

# ANNUAL REPORT 2022



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EMERGENCY MEDICINE  
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**SREMI** focuses on conditions where emergency practitioners play a key role in patient care



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# Welcome from the Director

As 2022 draws to a close, I have been reflecting on both the high and low points of the past year. Regarding the high points, there is a lot to be proud of. Our SREMI faculty have continued to produce impactful work informing the way excellent care is delivered in the emergency department (ED). For example, Dr. Don Melady published the first textbook on geriatric emergency medicine and continues to share his knowledge of best practices on the international level. Dr. Shelley McLeod completed the evaluation of the Province of Ontario's virtual urgent care program, and recently received a large grant to conduct a massive project related to ED workload called POWER 3. Results of this project will inform the way resources are allocated to emergency departments around the province.

Dr. Catherine Varner received a large gift from The Harding Family Foundation to implement a new program supporting women experiencing problems during pregnancy. Dr. Keerat Grewal's work on the risk of intracranial hemorrhage in older patients taking oral anticoagulants resulted in her being awarded the 2022 Faculty Award for Best Abstract, Presentation, and Manuscript from the Society for Academic Emergency Medicine. Finally, we have made great progress in fundraising for our new Chair in Emergency Medicine Addiction and Mental Health with almost 20% of the endowment being pledged. A special thank you to Judy Wells for organizing and hosting events in support of this new Chair.

Sadly, the low point of the year came when we learned of the death of our dear friend and colleague Dr. Paul Hannam. As Chief of the emergency department at North York General Hospital, Paul held a key role in our organization, one which he embraced. A well-respected emergency physician and leader, Paul cared deeply about his department and the people it serves.

Paul understood the importance of advancing our discipline through academic excellence, and enthusiastically supported SREMI's partnership. As soon as he arrived at NYGH, he undertook the building of a research program within the ED. Paul was fortunate to find a department and hospital that was willing to embrace this vision, and to hire Dr. Rohit Mohindra as his first clinician investigator. Over the past two and a half years, Paul advocated strongly for, and promoted Rohit's work and the new program. The last time we spoke in person at CAEP 2022, we talked about the joy we shared watching Rohit's program start to grow and discussed future plans.

The SREMI collaboration with NYGH extends beyond research in the ED. NYGH is also the home hospital of EM Cases. Under Dr. Anton Helman's direction, EM Cases has developed a strong leadership position as one of the largest and most respected medical education sites. Paul was a strong supporter of Anton's work.

Finally, Paul played a key role in SREMI's annual Emergency Department Administration Conference. His keen awareness of the challenges facing emergency care providers, and his close relationship with nursing leadership at NYGH helped him inform the planning and execution of our last three conferences (including 2022), ensuring that the important issues facing all emergency care providers in the province were given room for discussion.

With a personal friendship that long predated Paul's involvement at SREMI, I had great faith that Paul was the right partner for this difficult challenge, that he was in it for the long haul, and that he (we) would succeed. He was so impactful in his work during these last few turbulent years, surely this must be one of the signature accomplishments of his all too brief career. We are very grateful for the short time we had with him, and we look forward to continuing to develop and evolve our interhospital relationship carrying on the work that he started.

Heather Reisman and Gerry Schwartz have been committed to improving ED care for decades. As the principal benefactors of our institute, they lead a growing community of donors who share their vision of achieving this goal through ED-focused research and education. We are extremely grateful to Heather and Gerry for their passionate support, and to all our donors and supporters without whom the incredible work you read about in this report would not be possible.

A stylized, handwritten signature in dark ink, consisting of a series of loops and a long horizontal stroke at the end.

Dr. Bjorg Borgundvaag PhD, MD, CCFP(EM)  
Director, Schwartz/Reisman Emergency Medicine Institute



# Collaboration





# Chair's Report to the Board

I am delighted to welcome you to the 8th Annual Schwartz/Reisman Emergency Medicine Institute (SREMI) International Advisory Board (IAB) Meeting and to this 2022 SREMI Report. It highlights selected SREMI faculty accomplishments and contributions made to improve emergency care over the past year.

The COVID-19 pandemic has continued with wave after wave of new variants causing as yet unquantified morbidity and mortality beyond those directly affected by the virus. Vaccination programs and other public health policies have mitigated some of the potential impact. Yet, emergency departments across the country are increasingly unable to provide the care that patients deserve with waits often surpassing 12 hours. There are many examples in the media of emergency patients deteriorating and dying due to delays in assessment and care. And care is often provided in a less than ideal (or

even "normal") emergency environment. The consequence for all emergency care providers has been a level of moral distress never seen before, causing many to step away from providing direct care or leaving emergency care entirely.

Despite this exceptional stress on the system, and in this difficult environment, SREMI faculty and leadership have continued to grow impactful research and educational programs. Remarkably, SREMI researchers and educators have shown the world how an academic program can both grow and pivot to respond to current needs.

## Leadership

Director Dr. Bjug Borgundvaag, Deputy Director Dr. Catherine Varner, and Research Director Dr. Shelley McLeod continue to be inspiring leaders during these challenging times. They have managed and supported all the SREMI faculty and staff and catalyzed their growth, while supporting the personal challenges that all in emergency care are feeling. Dr. McLeod recently completed the Ontario Health contract to evaluate Virtual Urgent Care in Ontario during the pandemic and has been awarded another contract by the Ministry of Health to lead the POWER 3 study on emergency physician workload and flow. Dr. Varner was the recipient of a large donation to implement the Virtual Wraparound Care, a new program to support patients as they experience symptoms of pregnancy loss.

## North York General Hospital and Sinai Health Collaboration

Under the leadership of Dr. Rohit Mohindra, the NYGH academic program expanded exponentially. The Board specifically mentioned that this year is an exceptional milestone demonstrating that emergency research at NYGH is now both integrated and contributing to SREMI output. Dr. Mohindra has shown how a community hospital can be an academic leader. Dr. Mohindra has built an infrastructure to support research and as part of that infrastructure is mentoring medical students and residents in research skills. Dr. Mohindra continues to lead the Training Committee in the Canadian Resuscitation Outcomes Consortium supporting graduate students and young investigators in resuscitation science from across the country.

Dr. Anton Helman's FOAMed program of EM Cases continues to be the most downloaded emergency medicine podcast in Canada, with now over 17 million downloads. Dr. Helman launched a successful first EM Cases Summit in November 2021 which attracted more than 500 emergency medicine providers from all around the world (including 100 from resource-challenged countries). The Summit's success has fueled a second conference planned for February 2023. During the pandemic, Dr. Helman pivoted Cases topics to meet the needs of providers as the epidemiology changed, vaccination programs evolved and anti-viral medications became available.

NYGH is a shining example of how a large community hospital can contribute and lead academic activities in emergency care.

## SREMI Research Activities

The research output has once again been exceptional. SREMI faculty published 26 peer-reviewed publications! This impressive record included and influenced the areas of geriatric emergency medicine, general emergency medicine, cardiovascular health, COVID-19, ED administration, mild traumatic brain injury, early pregnancy, point-of-care ultrasound and the evolving impact of virtual care. Faculty who received academic research awards included Dr. Jacques Lee, Dr. Catherine Varner, Dr. Keerat Grewal, Dr. Rohit Mohindra and resident Dr. Arjun Sithamparapillai (supervised by Dr. Shelley McLeod and Dr. Keerat Grewal), demonstrating the broad strength and external recognition of the team. SREMI continues to grow its academic profile and many of the faculty were invited speakers and track chairs at CAEP 2022. The report covers more detail of the work and impact of each faculty member.

## SREMI Education and Support Programs

EM Cases (<https://emergencymedicinecases.com/>) by Dr. Anton Helman is disseminated with SREMI support and is very highly valued in the emergency medicine community. Anton has surpassed 300 podcasts over 12 years. This year has been one of the busiest as the need for COVID-19 related podcasts continues. The podcasts support both physicians and patients as the recognised world leader in educational emergency care podcasts. The new EM Cases Summit conference was an additional exceptional success.

Dr. Don Melady continues to lead geriatric emergency education, knowledge translation and system change projects across North America and beyond. In October, he put on a successful program at the European Society of Emergency Medicine annual conference in Berlin. This is the 8th year of the Geriatric EM Fellowship that has produced leaders in geriatric emergency care now practicing in many other centres. Dr. Melady's international influence includes working with the US based Geriatric ED Collaborative <https://gedcollaborative.com> and as a member on the Board of Governors for the Geriatric ED Accreditation program <https://www.acep.org/geda/>. He is also present on the international stage with the International Federation of Emergency Medicine, organizing a day-long pre-conference course and several tracks at ICEM in Melbourne, Australia and he continues as the chair of IFEM's Clinical Practice Committee. His book "Creating a Geriatric ED: A Practical Guide" has become the international go-to text for improving emergency care for older patients.

The RBC Pathway to Peers continues to be a highly successful program in the Mount Sinai emergency department. Peer support workers are available seven days a week to assist young adults seeking care for mental health or substance use. It is highly valued by patients and staff and since inception has supported more than 4,000 young adults, by providing personalized real time support for care in an often intimidating environment. The RBC P2P team have submitted abstracts to several local, provincial and national conferences and have delivered multiple presentations and workshops to date.

These educational efforts are novel and impactful and demonstrate the power and influence of key SREMI leaders.

## Reflections from the Chair

It is a true honor to serve on the International Advisory Board of SREMI. The previous chairs, Dr. Brian Rowe and Dr. Chris Carpenter, blazed a path to guide the growth of SREMI through insights brought by the broad perspectives and experience of board members.

The board is grieving the sudden tragic death of Paul Hannam. As the Head of the NYGH emergency department, he shared and worked tirelessly toward a vision of an academic centre. He achieved and contributed so much and will be greatly missed.

Emergency care plays a central role in our health care systems and SREMI is an important contributor and catalyst to ensure that patient care is steadily improving and that the science of emergency care ranks among the best that medicine has to offer.

Despite increasing stress on our health system, we have seen our emergency colleagues...physicians, nurses and allied workers...meet incredible challenges. Research must help us improve individual patient clinical care, but also improve the environment and structure of the systems that supports care and care providers. As we try to live up to the model of a Learning Health System, SREMI can be proud that it is a local, national and international influencer and leader through integrated research and education.

Research and education are not about the number of publications and courses. It is about the impact. Please enjoy reading the stories in this report...their message of impact is exceptionally clear.

