nurse Practitioner, with the goal of enhancing patient safety during feeding interactions to reduce long-term adversity associated with unsupported feeding and swallowing development. Speech Language Pathologists employed at a tertiary care level hospital participated in the 'Safe Feeding Experiences for Fragile Infants' sims (23 sessions in 2021). Preliminary data analyses suggests increased Speech Language Pathologist knowledge, skills, proficiency, and self-confidence after participating in simulation. The goal of the KidSIM Program is to provide similar opportunities to other allied health professionals, such as Occupational Therapists, Physiotherapists, and continue to include Speech Language Pathologists.

Improving Cardiac Arrest Outcomes with Resuscitation Research (iCORE): Exploring the Role of Data-Informed Debriefing, Digital Charting, and Situational Awareness

Dr. Adam Cheng, Dr. Elaine Gilfoyle, Dr. Vincent Grant, Dr. Jeffrey Lin, Jennifer Davidson

Debriefing has been shown to improved provider performance, while CPR data-informed debriefings have been associated with a near-doubling of the survival rate from cardiac arrest in one single-center study. Unfortunately, CPR data is rarely used during debriefing at most institutions, causing providers to consistently overestimate the quality of CPR delivered during care. Part of the issue is lack of reliable data. Paper charting of resuscitation events is highly inaccurate, thus leading to unreliable data (that serve as stimulus for discussion during debriefing) for key variables known to influence survival from cardiac arrest (eg. time to epinephrine administration, defibrillation, and/or initiation of CPR). Recently, digital charting in the form of a handheld tablet device offers a novel alternative to paper charting during resuscitation. Furthermore, new CPR feedback defibrillators collect quantitative CPR data that can be used during debriefing. The combination of quantitative data from a digital chart and the CPR feedback defibrillator has the potential to enhance the quality and impact of debriefings after cardiac arrest. In this study, we will assess the impact of using quantitative data collected from a digital chart and CPR defibrillator during post-event debriefings. This study is funded by the Alberta Children's Hospital Foundation.

Accuracy of Visual Assessment in Resuscitative Ventilation: Does Point of View Make a Difference?

Dr. Gloria Yoo, Dr. Jeffrey Lin, Dr. Adam Cheng

Given that pediatric cardiopulmonary arrest is more commonly associated with respiratory disease, adequate ventilation and oxygenation during resuscitative ventilation is a critical component of CPR and provides an opportunity to improve patient outcomes. Both hypo- and hyperventilation have been shown to have deleterious effects. Current methods of assessing resuscitative ventilation rely on visual assessment, oxygen saturation (SpO2), end tidal CO2 (EtCO2), and lung auscultation. During resuscitation, the team leader needs to ensure effective and adequate resuscitation overall, which includes accurate quality of ventilation according to the most recent American Heart Association (AHA) guidelines. In order to do this, the team leader relies primarily on visual assessment of ventilation quality which at a minimum is ensuring appropriate RR based on various clinical contexts (ie. ventilation with pulse, ventilation without pulse, ventilation with advanced airway). As one of the primary methods of determining adequate resuscitative ventilation is through visual assessment, our team sought out to determine the proportion of time, within a 6-minute simulated pediatric resuscitation recording, that health care providers accurately identify ventilation rates in compliance with the 2020 AHA guidelines. This will be a cross-sectional observational study consisting of an online questionnaire and 8 simulated scenarios based on two cases with varying ventilation quality from different viewpoints relative to the patient. Participants will rate the quality of ventilation in each of these simulated scenarios. It is expected that visual assessment will prove not to be a very effective way of assessing ventilation quality in a resuscitation setting.

