


2022 | ANNUAL REPORT



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SCHWARTZ/REISMAN
EMERGENCY MEDICINE
INSTITUTE

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*Making a World
of Difference*

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VISION

The Outward Facing Emergency Department: Innovation in emergency medicine, enhancing patient and population health within and beyond the emergency department.



MISSION

To lead and support a community of researchers and educators to improve emergency care in Canada and around the world.

To conduct and apply rigorous research that addresses patient-centred outcomes and priority community health concerns.

To create, refine, and apply health research methods for emergency medicine.

To foster a culture of teaching and learning by translating knowledge, educating future practitioners, and implementing best practices in emergency medicine.



VALUES

To promote the highest standards of professionalism and integrity by upholding the following values:

- Patient-centred care
- Research, education and administrative excellence
- Foster a learning health system
- Collaboration – locally, nationally and internationally
- Encourage equity in research, education and clinical care
- Transparency

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Bjug Borgundvaag, MD, PhD

Research Director

Shelley McLeod, PhD, MSc, MSc,
BSc (hons)

Hospital Liaison Committee

Kevin Katz, MD, MSc
Howard Ovens, MD

ED Leads

Paul Hannam, MD (NYGH)
Dave Dushenski, MD (MSH)

Geriatric EM Research Chair

Jacques Lee, MD, MSc

SREMI Faculty

Keerat Grewal, MD, MSc
Anton Helman, MD
Don Melady, MD, MSc
Rohit Mohindra, MD, MASc
Catherine Varner, MD, MSc

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Shawn Lacombe, MD, MSc
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Israeli Fellows

Nana Maklada, MD
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Geriatric EM Fellows

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Welcome from the Director



As the year ends, and we produce our second pandemic annual report, I am grateful for our excellent team's hard work and dedication during another difficult year. Despite COVID-19, the pages of our report are full of accomplishments, national and international grants and awards, and success stories. In fact, 2021 has been our most productive and impactful year ever. I am delighted that Dr. Catherine Varner has assumed the position of Deputy Director of SREMI. Catherine brings a fresh perspective, and a wealth of skills, knowledge, experience and energy to this new role. As a researcher, educator and writer, Catherine is a passionate advocate for improving ED care. This year she is the first physician to win the prestigious Canadian Association of Emergency Physicians Medical Journalism Award and among her other many contributions to SREMI, has made excellent use of her unique writing talent to promote the work of our faculty within Sinai Health, our university department, and to a broader lay audience.

COVID-19 presented many opportunities, and SREMI scientists took full advantage of them. Dr. Shelley McLeod's work on a living network meta-analysis for the BMJ Rapid Recommendations group has informed WHO treatment recommendations which have been adopted across the globe. She has also been leading the province of Ontario's evaluation of virtual

urgent care pilot programs. Dr. Jacques Lee received funding to launch a project evaluating different strategies for mitigating social isolation and loneliness in elderly patients who, in an effort to protect them, have been the single group who have suffered the most as a result of COVID-19. Dr. Don Melady's expertise was in high demand early in the pandemic when he was called to lead a series of international presentations on how to best care for older patients during COVID. Don also co-authored the first textbook on how to create a geriatric ED, an enormous accomplishment.

Rohit Mohindra has done an outstanding job building his own program of research in the ED at North York General, including contributing over 1500 COVID-19 patients to a national ED registry project trying to identify clinical predictors of severe illness. His contributions to this data set are notable since the profile of patients presenting to community hospitals may be different than those presenting to fully affiliated downtown academic health science centers. In the earliest days of the pandemic when clinicians around the world were struggling with the question of how to best prepare for what was coming, Dr. Anton Helman produced a series of 8 full-length EM Cases podcasts addressing these questions in just 8 weeks.

Dr. Keerat Grewal is conducting a project evaluating the impact of the pandemic on non-COVID-19 related ED usage and health outcomes. Her work will shed light on the impact of changes of hospital resource availability on patient outcomes and help health care systems prepare for future epidemics/pandemics. Finally, our RBC Pathway to Peers program launched in the early days of the pandemic. The innovative program provides in-person peer support for young adults with mental health and addictions related issues, another vulnerable group often lacking social support and access to primary health care. During the pandemic, the ED has been one of the few places patients can have face-to-face interactions with the health care system.