Respectfully submitted,



Professor, UBC Department of Emergency Medicine  
Executive Medical Director, BC Emergency Medicine Network  
Co-Director, BC Resuscitation Research Collaborative

*I acknowledge and am grateful to be able to live, work and play on the traditional, ancestral and unceded territory of the Coast Salish peoples, including the xʷməθkʷəy̓əm (Musqueam), Səlilwətaʔ (Tsleil-Watuth), and Skwxwú7mesh (Squamish) Nations.*

# International Advisory Board

The IAB acts in an advisory capacity to the Director of SREMI to:

- Generally engage interdisciplinary thinking, stimulate dialogue, provide advice on shaping the research agenda and catalyse research, education, consulting, advocacy and public policy initiatives.
- Provide strategic advice on the activities and direction of the SREMI with the goal of making the SREMI the international leader in emergency medicine research and related teaching.

Service as an IAB member is voluntary. The Board reflects a diversity of interdisciplinary thinking and expertise in emergency medicine and related fields across the international health research community and society at large.



**Dr. Jim Christenson** is a recently retired emergency physician at St. Paul's Hospital in Vancouver. He is a Professor and past Head of the Academic Department of Emergency Medicine in the Faculty of Medicine at the University of British Columbia and has a wide range of experience in emergency care clinical research. He currently is a Co-Principal Investigator for the Canadian Resuscitation Outcomes Consortium which aims to improve care through early interventions in cardiac arrest. He is also the Principal Investigator of a neuro-protective intervention given by paramedics to patients with severe stroke. Dr. Christenson leads the BC Emergency Medicine Network to facilitate knowledge sharing and clinical support for all emergency practitioners in British Columbia. A substudy of the BCEMN, the Kwiis Hen Niip project, is funded by CIHR to improve emergency care in remote Nuu-chah-nulth communities on the west coast of Vancouver Island.

**Dr. Matthew Cooke** is a recently retired emergency physician and Professor of Clinical Systems Design at Warwick Medical School. He is now an advisor to a range of NHS bodies and digital healthcare companies. Dr. Cooke was previously the NHS National Clinical Director for Emergency Care in England and a WHO advisor in emergency care. He was also Deputy Medical Director, and then Director of Strategy for a large NHS Hospital. He was in the Health Service Journal top 100 most influential clinical leaders in the NHS in 2013 and 2014 and has previously been in the Times top 100 UK doctors. He has extensive experience in supporting improvement and change in emergency care in the UK and internationally and has undertaken extensive research in emergency care systems, as well as clinical trials.



**Dr. Danielle Martin** is the Chair of the Department of Family and Community Medicine (DFCM), University of Toronto. She is an active family physician whose clinical work has ranged from comprehensive family medicine in rural and remote communities to maternity care. She is a respected leader in Canadian medicine and well-recognized media spokesperson, regularly named on lists such as Medical Post's Power List. Dr. Martin spent eight years as a senior hospital executive, most recently as Executive Vice President and Lead Medical Executive at Women's College Hospital (WCH), where she was also medical lead of the hospital's COVID-19 pandemic response. The recipient of many awards and accolades, in 2019 Dr. Martin became the youngest physician ever to receive the F.N.G. Starr Award, the highest honour available to Canadian Medical Association members.



**Dr. Suzanne Mason** is an emergency physician and professor of emergency medicine at the University of Sheffield in the UK. Her main research interests include evaluating complex interventions in emergency and urgent care. Dr. Mason is particularly interested in the evaluation of new roles and alternative pathways of care. Recent studies include evaluating junior doctor confidence and competence in carrying out their role in emergency medicine (The EDiT study: <http://www.shef.ac.uk/scharr/sections/hsr/emergency/edit.html>), evaluating the use of a falls pathway by paramedics attending older people who have fallen (SAFER 2 Trial), and the AHEAD Study: Managing anticoagulated patients who suffer head injury, using routine data to evaluate and model the Emergency and Urgent care System (<https://www.connectedhealthcities.org/research-projects/evaluation-project/>).



**Dr. John McLaughlin** is a Professor in the Dalla Lana School of Public Health at the University of Toronto, and Executive Director of the Canadian Partnership for Tomorrow's Health (CanPath), which is Canada's largest health study with over 300,000 participants being followed in a prospective cohort study. He recently retired as the inaugural Chief Science Officer at Public Health Ontario, and he previously held several leadership roles across Ontario's research and health systems. As an epidemiologist, he leads research that integrates diverse disciplines in studies of environmental, biological and societal determinants of health, which has led to more than 330 publications. As a professor and health system executive, he steers research and services to have high impact by focusing on advancing disease prevention, addressing disparities and improving health system performance.

**Dr. Simon Mooijaart** is a physician in internal medicine, with a focus on geriatrics at the Leiden University Medical Center in the Netherlands. His research focuses on evidence-based medicine for older patients with the aim to improve the quality of healthcare for older patients. In 2011, Dr. Mooijaart founded the national Institute for Evidence-based Medicine in Old Age | IEMO ([www.iemo.nl](http://www.iemo.nl)), a collaboration of Dutch University Medical Centers, other knowledge institutions and industry. In 2012, Dr. Mooijaart initiated the Acutely Presenting Older Patient study ([www.apop.eu](http://www.apop.eu)), a prospectively collected cohort of over 2,700 older patients visiting the emergency department to identify patients at highest risk of poor outcomes and target interventions to improve outcomes.



**Dr. Peter Selby** is a Senior Medical Consultant and Clinician Scientist at the Centre for Addiction and Mental Health (CAMH). He is the Giblon Professor, Interim Vice Chair of Research, and Director of the Mental Health and Addictions Division in the Department of Family and Community Medicine, University of Toronto. His research focuses on innovative methods to understand and treat addictive behaviours and their comorbidities. He uses technology to combine clinical medicine and public health methods to scale up and test health interventions. His cohort of >250,000 treated smokers in Ontario is an example of this. His most recent programme of research utilizes a Learning Health Systems approach to investigate how technology equitable collaborative care can enhance the delivery of evidence-based interventions to the patient while providing a more satisfying experience of care for both patients and providers.

**Dr. Lynn Wilson** is the Vice Dean, Clinical and Faculty Affairs and Associate Vice Provost, Relations with Health Care Institutions. She is a Professor of Family and Community Medicine at the University of Toronto. Dr. Wilson served as Chair of the Department of Family and Community Medicine (2007 – 2015). As a member of the Physician Services Committee for the Ontario Ministry of Health and Long-term Care, she helped to lead primary care renewal in Ontario (2002-2007). Dr. Wilson was the co-director of BRIDGES, an Ontario Ministry of Health funded project to support the design, implementation and assessment of innovative models of care that promote integration in the healthcare system (2011- 2016). Dr. Wilson has practiced comprehensive family medicine for over 30 years. Her clinical interests have included substance use disorders, mental health, palliative care, primary care obstetrics, and care of the elderly.





# A Message from the Executive Liaison Committee

While the last year has been a challenging one for all in health care, for those in emergency services it's been especially difficult, and in many ways an unprecedented time of true crisis. Emergency departments everywhere are struggling with staff shortages (especially nursing), low morale, epidemic burnout, and severe flow challenges. SREMI has helped to answer this challenge through its leadership and expertise. Keep that theme in mind as you read the rest of this report – how relevant so much of the work being done is to a system in crisis. Research and advocacy have run the gamut from early pregnancy complications and loss to social isolation and loneliness in the elderly, but we'd like to call out in some detail the outstanding work in the evaluation of public policy in Ontario. Too often public policy is not evidence-based or evaluated in an independent and rigorous manner and almost never reported publicly. This leaves citizens unable to judge return on investment, government unaccountable and other jurisdictions unable to learn from our experience.

Building on the success of the eCTAS evaluation (led by Bjug and Shelley) and the growing reputation of SREMI, Shelley was asked to lead an important evaluation of a series of pilot programs of "virtual urgent care" – an evaluation that has helped to properly place this trendy but expensive option in context as of secondary value at a time of limited human resources. Shelley, and SREMI, have also received a \$750,000 government grant to conduct a time/motion study of factors impacting emergency physician productivity across multiple EDs, an eagerly anticipated project that will likely have significant impact on physician work life and ED wait times. The quality of work on these projects has been noticed and is leading to a cultural shift in Ontario's Ministry of Health around policy evaluation whose long-term impact can't be overstated!

Another highlight of the past year was Rohit's terrific progress growing the presence of his research program within the ED at NYGH. With 10 projects currently underway (three of which are currently shared with the Sinai site) his work has been increasingly noticed. This year he was invited to present his program of research (highlighting the SREMI relationship) to the research sub-committee of the NYGH Board of directors. His presentation was well received and has led to him becoming the "face of emergency medicine" at the hospital in selected advertising campaigns. Work is currently underway to develop a new SREMI focus of interest for his work which reflects a specific population of interest to the community served by the hospital.

The synergy between creation of new knowledge, knowledge translation, and advocacy results in recognition, respect, trust and thus to leadership and is an impact multiplier. SREMI is fulfilling its original vision and mission in a spectacular way.