The KidSIM MODEL (Maintenance of Debriefing Skills for Enhanced Learning Program: A Pilot Project

Jenny Chatfield, Dr. Adam Cheng, Dr. Vince Grant, Dr. Jeffrey Lin

Simulation based medical education (SBME) has become a well-established and integral component of various specialty and subspecialty training programs across North America. Recent studies demonstrate that lessons learnt via SBME positively impact learners' knowledge and skills, translate to real changes in their daily practice and ultimately improve patient outcomes. Furthermore, where positive patient outcomes are associated with reductions in complications, the cost saving gained by avoidance of the complications can be shown to pay for the SBME program several times over. The MODEL program will serve as an important faculty development resource for simulation programs to help ensure debriefing during simulation-based education is delivered at a consistently high standard across educators and curricula. Showing the effectiveness of the MODEL program, we will provide the international simulation community with an innovative program model for faculty development, which can be utilized to enhance debriefing skills, and have a positive impact on learner's knowledge, skills and behaviors.

Measuring the Cognitive Load of Expert and Novice Facilitators During the Debriefing Phase of a Clinical Simulation.

Dr. Jolene Haws, Dr. Vincent Grant, Dr. Alejandra Boscan, Dr. Jeffrey Lin, Dr. Adam Cheng.

Facilitating a simulation debrief is a complex, dynamic skill that places significant demand on facilitators' working memory. Cognitive load theory proposes that our working memories have a finite ability to process information. When the cognitive load of the task is high our working memory may be overwhelmed, and as a result, performance on the task suffers. The objective of the study is to measure the cognitive load of facilitators during the debriefing phase of a clinical simulation. We aim to identify whether cognitive load differs between novice and expert facilitators, and between different key events during the debriefing process. We will subsequently create faculty development tools to reduce the cognitive load of facilitators and ultimately improve the quality of education delivered to learners in simulation debriefing. This project is funded by an Office of Health and Medical Education Scholarship and Innovation Grant.

Every Minute Counts: Uncovering and Mitigating Delays in Maternal Cardiac Arrest First Response

Dr. Fatemah Qasem, Dr. Jeffery Lin, Mirette Dube, Dr. Christopher Dyte, Dr. Adam Cheng

Maternal cardiac arrest is under reported and continues to occur at a rate of 1:20,000 pregnancies. During these critical events aggressive maneuvers and multidisciplinary team efforts are required because of the anatomical and physiological changes associated with pregnancy, in addition to taking care of two patients. Advanced cardiac life support (ACLS) must be rapidly administered. The primary goal of this study is to characterize the quality of actions by first responders during simulated in-hospital maternal medical emergencies. Secondary goal is to determine the systems issues that contribute to a delayed response and initiation of ACLS. Specific objectives are: (1) To examine critical delays by measuring the median duration of the interval between when a resuscitation maneuver was indicated and when it was initiated by first responders; (2) To describe the type and frequency of resuscitation errors identified as deviations from AHA guidelines during obstetric cardiac arrest. By addressing this gap in the literature, we hope to highlight areas of future education and/or innovation aimed at improving performance during maternal cardiac arrest care; 3.) Uncover systems issues reported that contribute to a delay in performing ACLS and/or reduced quality and safety of care.

Who is the Leader? What are the observed leadership characteristics of a CPR Coach and Team Leader during a Cardiac Arrest Resuscitation?

Dr. Tyson Savage, Dr. Genevieve Gravel, Dr. Adam Cheng, Dr. Jeffrey Lin, Jennifer Davidson

Previous work has demonstrated that the addition of a CPR Coach to simulated pediatric cardiac arrest team enhances CPR metrics associated with improved survival outcomes. This study aims to better describe what leadership and crisis resource management qualities are demonstrated by the CPR Coach in comparison to the Team Leader. This will be done through use of the Behavioral Assessment Tool, a previously validated tool to assess crisis resource management skills and leadership performance. Our findings will provide important insight on how to optimize the integration of the CPR Coach role into the resuscitation team structure.

In-situ Simulation Guidelines

Dr. Rob Carey, Dr. Aaron Calhoun, Dr. Jeffrey Lin

Working with an international team to develop in-situ simulation guidelines through systematic review and an expert panel. These guidelines will provide important insight on how to optimize the integration of the CPR Coach role into the resuscitation team structure.