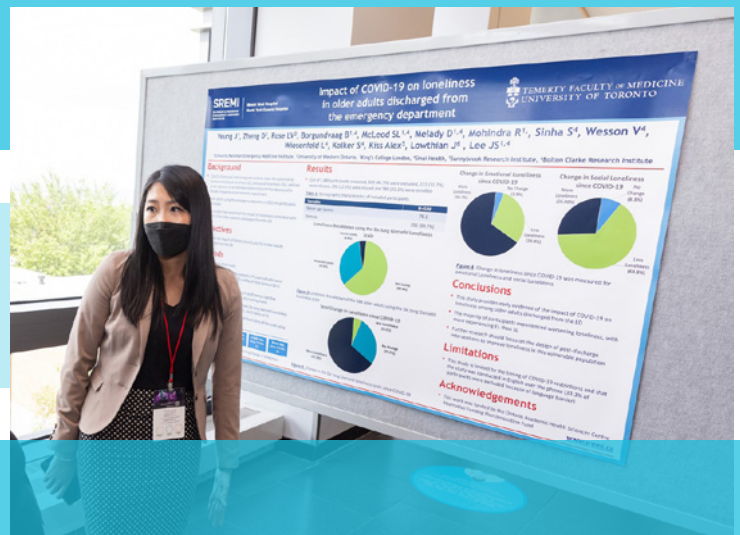
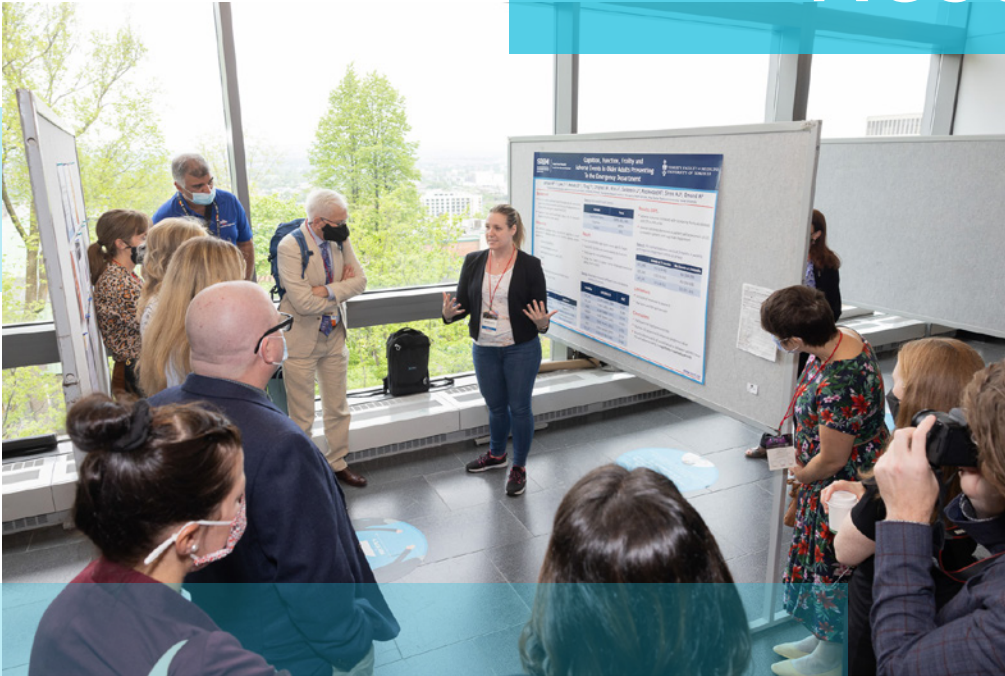
Sadly, this year also included the sudden, wholly unexpected and tragic loss of Paul Hannam, ED Director at North York and among many attributes, a partner who shared the SREMI vision. As we all grieve his loss, SREMI will also collaborate in multiple ways to uphold his values and honor his memory.

Respectfully submitted,

Howard Ovens MD, FCFP (EM)  
Mount Sinai Hospital

Kevin Katz MD, CM, MSc, FRCPC  
North York General Hospital

# Research







# Research Report

It has been a difficult year for SREMI faculty. COVID-19 continues to be disruptive, emergency departments (EDs) are facing significant strain, and we are grieving the unexpected and tragic loss of our friend and colleague, Dr. Paul Hannam. Despite these extraordinary challenges, this year has also shown our resilience and ability to step up, adapt, and be innovative. The academic achievements and productivity of our SREMI researchers and scholars remains impressive.

## Research Impact

With 26 peer-reviewed publications in high-impact journals like *Age and Ageing*, *JAMA Network Open*, and *Annals of Emergency Medicine*, SREMI scientists continue to be leaders in academic research excellence. Since November 2021, SREMI investigators have won 7 research awards, acknowledging the important contributions we are making towards emergency medicine on the national and international stage.

For his multicentered randomized trial on the use of ultrasound guided regional anesthesia for older patients with a hip fracture, SREMI Research Chair, Dr. Jacques Lee, won the Canadian Association of Emergency Physicians (CAEP) 2022 Grant Innes Research Award. Dr. Lee delivered the top plenary presentation at the CAEP 2022 conference, showcasing the very best of Canadian emergency medicine research this year. Dr. Lee found that point-of-care ultrasound guided regional anesthesia administered by emergency physicians resulted in safe, fast and effective pain management for older people with a hip fracture.

SREMI clinician scientist, Dr. Keerat Grewal won the Society for Academic Emergency Medicine 2022 Faculty Award for Best Abstract, Presentation, and Manuscript for her research publication in *CMAJ* on the risk of intracranial hemorrhage between direct oral anticoagulants in older patients seen in the ED with a head injury. Dr. Grewal's work on ED volumes and outcomes for appendicitis and ectopic pregnancy diagnoses during the COVID-19 pandemic was also selected as one of the CAEP 2022 top research posters. Finally, Dr. Grewal and I supervised Dr. Arjun Sithamparapillai, an emergency medicine resident, on a systematic review on intra-articular lidocaine versus intravenous sedation for closed reduction of acute anterior shoulder dislocation in the ED, which won the CAEP 2022 Top Resident Research Award.

Dr. Catherine Varner, SREMI Deputy Director and clinician scientist, won the CAEP 2022 Best Medical Education Innovation Award for the creation of a web-based education platform for patients experiencing symptoms of early pregnancy loss. This online platform aims to improve patient understanding of pregnancy loss and provides tools for symptom monitoring and psychological supports.

Over the past year, SREMI clinician scientist Dr. Rohit Mohindra continued to build the emergency medicine research program at North York General Hospital, while successfully leading and collaborating in multiple projects including the implementation of a point-of-care ultrasound image archiving system. Dr. Paul Hannam was the senior author on the resulting publication from this work which won the CAEP 2022 Emergency Ultrasound Committee Research Award.

Earlier this year I completed the provincial evaluation of Ontario's virtual urgent care pilot program. Dr. Howard Ovens was the executive sponsor of the evaluation. The report questioned if virtual care is a service emergency physicians and nurses should be providing in the context of severe emergency workforce shortages. This work has helped to inform provincial policy decisions on how best to structure virtual care services across the province.

SREMI continues to grow our academic profile locally, nationally and internationally. Many of our faculty were invited speakers and track chairs at CAEP 2022 and are vital members of international, national and provincial committees, working groups and panels.



## External Research Funding

Dr. Grewal received a grant from the CAEP emergency medicine advancement fund to explore current pathways to cancer care for patients diagnosed with cancer in the ED and examine facilitators and barriers to optimal cancer care for these patients. Dr. Grewal hopes to use the results of this study to lay the foundation towards standardizing referral pathways to specialized cancer care from the ED.

Dr. Varner also received a grant from the CAEP emergency medicine advancement fund to examine if there is an association between ED utilization within 20 weeks of pregnancy and risk of severe postpartum maternal and neonatal morbidity. Building on her exceptional research program in early pregnancy, Dr. Varner has received substantial donor funding to launch a new program called Virtual Wraparound Care, where specialized nurse practitioners will be available to support patients as they experience symptoms of pregnancy loss and ensure they have access to timely follow-up care.

Dr. Mohindra received funding from the ICES to evaluate impact of the NYGH virtual care follow-up program. The program seeks to build on the foundation of the in-person visit by standardizing early ED follow-up virtual care and improving care transitions.

Finally, I have received significant funding from the Ontario Ministry of Health to lead the POWER 3 study, which is a prospective multicentred study of predictors of workload of emergency physicians working in 14 EDs across the province. This work will include revising the funding formulas used across the province to determine the hours of physician coverage required to adequately manage ED patients.

I would like to thank our Director, Dr. Borgundvaag for his encouragement and leadership, SREMI faculty and staff for rising to the challenges and seizing the opportunities that come with change, and thank our generous benefactors, whose support helps us adapt, evolve, and thrive in these unprecedented times. It has been a hard year, but we will learn from it, and we will enter 2023 and the coming years with renewed commitment to our mission, and a greater awareness of the importance of our work.

Respectfully submitted,



Shelley McLeod, PhD, MSc, MSc, BSc(hons)  
Research Director, SREMI

## RBC Pathway to Peers



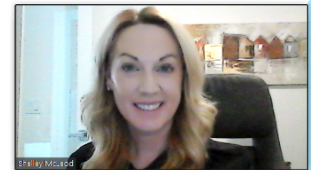
- A partnership between SREMI, Stella's Place, and the RBC Foundation
- Supports young people 16-29 accessing Mount Sinai's ED



## Virtual Urgent Care Pilot Program Provincial Evaluation

### Shelley McLeod, PhD, MSc

Research Director, Schwartz/Reisman Emergency Medicine Institute, Sinai Health  
Associate Professor, DFCM, University of Toronto  
✉ [shelley.mcleod@sinaihealth.ca](mailto:shelley.mcleod@sinaihealth.ca)



## REMARKS

Virtual Care the  
ON Experience  
Shelley McLeod



# Academic Achievements & Awards

Canadian Association of Emergency Physicians Honorary Lifetime Member Award. [Dr. Howard Owens](#)

International Federation of Emergency Medicine, Clinical Practice Committee Chair. [Dr. Don Melady](#)

Society for Academic Emergency Medicine 2022 Faculty Award for Best Abstract, Presentation, and Manuscript. Risk of intracranial hemorrhage between direct oral anticoagulants in older patients seen in the emergency department with a head injury: A population-based cohort study. [Dr. Keerat Grewal](#)

Canadian Journal of Emergency Medicine, Appointed Decision Editor. [Dr. Catherine Varner](#)

Canadian Association of Emergency Physicians 2022 Research Plenary: The Best of Canadian EM Research (Plenary 1). Impact of a knowledge to practice intervention to promote use of POCUS-GRA in the ED on the rate of delirium in older people with hip fracture: A multicenter stepped-wedge pragmatic cluster randomized trial. [Dr. Jacques Lee](#)

Canadian Association of Emergency Physicians 2022 Grant Innes Research Paper and Presentation Award. Impact of a knowledge to practice intervention to promote use of POCUS-GRA in the ED on the rate of delirium in older people with hip fracture: A multicenter stepped-wedge pragmatic cluster randomized trial. [Dr. Jacques Lee](#)

Canadian Association of Emergency Physicians 2022 Best Medical Education Innovation Award. Co-designing a web-based education platform for patients with early pregnancy loss. [Dr. Catherine Varner](#)

Canadian Association of Emergency Physicians 2022 Top 7 Research Moderated Posters. Emergency department volumes and outcomes for appendicitis and ectopic pregnancy diagnoses during the COVID-19 pandemic: A population based study. [Dr. Keerat Grewal](#)

Canadian Association of Emergency Physicians 2022 Emergency Ultrasound Committee Research Award – Administration. Towards quality assurance: implementation of a POCUS image archiving system in a high-volume community emergency department. [Dr. Rohit Mohindra and Dr. Paul Hannam](#)

Canadian Association of Emergency Physicians 2022 Top Resident Research Award. Intra-articular lidocaine versus intravenous sedation for closed reduction of acute anterior shoulder dislocation in the emergency department: A systematic review and meta-analysis. [Dr. Arjun Sithamparapillai](#) (supervised by Dr. Keerat Grewal and Dr. Shelley McLeod)

Promoted to Associate Professor, Department of Family and Community Medicine, Temerty Faculty of Medicine, University of Toronto. [Dr. Catherine Varner](#)

Promoted to Associate Professor, Department of Family and Community Medicine, Temerty Faculty of Medicine University of Toronto. [Dr. Shelley McLeod](#)

Co-authored a textbook, "Creating a Geriatric Emergency Department", published by Cambridge University Press. [Dr. Don Melady](#)

Nominated for Outstanding Clinical Teaching Award. Division of Emergency Medicine, Temerty Faculty of Medicine, University of Toronto. [Dr. Rohit Mohindra](#)

Research Co-Leads, Division of Emergency Medicine Executive, Department of Family and Community Medicine, Temerty Faculty of Medicine, University of Toronto. [Dr. Catherine Varner and Dr. Shelley McLeod](#)

Member of the Ontario Health R5 Pandemic Response Table. [Dr. Howard Owens](#)

Promotion to Full Member with the Institute of Medical Science, Temerty Faculty of Medicine, University of Toronto. [Dr. Jacques Lee](#)

2022 Esther and Saul Baker Award. Department of Geriatrics, Sinai Health and University Health Network. [Dr. Marie-Pier Lanoue](#)

Leon and Blossom Wigdor Award. Institute of Life Course in Aging, Temerty Faculty of Medicine, University of Toronto. [Ms. Sara Corvinelli](#)

# SREMI by the Numbers





# SREMI Team



Dr. Bjug  
Borgundvaag  
Director



Christine Bradshaw  
Project Manager



Yolanda Delmonte  
Peer Support  
Worker



Dr. Dave Dushenski  
Faculty



Jordyn Ethier  
Peer Support  
Worker



Dr. Judah Goldstein  
Research Fellow



Dr. Kira Gossack-  
Keenan  
Geri EM Fellow



Dr. Paul Hannam  
Faculty



Dr. Anton Helman  
Faculty



Dr. Kevin Katz  
Executive Liaison  
Committee



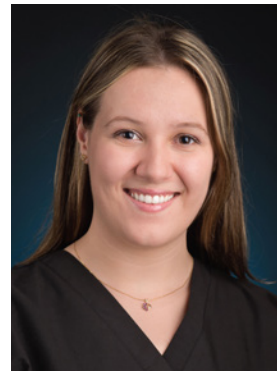
Dr. Keerat Grewal  
Faculty



Dr. Ranjeev Kumar  
Geri EM Fellow



Dr. Shawn Lacombe  
Israeli Fellowship  
Director



Dr. Marie-Pier  
Lanoue  
Geri EM Fellow



Dr. Jacques Lee  
Research Chair





**Dr. Nana Maklada**  
Israeli Fellow



**Dr. Shelley McLeod**  
Research Director



**Dr. Don Melady**  
Faculty



**Dr. Rohit Mohindra**  
Faculty



**Dr. Howard Ovens**  
Executive Liaison  
Committee



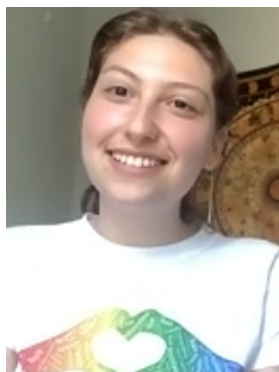
**Dr. Nadia Primiani**  
Israeli Fellowship  
Director



**Mahima Sethi**  
Administrative  
Assistant



**Dr. Tamar  
Shemesh-Lobl**  
Israeli Fellow



**Bella Shulman**  
Peer Support  
Worker



**Cameron Thompson**  
Research  
Coordinator



**Dr. Catherine Varner**  
Deputy Director



**Sidney Vogel**  
Peer Support  
Worker



**Dr. Sabrina Weil**  
Israeli Fellow



**Gillian Wilde-Friel**  
Faculty



**Joanna Yeung**  
Research  
Coordinator



# SREMI Research Chair

Dr. Jacques Lee

Research can take decades before it changes clinical practice at the bedside. However, SREMI's Research Chair in Geriatric Emergency Medicine has firmly established a robust research program addressing the most pressing health care concerns of older Canadians. For his research success, Dr. Lee was awarded the 2022 Grant Innes Award for the best emergency medicine research abstract at the Canadian Association of Emergency Medicine Annual Scientific Meeting.

## Social Isolation and Loneliness

Responding to the isolation enforced by the COVID-19 pandemic, Dr. Lee obtained funding and partnered internationally to test a promising Australian intervention. The HOW-RU? (HOspitals WoRking in Unison) intervention connects older isolated people with trained "volunteer peers" over 60 years of age. Dr. Lee's team has trained over 57 volunteers, screened 3,983 participants and enrolled 126/142 participants into the trial. This trial will assess the success of the HOW-RU program and test whether adding video conferences has advantages over telephone.

While the formal statistical evaluation must await trial completion, Dr. Lee's team has received extremely encouraging feedback about the beneficial impacts from both program recipients and the volunteers delivering the program, including a participant who said, "I truly look forward to the weekly calls now!"





The extensive media coverage of this project (CBC's The National, The Toronto Star, Global and CTV News) has also significantly raised awareness of the plight of older, isolated people across Canada, leading to a number of new partnerships. Having seen the media stories, Western University medical student David Zheng contacted Dr. Lee. David and Dr. Lee are now working on a project to determine if inter-generational contact with younger volunteers has advantages over peer volunteers. In addition, Dr. Lee is working with a not-for-profit organization that teaches older people to create visual arts on-line. In July they launched a collaborative project to determine if visual arts can combat loneliness and social isolation. To date, the participant feedback has been extremely positive.

### Ongoing Research and New Directions

Dr. Lee has also continued his work in delirium, a poorly understood and deadly condition that disproportionately affects hospitalized patients. Dr. Lee obtained a five-year, \$850,000 grant from the Canadian Institutes of Health Research and created a multi-institutional, multi-disciplinary team to investigate the underlying pathophysiology of delirium using urine metabolomics. Despite many challenges associated with COVID-19, Dr. Lee has obtained provincial REB approval and will begin enrolling participants in the November 2022. This study has the potential to develop a simple urine test to detect impending delirium in older people with hip fractures, as well as providing fundamental insights into the pathophysiology of delirium that may provide novel treatments and prevention strategies.

### Training the Next Generation of Leaders

Dr. Judah Goldstein started as the inaugural SREMI post-doctoral research fellow in January 2022. In the past year, Dr. Goldstein has completed a formal curriculum in Geriatric Emergency Medicine research- methodology, has developed a research proposal for CIHR, commenced a pilot study testing the use of community paramedics to avoid unnecessary hospitalizations, supervised a summer research student, and is revising a textbook chapter on Geriatric Emergency Medicine (Brocklehurst).

Dr. Lee is also supervising and MSc student (Sara Corvinelli) who is researching motor subtypes of delirium. You can read more about the work Judah and Sara are leading in the Fellows section of this report.



# RESEARCH PLENARY

MAY 31 | 8:30 - 9:30 AM

Impact of a knowledge to practice intervention to promote use of POCUS-GRA in the ED on the rate of delirium in older people with hip fracture:  
A multicenter stepped-wedge pragmatic cluster randomized trial

## JACQUES LEE

1ST PRESENTATION

CAEP  
QUEBEC CITY 2022



# SREMI Deputy Director

Dr. Catherine Varner

In Canada, emergency departments play a critical role in pregnancy care. In fact, nearly half of women will visit an emergency department during or shortly after pregnancy. SREMI Scientist and Deputy Director Dr. Catherine Varner is regarded as an international expert on the care of pregnant patients in the emergency department, and her program of research and advocacy were featured in a news story in The National Post in July 2022.

Her research has established that four in five people experiencing a miscarriage are cared for in emergency departments in Ontario, and the experiences of patients are often negative. This means emergency department doctors and nurses must be better equipped to provide not only physical care, but emotional and mental health supports for people experiencing pregnancy loss.

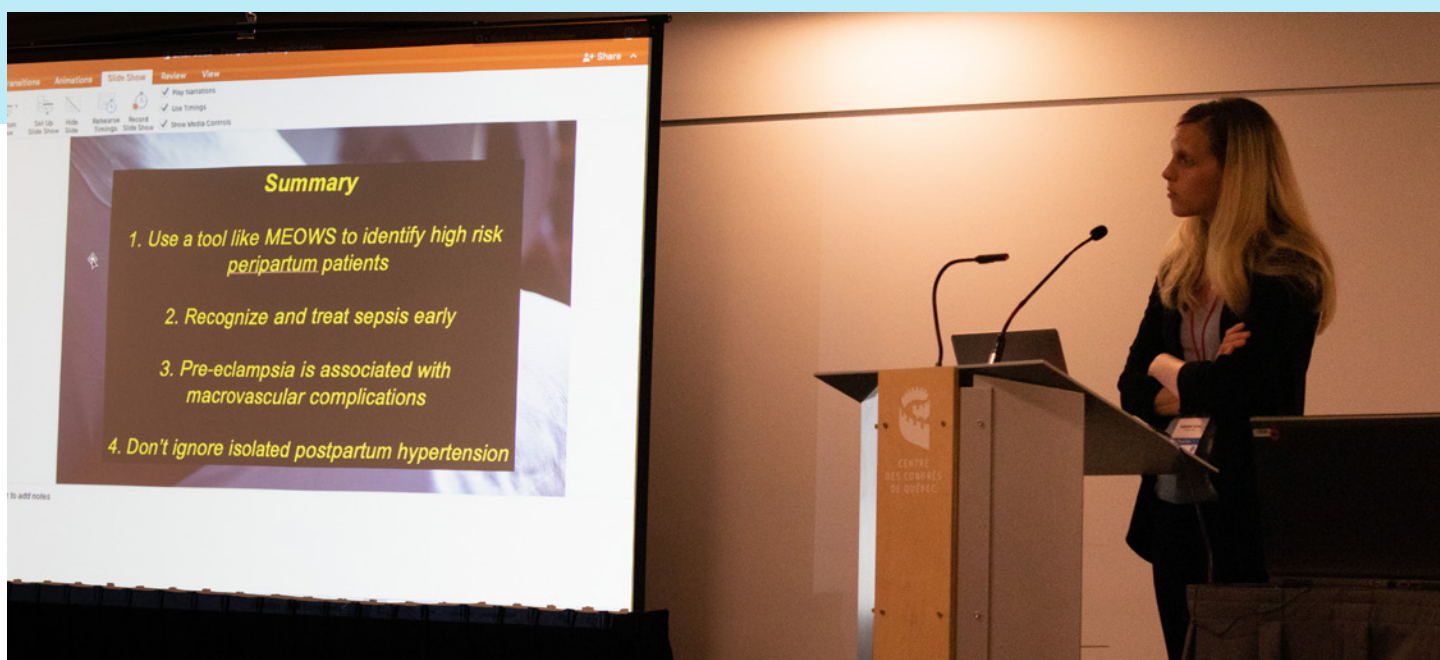
As a result, the staff in emergency departments need guidance on how to care for patients facing uncertainty or loss in early pregnancy, and Dr. Varner is leading the way to establish province-wide best practices.