Virtual and Augmented Reality for Intubation Training As a Lifesaving Measure

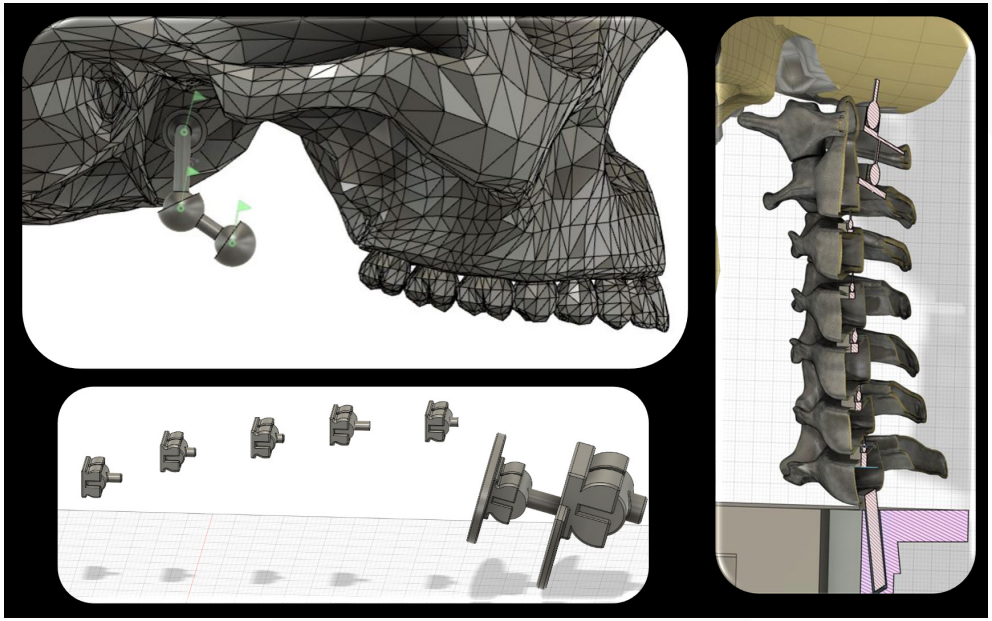
Dr. Omar Damji, Dr. Vincent Grant, Dr. Christian Jacob, Dr. Pina Colarusso

Medical training environments have been forced to change in light of work-hour regulations in residency programs, greatly impacting trainees ability to gain proficiency in procedural skills. Confidence, training environments, and direct comparability of a training unit to clinical practice are key facets needed for proficiency in procedural skill acquisition. Intubation is a critical skill in emergency medicine requiring competency. Simulator based task training has provided a safe and ethically appropriate method of skill acquisition, but training opportunities remain limited. VITAL XR focused on creating the best simulated learning environment and platform for medical training. This work bridges a gap between real-world medical challenges and technologies like virtual and augmented reality that can extend the capabilities of critical care training scenarios. This hybrid platform is intended to maximize practice opportunities for medical staff by reinforcing techniques and learning with a safe, simulated, yet realistic approach. Flesh, muscle, and bone feel real because of 3D scanning, printing, and casting in life-like materials. Intubation is a difficult procedure, and the platform aims to set up training simulations with ultra-realistic physical and digital components using artificial intelligence trained by expert practitioners to achieve deeper learning. Real-time guidance and correction via audio visual aids as well as tactile feedback will provide results driven simulation and practice opportunities.

The Umbilical Vein Catheter Insertion Assessment Tool

Dr. Martin Perlsteyn

The Umbilical Vein Catheter Insertion Assessment Tool project is looking to validate a novel checklist to assess for learner competency in performing umbilical vein catheter insertion on a Laerdal umbi mannequin prior to it being done on a real neonate.