With support from an Innovation Fund Grant, Dr. Varner led a team of providers, patients and researchers in the co-design of a web-based education platform for patients experiencing loss, [www.pregnancyed.com](http://www.pregnancyed.com). This web-based innovation received the prestigious Education Innovation of the Year Award by the Canadian Association of Emergency Physicians in 2022 and was recently described in a publication in the Canadian Journal of Emergency Medicine.

Building upon this work, Dr. Varner and the SREMI team are thrilled to launch a new program in January 2023 called







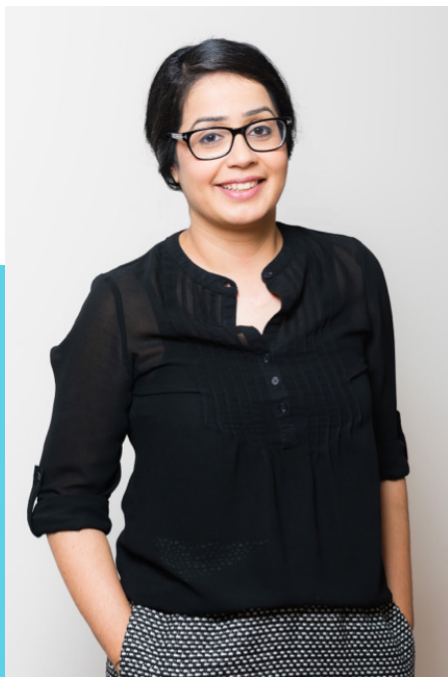
Virtual Wraparound Care, supported by a generous gift from The Harding Family Foundation. This first of its kind program begins at the point of care in the emergency department and will continue after discharge. Specialized, advanced practice nurses, supervised by Dr. Varner, will support patients through their loss, be immediately available to address their concerns as the loss progresses, and ensure timely follow-up care.

Dr. Varner also continues to utilize health administrative data housed at the ICES to examine how pregnant patients utilize the emergency department, how these visits influence pregnancy and infant outcomes, and how to improve system-wide pregnancy care. In the last two years, her work has gained national media attention following the publication of these novel reproductive health studies. She and the team at ICES recently described that if a woman had an emergency department visit preconception, she was more likely to experience adverse pregnancy outcomes, particularly if the visits were for cardiovascular or diabetes-related indications. Visits also increased the risk to the infant, as women with pre-pregnancy visits were more likely to have stillbirths or infants who died shortly or were very ill after birth. These novel findings were published in JAMA Network Open and described in a news story by the Toronto Sun.



Dr. Varner also received funding from the Canadian Association of Emergency Physicians to continue this work over the next two years describing the associations between maternal emergency department utilization and infant healthcare utilization in the first year of life. Her next funding applications will be focused on the care of postpartum women in Ontario emergency departments, a patient population whom she and summer research student Jeeventh Kaur have studied locally at Mount Sinai Hospital.

For her national impact in research, education and advocacy, Dr. Varner received her senior promotion to Associate Professor in the Department of Family and Community Medicine at the University of Toronto in June of 2022.



# SREMI Clinician Scientist

Dr. Keerat Grewal

Patients with cancer use the emergency department frequently throughout their cancer journey, from diagnosis to treatment and survivorship. To date, very little is known about how these emergency department visits impact the outcomes for patients with cancer. SREMI Clinician Scientist Dr. Keerat Grewal is studying the relationship between the emergency department and patient outcomes throughout the cancer continuum.

In a recently accepted systematic review and meta-analysis, Dr. Grewal and colleagues found that patients who are diagnosed with cancer through the emergency department have worse outcomes in terms of poorer survival and more advanced stage at diagnosis compared to those diagnosed elsewhere. This first of its kind study will be published in the prominent journal Academic Emergency Medicine.

This year Dr. Grewal was awarded a CAEP Emergency Medicine Advancement Fund grant to study how patients in Ontario who are diagnosed with cancer through the emergency department access definitive cancer care. This work will lay the foundation to improve access to cancer care from the emergency department and improve outcomes for cancer patients.

Dr. Grewal also continues to study head injuries among older patients on blood thinners. This year she completed the iBLEED-ED study which examined the risk of intracranial hemorrhage in head-injured older patients seen in the emergency department and comparing these risks by anticoagulation status. One of the papers from this study was in the Canadian Medical Association Journal. In 2022 Dr. Grewal received the prestigious Faculty Award for Best Abstract, Presentation and Manuscript from the Society for Academic Emergency Medicine (SAEM) for this publication.



# Intracranial hemorrhage after head injury among older patients on anticoagulation seen in the emergency department: a population-based cohort study

Keerat Grewal MD MSc, Clare L. Atzema MD MSc, Peter C. Austin, PhD, Kerstin de Wit MD MSc, Sunjay Sharma MD MSc, Nicole Mittmann PhD, Bjug Borgundvaag PhD MD, Shelley L. McLeod MSc PhD

■ Cite as: *CMAJ* 2021 October 12;193:E1561-7. doi: 10.1503/cmaj.210811

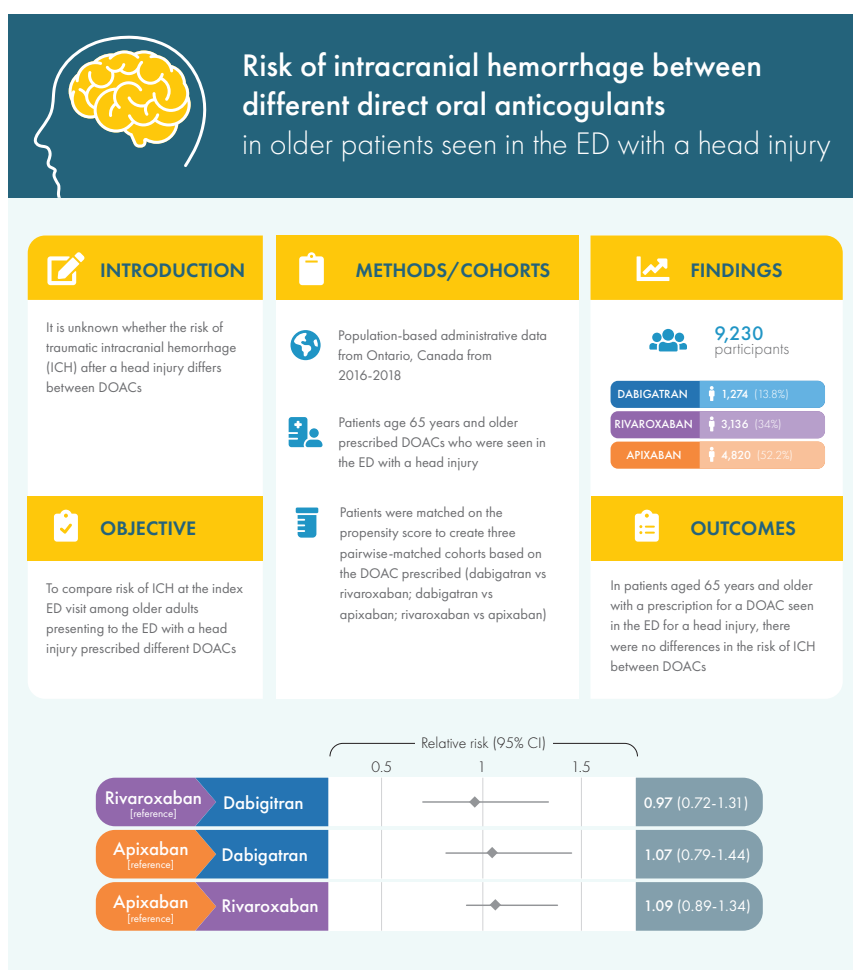
Keerat Grewal MD MSc FRCPC  
Schwartz/Reisman Emergency Medicine Inst.  
Mount Sinai Hospital



Send questions

Two other sub-studies from the iBLEED-ED project were also published this year. These studies examined the risk of delayed intracranial hemorrhage in older patients with a head injury and compared the risk of intracranial hemorrhage between different direct oral anticoagulants. Dr. Grewal presented her work on older patients with head injuries at CAEP National Grand Rounds in February 2022.

Dr. Grewal is active with various local and national emergency medicine initiatives. She is a member of the University of Toronto Emergency Medicine Resident Academic Project committee and is on the CAEP Scientific Planning Committee for continuing medical education webinars. She was also a track chair for the 2022 CAEP Annual conference. Dr. Grewal continues to mentor medical students and residents, supervising multiple successful resident and medical student research projects in the past year. One of these was a systematic review and meta-analysis on the use of intra-articular lidocaine versus intravenous sedation for closed reduction of acute anterior shoulder dislocation in the emergency department. This work led by University of Toronto emergency medicine resident Dr. Arjun Sithamparapillai won the Top 2022 CAEP Resident Research Award.







# NYGH Research Lead

Dr. Rohit Mohindra

The pandemic ushered in a new era of virtual emergency care for many patients in Ontario. Urgent virtual assessments with an emergency physician were a reality, but NYGH recognized there was an ongoing gap in care that virtual care could address. NYGH responded by creating a virtual care follow-up program, the first of its kind in Ontario, to help patients after an ED visit but before they can connect with their primary care team or specialists for follow-up. The program gives patients the option of making a virtual appointment with the emergency physician after discharge to evaluate response to treatments, evaluate for complications from procedures, monitor clinical status and verify follow-up plans.

Every year, ICES conducts Applied Health Research Question (AHRQ) projects that help inform health care planning, policy and program development of Ontario's health care system. Recognizing the importance of this work, Dr. Mohindra received funding from ICES to evaluate impact of the NYGH virtual care follow-up program.

The pilot phase of this program was an outstanding success with 35 physicians participating and over 230 patients with virtual appointments in the first 3-months after program launch. Patients reported appreciation for the additional contact and reported the call prevented additional health care visits. Using rigorous research methods, including interviews of patients and a partnership with ICES to analyze administrative health data, the research team is evaluating the impact this program on patient outcomes, health care utilization and health care costs.

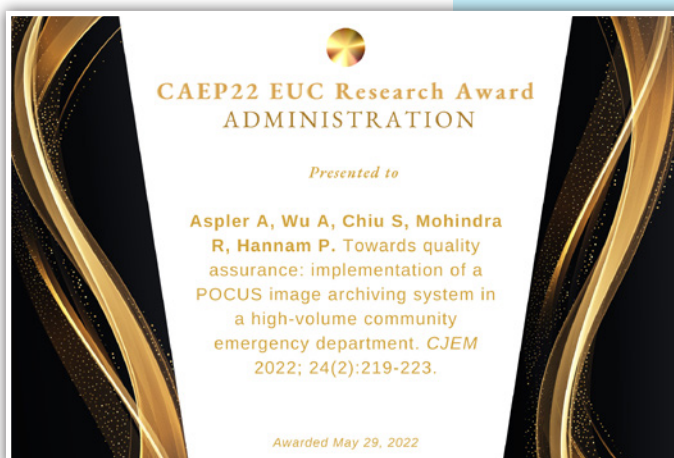






An important step for the NYGH ED research program this year was the initiation of a priority setting and strategic plan survey. Stakeholders across Toronto were given the opportunity to suggest what areas of research would most benefit the North York community, while aligning with the hospital's long-term research vision. Over 100 people responded, including hospital leadership, clinicians, community members, allied health staff, and patient partners. This survey was followed by a facilitated workshop to decide on a final list of research topics on which to go over the coming years.

Unfortunately, this year we also lost a close friend and fierce supporter of the NYGH SREMI partnership. Dr. Paul Hannam believed in the value of innovation in emergency medicine care, and his guidance and mentorship are greatly missed. We will endeavour to honour his legacy in the years to come as NYGH's ED research program continues to strive to be leaders in emergency care, patient experience, and medical education.



# Research Fellows



The SREMI Geriatric EM Research Fellowship offered the opportunity to refine research skills necessary for developing a program of research in Geriatric Paramedicine research. During the past year, with the mentorship of Dr. Jacques Lee and other SREMI faculty, I have been working on building a program of research focused on improving care for older adults in the out-of-hospital setting. The collegiality, mentorship, and collaboration has been invaluable and will help shape my research activities well beyond the fellowship. During the fellowship, most of our research has focused on how paramedic services can support admission avoidance or early ED discharge services for older adults. Research activities included launching an implementation study in Cape Breton, Nova Scotia (funded through a Nova Scotia Health Translating Research into Care Grant), designing and conducting a scoping review of paramedic supportive discharge services, and applying for a CIHR Project Grant to evaluate an admission avoidance service in Nova Scotia. I had the opportunity to mentor two students (Dalhousie Research in Medicine and a SREMI Summer Scholar) who were both working on projects related to ED recognition of delirium and admission avoidance respectively. In addition, I had the opportunity to have in-depth discussions on geriatric EM research content on such topics as study design, ethics, grant writing, and knowledge translation. I am confident that my experience with SREMI will not only improve my research activity but also lead to improvements in paramedic clinical care across Nova Scotia as we translate research evidence to practice.

Jeeventh Kaur is a second-year medical student at the University of Toronto. This past summer, she worked with Dr. Catherine Varner on a retrospective chart review study of 267 postpartum patients visiting the Mount Sinai Hospital emergency department. The objective of this project was to validate the use of the Modified Early Obstetric Warning System (MEOWS), a risk stratification screening tool designed to enable timely identification of acute illness in peripartum patients. She also participated in the writing of a manuscript on a web-based education platform for patients with early pregnancy loss, which was recently published by the Canadian Journal of Emergency Medicine. Leveraging her experience as a former management consultant at McKinsey & Company, Jeeventh also identified metrics relevant for the evaluation of an app (in development by Vitala Global) that aims to virtually support women through the experience of miscarriage.



Sara Corvinelli is a second-year MSc student from the Institute of Medical Science at the University of Toronto working under the supervision of Dr. Jacques Lee. Sara's thesis is focused on different subtypes of delirium in older adults. The project is composed of a systematic review and prospective observational study, that will help advance understanding of the importance for delirium subtype classification in rating delirium severity in the ED. Sara presented a poster at CAEP 2022 which identified factors that predict delirium subtypes. In addition to her research, Sara is a MAUVE volunteer in the Mount Sinai ED and is passionate about making a difference in emergency care for older adults. She is completing a collaborative specialization at the Institute for Life Course and Aging and was selected for the Leon and Blossom Wigdor Award for Studies in Aging for her achievement in pursuing research involved in aging.



# Education







# Geriatric Emergency Medicine

Dr. Don Melady

Dr. Don Melady continues his work with SREMI focussed on promoting excellent care of older ED patients in Sinai's own ED and on disseminating and implementing the concept of the older person-friendly ED, nationally and internationally.

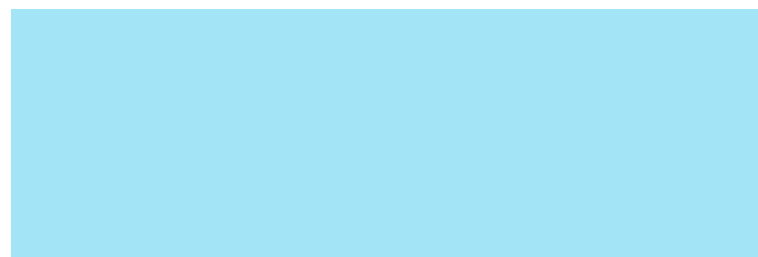
This year Dr. Melady's book, *Creating a Geriatric Emergency Department*, co-authored with the American gerontologist, Dr. John Schumacher, was published by Cambridge University Press. It was released in the UK in February 2022 and in North America and the rest of the world in April. It has been selling steadily in the first eight months and has received excellent feedback from its international target audience. It is the only text to address the system-level, policy, and practical aspects of making process and structural changes required to improve care of older ED patients.

Under Dr. Melady's direction, SREMI continues to host Canada's only clinical fellowship in Geriatric Emergency Medicine. In the 2020-21 academic year, Dr. Marie-Pier Lanoue, FRCPC, a graduate from Université Laval joined the SREMI team for a one-year fellowship. Dr. Lanoue worked on several projects including the complete revision of the SREMI-supported e-learning resource [www.geri-EM.com](http://www.geri-EM.com) originally created with an Innovation Fund grant in 2013. She updated the content, added two new modules, and enhanced the user experience by transitioning to a new learning platform. The new modules are now permanently housed on the website of the Geriatric ED Collaborative <https://gedcollaborative.com/online-learning/>. Dr. Lanoue worked on two first-author publications, one recently accepted at CJEM. In the academic year 2022-23, two more fellows joined the SREMI team: Dr. Kira Gossack-Keenan, a fifth-year resident from UBC; and a first international fellow, Dr. Ranjeev Kumar, from Singapore. Currently, there are former fellows or other Geri EM trainees working in almost every Canadian province.





Dr. Melady remains active in the CAEP Geriatrics EM committee and has helped create and present two national courses attended by Canadian physicians on acute care of older patients. The group presented CAEP National Grand Rounds in April 2022, introducing the new CAEP policy on geriatric ED care.



This year Dr. Melady also presented on the international stage with the International Federation of Emergency Medicine, organizing a day-long pre-conference course and several tracks at ICEM in Melbourne, Australia. He continues as the chair of IFEM's Clinical Practice Committee which brings together the leads of all the clinically relevant bodies in 45 national EM organizations and is actively involved in planning the ICEM 2023 conference in Amsterdam. At the American grant-funded organization The Geriatric ED Collaborative, he creates and hosts a widely attended bi-monthly webinar series on various topics in geriatric ED care. He also creates content and support for the group's website <https://gedcollaborative.com>. He is on the Editorial Board of the nascent Journal of Geriatric Emergency Medicine which has developed a strategic plan that includes being PubMed indexed by the end of 2023. Funded by the American Association of Retired People, he co-created (with Dr. Maura Kennedy of Harvard University) and produced two educational videos on dementia and delirium care in the ED. <https://videos.aarp.org/detail/video/6312717202112/dementia-in-the-ed:-providing-better-care-for-older-ed-patients> AND <https://videos.aarp.org/detail/video/6312716791112/delirium-in-the-emergency-department:-serious-costly-and-potentially-deadly>





# EM Cases

Dr. Anton Helman

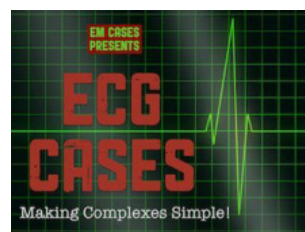
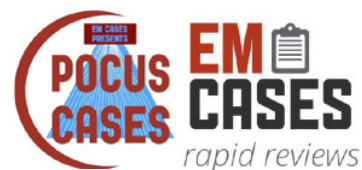
Launched twelve years ago, Dr. Anton Helman's EM Cases is part of the Free, Open Access Medical Education movement, widely known as FOAMed. As the most listened to emergency medicine podcast in Canada, EM Cases is the exemplar of this movement. In addition to its freely accessible, emergency medicine-related podcasts, EM Cases also produces written material, quizzes, push emails, and videos.

Having released over 300 podcasts, EM Cases has well over 17 million podcast listens and is the third most listened to health care podcast in Canada. The website also attracts nearly 3 million page views and 650,000 users in the past year. As one of the few multi-modal learning systems for medical learners at all stages of EM training, it is not surprising the number of users of the site has increased 100% over the past three years. EM Cases Quiz Vault, for example, is a growing bank of multiple-choice questions started three years ago and has been used by more than 10,000 people from around the world.

In the past year the first ever virtual EM Cases Summit brought more than 500 EM providers from around the world (including 100 from resource-challenged countries) for a large-scale interactive conference that featured prominent EM speakers, symposiums on wellness, rural EM and women in EM, procedural demonstrations and panel discussions. The Summit's success has fueled a second conference planned for February 2023 that is incorporating cutting edge virtual simulation sessions. The Summit will provide 100 EM providers from resource-challenged countries free access – a way of supporting the global EM community.



**EM CASES**  
QUIZ VAULT





## EM CASES NEW USERS - TOP 5 COUNTRIES



|                                      |                   |
|--------------------------------------|-------------------|
| Total downloads since inception:     | <b>16,882,617</b> |
| Total downloads Nov 2021 – Oct 2022: | <b>2,923,040</b>  |
| Total downloads per day:             | <b>~ 8,000</b>    |
| Total downloads per month:           | <b>~ 250,000</b>  |
| Website users Nov 2021 – Oct 2022:   | <b>643,053</b>    |

Several new projects are in the works, including a rural EM podcast series, a global EM podcast series, a wilderness EM podcast series, a podcast series featuring the best of University of Toronto EM, a Journal Club led by SREMI Scientist Dr. Rohit Mohindra, and written summaries of the main episode podcasts translated into French.

Our Team, headed by EM Cases founder, host and editor-in-chief Dr. Anton Helman, consists mainly of Canadian emergency medicine physicians and residents. Our Advisory Board includes prominent leaders in the faculty of the University of Toronto Divisions of Emergency Medicine. Our Guest Experts, which number more than 100 in total, North America's brightest minds in emergency medicine, are carefully chosen for each episode topic.