PUBLICATIONS

1. Lin Y, Cheng A, Pirie J, Davidson J, Levy A, Matava C, Aubin CE, Robert E, Buyck M Hecker K, Gravel G, Chang T for the INSPIRE AGMP Investigators. Quantifying simulated contamination deposition on healthcare providers using image analysis. Simulation in Healthcare. Accepted and In Press.
2. Wilke R, Roze des Ordons A, Cheng A, Lin Y. Exploring facilitator gaze patterns during difficult debriefing through eye-tracking analysis: A Pilot Study. International Journal of Healthcare Simulation – Advances in Theory and Practice. Accepted for Publication. In Press.
3. Atkins D, Sasson C, Hsu A, Aziz K, Becker LB, Berg RA, Bhanji F, Bradley SM, Brooks SC, Chan M, Chan PS, Cheng A et al. 2022 Interim Guidance to Healthcare Providers for Basic and Advanced Cardiac Life Support in Adults, Children, and Neonates with Suspected or Confirmed COVID-19: From the Emergency Cardiovascular Care Committee and Get With the Guidelines – Resuscitation Adult and Pediatric Task Forces of the American Heart Association in Collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, The Society of Critical Care Anesthesiologists, and the American Society of Anesthesiologists. Circulation: Cardiovascular Quality and Outcomes. Published online, January 24, 2022.
4. Santorino D, Dube M, Moses C, Bajunirwe F, Kyakwera C, Robinson T, Najjuma J, Labesiga L, Namata T, Brenner J, Singhal N, Twine M, Wishart I, Cheng A. Peer Learning and Mentorship for Neonatal Management Skills: A Cluster Randomized Trial. Accepted and In Press, Pediatrics.
5. Wyckoff M, Singletary E, Soar J, Olasveengen T, Greif R, Liley H, Zideman D, Bhanji F, Andersen L, Avis S, Aziz K, Bendall J, Berry D, Cheng A et al. 2021 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Resuscitation. 2021. 169:229-311.
6. Wyckoff M, Singletary E, Soar J, Olasveengen T, Greif R, Liley H, Zideman D, Bhanji F, Andersen L, Avis S, Aziz K, Bendall J, Berry D, Cheng A et al. 2021 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Circulation. 2021; Published online November 11.
7. Jones K, Jani K, Jones G, Nye M, Duff JP, Cheng A, Lin Y, Kessler DO, for the INSPIRE CPR Coach Investigators. Using Natural Language Processing to Compare Task-specific Verbal Cues in Coached versus non-Coached Cardiac Arrest Teams during Simulated Pediatric Resusciation. Academic Emergency Medicine Education and Training. 2021;5:e10707.
8. Hsu A, Sasson C, Kudenchuk P, Atkins D, Aziz K, Becker L, Berg RA, Bhanji F, Bradley SM, Brooks SC, Chan M, Chan PS, Cheng A, Clemency B et al, from the Emergency Cardiovascular Care Committee and Get With the Guidelines-Resuscitation Adult and Pediatric Task Forces of the American Heart Association in collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, American College of Emergency Physicians, The Society for Critical Care Anesthesiologists, and American Society of Anesthesiologists. 2021 Interim Guidance to Healthcare Providers for Basic and Advanced Cardiac Life Support in Adults, Children, and Neonates with Suspected or Confirmed COVID-19. Circulation: Cardiovascular Quality and Outcomes. 2021; 14:e008396
9. Mullan P, Zinns L, Cheng A. Debriefing the Debriefings: Caring for our patients and caring for ourselves. Hospital Pediatrics. 2021; 11(12):e412-414.
10. Calhoun A, Gross I, Mallory L, Shepard L, Adler M, Maa T, Auerbach M, Cheng A, Kessler D, Whitfill T, Duff J. From Concept to Publication: Effectiveness of the INSPIRE Project Development Process at Generating Simulation Scholarship. Simulation in Healthcare. Published online December 27, 2021.
11. Mallory L, Doughty C, Davis K, Cheng A, Calhoun A, Auerbach M, Duff J, Kessler D. A Decade Later: Progress and next steps for pediatric simulation research. Simulation in Healthcare. Published online Sept 24, 2021.
12. Corazza F, Arpone M, Snijders D, Cheng A, Stritoni V, Ingrassia PL, De Luca M, Tortorolo L, Frigo AC, Da Dalt L, Bressan S. PediAppRREST: effectiveness of an interactive cognitive support tablet app in reducing deviations from guidelines in the management of paediatric cardiac arrest: protocol for a simulation-based randomised controlled trial. BMJ Open. 2021; 11:e047208.
13. Roze des Ordons A, Eppich W, Lockyer J, Wilkie R, Grant V, Cheng A. Guiding, Intermediating, Facilitating, and Teaching (GIFT): A conceptual