EM Cases has also given back to SREMI by generating tens of thousands of dollars a year through podcast and website advertising as well as the annual conference while maintaining free open access to the podcasts and website educational resources.

EM Cases, as a unique multi-modal learning system, continues to be a tremendous success and the leader in emergency medicine education in Canada and around the world.



# Israeli Fellowship



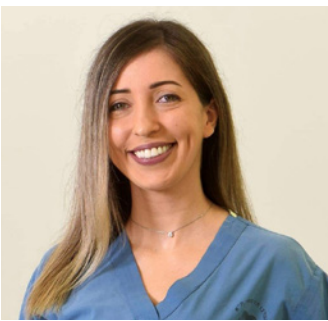
## Dr. Sabrina Weil

Dr. Weil was born in Toronto, studied at York University, and moved to Israel to pursue medicine at the Technion Medical School. Following this, she completed her residency at the Ashdod Medical Center where she is now a staff physician. Dr. Weil has just begun her first year in the Mount Sinai Emergency Medicine Fellowship. Her educational goals focus on system and process improvements. Her first year of training consists of a curriculum of thirteen blocks custom-designed to build skills in ultrasound, geriatric emergency medicine, pediatrics, ophthalmology, emergency medicine obstetrics, mental health, and trauma.



## Dr. Tamar Shemesh-Lobl

In her first year of the Emergency Medicine Fellowship, Dr. Shemesh-Lobl completed training in psychiatry, critical care, pediatrics, geriatric emergency medicine and trauma. She also completed the DFCM PGME leadership course and is now enrolled in the Department of Medicine Centre for Quality Improvement and Patient Safety course. She also seeks to bring emergency medicine orthopedics training back to her department. Her custom-designed second year of the fellowship is focused on orthopedics training at NYGH, as well as training in plastic surgery, rheumatology, sports medicine, and emergency medicine. After her second year, Dr. Shemesh-Lobl will return as staff physician at the Sheba Medical Center in Ramat Gan, Israel.



## Dr. Nana Maklada

Dr. Maklada completed her medical training in Chisinau Moldova and her emergency medicine training at the Tel Aviv Medical Center. Prior to pursuing the fellowship, Dr. Maklada was working as a staff emergency physician. She is in the final stages of completing her first year of the fellowship. Her educational interests are in critical care and emergency department orthopedics. Her second year will provide greater training in critical care with a planned longitudinal ICU experience, and she will also be completing advanced training in orthopedics. Dr. Maklada is currently enrolled in leadership courses and after her second year of fellowship she will return as staff physician to the Tel Aviv Sourasky Medical Center in Tel Aviv, Israel.



## Fellow Updates

Khaled and Osama were the inaugural fellows and completed two years of training at Mount Sinai. The first year gave them exposure and experience to the North American style of emergency medicine.

## Dr. Osama Muhtaseb

During his second year, Osama pursued an advanced fellowship in emergency department point of care ultrasound offered by the Department of Medicine and Jordan Chenkin at Sunnybrook. Osama has now returned home and is the first Emergency Physician who is fellowship trained in point of care ultrasound at his home hospital - Shaare Zedek Medical Center in Jerusalem. Osama has been actively involved in building basic and advanced ultrasound programs for his hospital and has created a basic ultrasound course through the national emergency medicine teaching course for second year emergency medicine residents from all over Israel. Osama has plans to create the first emergency medicine ultrasound course in Israel.



## Dr. Khaled Atallah

Khaled had a special interest in leadership and during his second year he completed a longitudinal leadership opportunity with Drs. Howard Ovens and Chaim Bell. This experience provided Khaled exposure to leadership ranging from the hospital to provincial level. In addition, Khaled also completed the PGME Leadership Course and management courses at the U of T School of Continuing studies. Khaled returned home to his own leadership position as the new Director of the Emergency Department at the Gallilee Medical Center in Nahariya. He has also just recently been appointed as the Head of Trauma and Emergency Medicine at the Azrieli Faculty of Medicine.

# EDAC 2021

Canada's leading Emergency Department (ED) Administration Conference, presented by the Schwartz/Reisman Emergency Medicine Institute (SREMI), was held virtually on November 30, 2021. It was a full day interactive virtual conference providing updates on issues of importance to current and future leaders and administrators in emergency services, presented by internationally renowned speakers.

The focus was; "Leadership In a Crisis..." and featured speakers and topics of critical importance to Emergency Department and related systems/policy/administrative leaders who have to help their ED cope and provide service in a crisis – like our current pandemic.

## Speakers and titles:



**Dr. Sam Campbell**  
Team Building & Resilience



**Dr. Lauren Freeman**  
Microaggressions in healthcare with a focus on emergency services



**Dr. Kate Hayman**  
COVID-19, the Opioid Crisis & Homelessness: Responses to Overlapping Emergencies



**Dr. Jim Christenson**  
Virtual care is a life preserver and more



**Dr. Kendall Ho**  
Virtual Care, the BC Experience



**Dr. Shelley McLeod**  
Virtual Care, the ON Experience



**Dr. Robert Maunder**  
Trauma Informed Care in the ED;  
Getting Beyond Us vs. Them



**Susan Woolard**  
Recruitment & Retention Strategies  
to Address the Staffing Crisis in  
Emergency Nursing



**Dr. Kieran Moore**  
Leadership in a Crisis



**57**  
Attendees

*"Fantastic conference. General talks about leadership and messaging are always interesting from a cross-disciplinary perspective."*

*"The program was so relevant to the challenges EDs and the health care system are facing. There was good open dialogue about recruitment/retention/new models of ED care and a variety of other topics to explore with different perspectives. Excellent day! Congratulations to the planning committee."*

*"Very well structured and great speakers."*



# *In Memoriam:* Dr. Paul Hannam



A humble leader in emergency medicine, Dr. Paul Hannam served as Chief at Toronto's Michael Garron and North York General Hospitals where he mentored and sponsored countless learners and faculty. Paul cared deeply about the people he worked with and their wellbeing. He was respected by all who knew him for his dedication to equity and access to care for our most marginalized and vulnerable patients. He had a quiet leadership style in which he led by example, was always ready to help and mentor colleagues especially junior colleagues, and approached his work with humility. As Director of the ED at NYGH he articulated an academic vision relevant to a community hospital and became a trusted partner in SREMI. An Olympic sailor and accomplished marathon runner, Dr. Hannam understood the importance of hard work, focus, perseverance, and team spirit. He was incredibly dedicated to his family. Paul's life was cut far too short by his tragic death in 2022 at the age of 50. He is deeply missed.

As an active leader in the field, Paul knew first-hand how isolating it has been to survive shiftwork in full PPE these past two years. Rather than retreating, Paul was working to foster community and rebuild teams. Perhaps this is the essential reason his loss has hit many of us so hard. To support Paul's memory a national award that will reflect his legacy and values will be established through the Canadian Association of Emergency Physicians and the Schwartz/Reisman Emergency Medicine Institute. Donations to this award can be made through Sinai Health's Foundation by calling 416-586-8203 or 1-877-565-8555 or online at [https://secure.supportsinai.ca/site/SPageServer/?pagename=mainsite\\_frontpage.html](https://secure.supportsinai.ca/site/SPageServer/?pagename=mainsite_frontpage.html) and selecting the option of an "In Memory" donation and indicating a designation of the "Dr. Paul Hannam Fund." Alternatively, donations may be made to NYGH Foundation in his memory [nyghfoundation.ca/drhannam](https://nyghfoundation.ca/drhannam) or to the local hospital of your choice.

# Innovation







# RBC Pathway to Peers

Christine Bradshaw

The RBC Pathway to Peers (P2P) program helps young people between the ages of 16 to 29 navigate the fast-paced and sometimes intimidating emergency department (ED), providing comfort, care and information to those who need it most. Collaborating with the ED healthcare team and working from peer values and a trauma-informed lens, they assist young adults seeking care for mental health or substance use by supporting them during their ED visit and connects them with community-based resources to support their long-term health.

There continues to be terrific support for the RBC P2P program from the ED care team. As part of a comprehensive program evaluation, physicians and nurses shared overwhelmingly positive feedback about the impact of the RBC P2P program on patient care. In one of the evaluations an ED physician shared: "This program is phenomenal! The peer support workers add an entirely new level of care for this population. They are able to discuss concerns that may not have come up, provide support and are truly representative of what it means to offer whole person care."

In recognition of the program's positive impact, staff asked for increased access to peers in the ED. The program's peer support workers are now available up to 10 hours per day, seven days a week. Staff can also call the RBC P2P worker directly through a secure hospital phone and make electronic referrals to connect patients. An after-hours referral form was also created for telephone follow-up for when patients arrive when peers are not there. These connections were found to be a huge success.





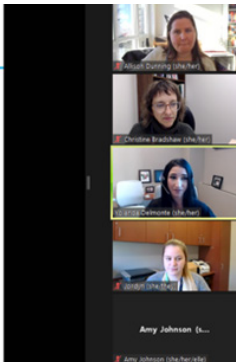
The RBC P2P team continue to reach out to various community agencies and universities in the area, increasing awareness of the program and looking for opportunities to support young adults who may be coming to the ED for mental health or substance use issues. People are now asking to see the peer during their ED visit. The P2P program has been featured in multiple community and hospital media campaigns, and the team was featured on a recent EM Cases podcast to discuss peer support in health care settings.

The RBC P2P team are recognized experts, advocates, and youth mental health champions within the broader hospital system. The P2P peer support workers and manager were invited to join the Systemic Bias and Racism Committee and the ED Addictions Working Group at Sinai Health, bringing a youth perspective to help recognize bias, reduce barriers and ensure inclusive trauma informed care for our patients. They also participated in simulation training pertaining to LGBTQ2S+ patients. These sessions simulate barriers that young LGBTQ2S+ patients face prior to and during an ED visit so that Sinai Health’s team, can ensure inclusive and accommodating care in the department.



**P2P Peer Support and Team Integration**

- RBC Pathway to Peers, Peer Support Workers are integrated members of the MSH ED healthcare team
- Our Peer Support Workers work closely with members of the ED team who are regulated professionals
- What does this look like at Mount Sinai?



The RBC P2P team have submitted abstracts to several local, provincial and national conferences and have delivered multiple presentations and workshops to date. These abstracts presented information on how the RBC P2P program was conceived and implemented at Sinai Health, and the team have received requests for further information on how to replicate the program from several institutions. Recently, the team was invited to participate in a panel discussion at the Lived Experience Knowledge series at the youth network FRAYME conference.