framework for simulation educator roles in healthcare debriefing. Simulation in Healthcare. Published online Nov 29, 2021.
14. Roze des Ordons A, Cheng A, Lockyer J, Wilkie R, Grant V, Eppich W. Approaches to interpersonal conflict in simulation debriefing: A Qualitative Study. Medical Education. 2021; 55:1284-1296.
15. Dubé M, Posner G, Stone K, White M, Kaba A, Bajaj K, Cheng A, Grant V, Huang S, Reid J. Building impactful systems-focused simulations: integrating change and project management frameworks into the pre-work phase. Adv Simul 2021 Apr;6:16.
16. Reece S, Johnson M, Simard K, Mundell A, Terpstra N, Cronin T, Dubé M, Kaba A, Grant V. Use of Virtually Facilitated Simulation to Improve COVID-19 Preparedness in Rural and Remote Canada. Clin Simul Nurs 2021 Feb;57:3-13.

ABSTRACTS

1. Corazza F, Arpone M, Tardini G, Stritoni V, Mormando G, Graziano A, Fiorese E, Portalone S, De Luca M, Binotti M, Tortorolo L, Salvadei S, Nucci A, Monzani A, Genoni G, Bazo M, Cheng A, Frigo AC, Da Dalt L, Bressan S. The impact of the use of the novel app PediAppRREST on the adherence to international guidelines during the management of pediatric cardiac arrest: a simulation-based randomized controlled trial. Pediatric Academic Societies Conference. April 2022.
2. Lin Y, Cheng A, Pirie J, Davidson J, Levy A, Matava C, Aubin CE, Robert E, Buyck M Hecker K, Gravel G, Chang T for the INSPIRE AGMP Investigators. Quantifying simulated droplet and aerosol contamination using image analysis. International Pediatric Simulation Symposium and Workshops. Virtual. Sept 25, 2021.
3. Corazza F, Fiorese E, Arpone M, Tardini G, Cheng A, Frigo AC, Da Dalt L, Bressan S. Cognitive aids for in-hospital cardiac arrest simulated scenarios: a systematic review and meta-analysis. International Pediatric Simulation Symposium and Workshops. Virtual. Sept 25, 2021

AWARDS

1. Grant, V. Preceptor of the Year for Non-Clinical Contributions, Section of Pediatric Emergency Medicine, University of Calgary - 2021.
2. Grant, V. Killam McCaig Teaching Award Nominee – Cumming School of Medicine, University of Calgary - 2021.