Since its implementation in the Mount Sinai Hospital ED in May 2020, the RBC P2P program has supported more than 4,000 young adults. There is a growing need for peer support for young adults, and this program has a bright future. We would like to thank the RBC Foundation for their generous ongoing support of this program.



# Research Publications

## November 2021 – October 2022



### Geriatric EM (n=7)

1. Lee JS, Tong T, Chignell M, Tierney MC, Goldstein J, Eagles D, Perry JJ, McRae A, Lang E, Hefferon D, Rose L, Kiss A, Borgundvaag B, McLeod S, Melady D, Boucher V, Sirois MJ, Émond M. Prevalence, management and outcomes of unrecognized delirium in a National Sample of 1,493 older emergency department patients: how many were sent home and what happened to them? *Age Ageing*. 2022 Feb 2;51(2):afab214.
2. Lee JS. Necessary evil or systemic failure of care? Use of benzodiazepine and antipsychotic medications in older people seeking emergency department care. *J Am Geriatr Soc*. 2022 Mar;70(3):698-700.
3. Lee S, Chen H, Hibino S, Miller D, Healy H, Lee JS, Arendts G, Han JH, Kennedy M, Carpenter CR. Can we improve delirium prevention and treatment in the emergency department? A systematic review. *J Am Geriatr Soc*. 2022 Jun;70(6):1838-1849.
4. Sirois MJ, Carmichael PH, Daoust R, Eagles D, Griffith L, Lang E, Lee J, Perry JJ, Veillette N, Émond M; Canadian Emergency Team Initiative on Mobility in Aging. Functional Decline After Nonhospitalized Injuries in Older Patients: Results From the Canadian Emergency Team Initiative Cohort in Elders. *Ann Emerg Med*. 2022 Aug;80(2):154-164.
5. Hwang U, Carpenter C, Dresden S, Dussetschleger J, Gifford A, Hoang L, Leggett J, Nowroozpoor A, Taylor Z, Shah M; GEAR\* and GEAR 2.0\*\* Networks. The Geriatric Emergency Care Applied Research (GEAR) network approach: a protocol to advance stakeholder consensus and research priorities in geriatrics and dementia care in the emergency department. *BMJ Open*. 2022 Apr 22;12(4):e060974.
6. Ellis B, Brousseau AA, Eagles D, Sinclair D, Melady D; CAEP Writing Group. Canadian Association of Emergency Physicians position statement on care of older people in Canadian Emergency Departments: executive summary. *CJEM*. 2022 Jun;24(4):376-381.
7. Schonnop R, Dainty KN, McLeod SL, Melady D, Lee JS. Understanding why delirium is often missed in older emergency department patients: a qualitative descriptive study. *CJEM*. 2022 Sep 22. doi: 10.1007/s43678-022-00371-4. Epub ahead of print.



### General EM (n=4)

1. Aspler A, Wu A, Chiu S, Mohindra R, Hannam P. Towards quality assurance: implementation of a POCUS image archiving system in a high-volume community emergency department. *CJEM*. 2022 Mar;24(2):219-223.
2. Stickles SP, Kane DS, Kraus CK, Strony RJ, Ablordeppey EA, Doering MM, Theodoro D, Lee JS, Carpenter CR. Adverse events related to ultrasound-guided regional anesthesia performed by Emergency Physicians: Systematic review protocol. *PLoS One*. 2022 Jun 24;17(6):e0269697. doi: 10.1371/journal.pone.0269697.
3. Ibrahim T, Thompson C, Borgundvaag B, McLeod SL. Antibiotic prescribing and outcomes for patients with uncomplicated purulent skin and soft tissue infections in the emergency department. *CJEM*. 2022 Sep 27. doi: 10.1007/s43678-022-00366-1. Epub ahead of print.
4. Sithamparapillai A, Grewal K, Thompson C, Walsh C, McLeod S. Intra-articular lidocaine versus intravenous sedation for closed reduction of acute anterior shoulder dislocation in the emergency department: a systematic review and meta-analysis. *CJEM*. 2022 Oct 1. doi: 10.1007/s43678-022-00368-z.



### ED Administration (n=3)

1. Mondoux S, Hall JN, McLeod SL. Virtual emergency care: Decoupling the need for emergency services and expedited care. *J Eval Clin Pract*. 2022 Feb;28(1):10-12.
2. Ovens H, Drummond A. Measuring crowding: I know it when I see it. *CJEM*. 2022 Jan;24(1):1-2.
3. Hall JN, Ackery AD, Dainty KN, Gill PS, Lim R, Masood S, McLeod SL, Mehta SD, Nijmeh L, Rosenfield D, Rutledge G, Verma A, Mondoux S. Designs, facilitators, barriers, and lessons learned during the implementation of emergency department led virtual urgent care programs in Ontario, Canada. *Front. Digit. Health* 4:946734. doi: 10.3389/fdgth.2022.946734.



### Early Pregnancy (n=3)

1. Varner C, Leduc L, Pasquale J, Yee M, McLeod S, Morson N, Kaur J, Tunde-Byass M, Blakely K, Aditya I, Thomas J. Co-designing a web-based education platform for patients with early pregnancy loss. *CJEM*. 2022 Sep 15. doi: 10.1007/s43678-022-00384-z.
2. Tunde-Byass M, Varner CE. Serum progesterone levels in the emergency department should not change the care of patients with first trimester bleeding. *CJEM*. 2022 Sep;24(6):559-560.
3. Varner CE, Park AL, Ray JG. Prepregnancy Emergency Department Use and Risks of Severe Maternal and Neonatal Morbidity in Canada. *JAMA Netw Open*. 2022 Sep 1;5(9):e2229532. doi: 10.1001/jamanetworkopen.2022.29532.



## Mild Traumatic Brain Injury (n=3)

1. Grewal K, Atzema CL, Austin PC, de Wit K, Sharma S, Mittmann N, Borgundvaag B, McLeod SL. Risk of intracranial hemorrhage between different direct oral anticoagulants in older patients seen in the emergency department with a head injury: A population-based cohort study. *Thromb Res.* Jun;214:47-52.
2. Sage NL, Chauny JM, Berthelot S, Archambault P, Neveu X, Moore L, Boucher V, Frenette J, De Guise É, Ouellet MC, Lee J, McRae AD, Lang E, Émond M, Mercier É, Tardif PA, Swaine B, Cameron P, Perry JJ. Post-Concussion Symptoms Rule: Derivation and Validation of a Clinical Decision Rule for Early Prediction of Persistent Symptoms after a Mild Traumatic Brain Injury. *J Neurotrauma.* 2022 Sep 9. doi: 10.1089/neu.2022.0026. Epub ahead of print.
3. Liu S, McLeod SL, Atzema CL, Austin PC, de Wit K, Sharma S, Mittmann N, Borgundvaag B, Grewal K. Delayed intracranial hemorrhage after head injury among elderly patients on anticoagulation seen in the emergency department. *CJEM.* 2022 Oct 15. doi: 10.1007/s43678-022-00392-z. Epub ahead of print.



## Cardiovascular (n=3)

1. Lin S, Ramadeen A, Sundermann ML, Dorian P, Fink S, Halperin HR, Kiss A, Koller AC, Kudenchuk PJ, McCracken BM, Mohindra R, Morrison LJ, Neumar RW, Niemann JT, Salcido DD, Tiba MH, Youngquist ST, Zviman MM, Menegazzi JJ. Establishing a multicenter, preclinical consortium in resuscitation: A pilot experimental trial evaluating epinephrine in cardiac arrest. *Resuscitation.* 2022 Jun;175:57-63.
2. Rennie O, Lin S, Mohindra R. Resuscitation meets precision medicine: Towards a model of patient-centered, perfusion-guided cardiopulmonary resuscitation. *Resusc Plus.* 2022 Oct 3;12:100313. doi: 10.1016/j.resplu.2022.100313.
3. Bery AK, Sharma M, Nemnom MJ, Johns P, Lelli DA, Sivilotti MLA, Émond M, Stiell IG, Stotts G, Lee J, Worster A, Morris J, Cheung KW, Jin AY, Oczkowski WJ, Sahlas DJ, Murray HE, Mackey A, Verreault S, Camden MC, Yip S, Teal P, Gladstone DJ, Boulos MI, Chagnon N, Shouldice E, Atzema C, Slaoui T, Teitelbaum J, Wells GA, Perry JJ. Risk of stroke is low after transient ischemic attack presentation with isolated dizziness. *CJEM.* 2022 Oct 19. doi: 10.1007/s43678-022-00391-0. Epub ahead of print.



## COVID-19 (n=3)

1. McRae AD, Hohl CM, Rosychuk R, Vatanpour S, Ghaderi G, Archambault PM, Brooks SC, Cheng I, Davis P, Hayward J, Lang E, Ohle R, Rowe B, Welsford M, Yadav K, Morrison LJ, Perry J; Canadian COVID-19 Emergency Department Rapid Response Network (CCEDRRN) investigators for the Network of Canadian Emergency Researchers and the Canadian Critical Care Trials Group. CCEDRRN COVID-19 Infection Score (CCIS): development and validation in a Canadian cohort of a clinical risk score to predict SARS-CoV-2 infection in patients presenting to the emergency department with suspected COVID-19. *BMJ Open.* 2021 Dec 2;11(12):e055832.
2. Izcovich A, Siemieniuk RA, Bartoszko JJ, Ge L, Zeraatkar D, Kum E, Qasim A, Khamis AM, Rochwerf B, Agoritsas T, Chu DK, McLeod SL, Mustafa RA, Vandvik P, Brignardello-Petersen R. Adverse effects of remdesivir, hydroxychloroquine and lopinavir/ritonavir when used for COVID-19: systematic review and meta-analysis of randomised trials. *BMJ Open.* 2022 Mar 2;12(3):e048502.
3. Hohl CM, Hau JP, Vaillancourt S, Grant J, Brooks SC, Morrison LJ, Perry JJ, Rosychuk RJ; CCEDRRN investigators for the Network of Canadian Emergency Researchers and the Canadian Critical Care Trials Group. Sensitivity and Diagnostic Yield of the First SARS-CoV-2 Nucleic Acid Amplification Test Performed for Patients Presenting to the Hospital. *JAMA Netw Open.* 2022 Oct 3;5(10):e2236288.

## Pillars of Inquiry



**Rigour and Quality:** We pursue scholarly rigour and quality in the development and implementation of robust and impactful emergency medicine research and education.






**Patient-Centered Care:** We hear patient voices and change emergency care to improve patient outcomes and health.



**Priority Community Health Concerns:** We focus on the health and health system concerns that are the greatest challenge to our patients, communities, and populations. We recognize emergency medicine as a leader in addressing these concerns.





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