PRESENTATIONS

1. Advanced Simulation Skills for Educators and Teachers, ASSET:CO-DEBRIEFING Course – Calgary, AB – March 2022.
2. Advanced Simulation Skills for Educators and Teachers, ASSET:ADVANCED Course – Calgary, AB – February 2022.
3. Advanced Simulation Skills for Educators and Teachers, ASSET:FOUNDATIONS Course – Calgary, AB – January 2022.
4. Making Some Cognitive Space When Debriefing - SESAM Winter School, Society for Simulation in Europe, On-Line Conference - January 2022. V. Grant.
5. Advanced Simulation Skills for Educators and Teachers, ASSET:FOUNDATIONS Course – McGill University – March 2022.
6. Simulation-based Strategies to Improve Outcomes from Cardiac Arrest. Pediatric Emergency Medicine National Faculty Development Program - Grand Rounds. December 8, 2021.
7. Breaking the Digital Barrier: Virtual Debriefing in the Era of COVID-19 (Keynote). Saudi Society for Simulation Annual Conference. December 6, 2021.
8. Difficult Debriefing Situations - Saudi Society of Simulation Scientific Assembly 21, On-Line Conference - December 2021. V. Grant.
9. Advanced Simulation Skills for Educators and Teachers, ASSET:ADVANCED Course – Calgary, AB – December 2021.
10. Learner-Centered Debriefing - ASPIH conference (Virtual conference) – November 9, 2021. V. Grant.
11. New Strategies in CPR Education for Healthcare Professionals (Plenary). 31st Argentine Congress of Intensive Care. November 16, 2021.
12. Writing for Publication: Structure, Story and Content (Workshop). Society for Simulation in Healthcare Virtual Scholars Webinar Series. November 17, 2021.
13. Strategies for Learner Centered Debriefing (Workshop). Association for Standardized Patients in Healthcare (ASPiH) Annual Conference. November 9, 2021.
14. Advanced Simulation Skills for Educators and Teachers, ASSET:PEER COACHING Course – Calgary, AB – November 2021.
15. Taming the Debriefing: A Journey of Discovery, Growth and Maturity (Keynote). NYSIM Hot Topics Symposium. October 22, 2021.
16. Peer Coaching for Debriefing (Workshop). NYSIM Hot Topics Symposium. October 22, 2021.
17. Meet the Experts Sessions - "Interprofessional Simulation & Distance Simulation" - Université de Laval (Canada) / Université de Bordeaux (France) Simulation Fellowship Programs – October 6, 2021. V. Grant.
18. Advanced Simulation Skills for Educators and Teachers, ASSET:FOUNDATIONS Course – Calgary, AB – October 2021.
19. Advanced Simulation Skills for Educators and Teachers, ASSET:CO-DEBRIEFING Course – Calgary, AB – October 2021,
20. Taming the Debriefing: A Journey of Discovery, Growth and Maturity (Plenary). eSIM Provincial Grand Rounds. September 24, 2021.
21. Breaking Down Digital Barriers: The Transformation of Telesimulation (Keynote). International Telesimulation in Healthcare Conference. September 23, 2021.
22. Writing for Publication: Structure, Story, Content (Plenary / Workshop). INSPIRE Network Annual Conference, September 10, 2021.
23. Driving Change in Healthcare: Simulation and Debriefing as Vehicles for Team Reflexivity (Keynote). University of Iceland Biomedical and Health Sciences Conference, June 3, 2021.
24. Moving the Needle: Maximizing the Impact of Simulation-based Research. New York Simulation Collaborative Grand Rounds. May 7, 2021.
25. Writing for Publication: Structure, Story, Content (Workshop). New York Simulation Collaborative Simulation Workshop. May 7, 2021.
26. Advanced Simulation Skills for Educators and Teachers, ASSET:FOUNDATIONS Course – Calgary, AB – May 2021.
27. Breaking the Barriers: Virtual Faculty Development (Keynote). SIMULUS 6 Conference of PediStars on Healthcare Simulation. April 24, 2021.
28. Taming the Debriefing: A Journey of Discovery, Growth and Maturity. McMaster University Simulation Grand Rounds. April 21, 2021.

kidSIM™

www.KidSIM.ca

Alberta Health Services

Alberta Children's Hospital Foundation

UNIVERSITY OF CALGARY

kidSIM aspire

Pediatric Simulation Research
Alberta Children's Hospital / University of Calgary