Despite COVID-19, our work continues at an impressive pace. New projects focused on predicting delirium in the elderly, studies evaluating cancer care, thrombosis prevention, head injury outcomes in anticoagulated patients all focused on ED patients, are well on their way. Our fellowship programs are producing national leaders who are using the skills and knowledge gained during their time with us to impact care, and several of our students have gone on to win national and international awards for the work they have completed which has been supervised by SREMI faculty.

Our impressive work would not be possible without our community of supporters who share our goal of improving ED care for patients with common conditions and little evidence to guide practice. Heather Reisman and Gerry Schwartz have been visionary supporters of ED care for decades. As our main benefactors, they have played the largest role in our success, however as the scope and impact of our work has grown, they are leading an ever-increasing group of donors. We are deeply grateful for the generosity of each of these individual and extend our most sincere thanks.

A handwritten signature in black ink, appearing to be 'Bj Borgundvaag', written over a light grey background.

Dr. Bjug 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 7th Annual Schwartz/Reisman Emergency Medicine Institute (SREMI) International Advisory Board (IAB) Meeting and to this 2021 SREMI Annual Report.

The COVID-19 pandemic has continued over the past 12 months with wave after wave decimating health care systems and causing as yet unquantified morbidity and mortality well beyond those afflicted with serious illness directly related to the SARS-CoV-2 virus. It is a credit to our community of emergency care providers that they never wavered from the clinical challenges this posed as they courageously met the health care needs of society. Initially, there was some breathing space as emergency volumes fell off by 20% or more allowing clinicians to retool and learn how to protect themselves and patients in the ED. More recently however, volumes are back to normal or higher, and still with the need to practice isolation from an even more contagious variant. It is now taking its toll, staff are exhausted and emotionally drained, as they bravely carry on, praying that the deluge will soon be over.

The world of research has been directly impacted by policies that required cessation of clinical trials and a shift of funding to studying the nature and impact of the pandemic itself. With all of that in mind, we should be incredibly proud of the SREMI researchers and educators. Remarkably, they have shown the world how an academic program can grow despite

such a difficult environment. We can only speculate what even greater achievements might have been accomplished if we did not have to cope with a pandemic. This report highlights some of SREMI faculty accomplishments and contributions to improving emergency care in 2021.

LEADERSHIP

Director Dr. Bjug Borgundvaag and Research Director Dr. Shelley McLeod have been inspiring leaders during these challenging times. Dr. Borgundvaag is a model mentor as an effective clinician/scientist/administrative leader. While managing and supporting the research teams and their growth, Dr. McLeod also received an award from the International Federation of Emergency Medicine for her WHO work on a living systematic review and network meta-analysis of COVID-19 science. SREMI also was awarded an Ontario Health contract for Shelley to evaluate Virtual Urgent Care in Ontario during the pandemic. Dr. Catherine Varner was appointed as the Deputy Director of SREMI to help manage the growth of the program. Catherine also was the first physician to win the CAEP journalism award and brings her considerable communication skills to the leadership team.

NORTH YORK GENERAL HOSPITAL AND SINAI HEALTH COLLABORATION

This year the power of aligning two great institutions was demonstrated more than ever before. Both hospital groups enhanced academic productivity. Notably, under the leadership of Dr. Rohit Mohindra, the NYGH academic program expanded exponentially. The investment in research leadership and the support offered by the SREMI family was critical to this growth. NYGH ED clinicians published 7 peer reviewed articles and collaborated on successful grants with Dr. Jacques Lee. Dr. Mohindra's mentoring of local students and residents has moved NYGH to be an exceptional teaching center not only for clinical care, where it has always been prominent, but now also for academic pursuits. Less well known is the leadership role Dr. Mohindra plays in the Canadian Resuscitation Outcomes Consortium where he chairs the Training Committee for graduate students and young investigators in resuscitation science from across the country, coordinating mentorship and educational rounds. NYGH is a shining example of how a large community hospital can contribute and lead academic activities in emergency care.

SREMI RESEARCH ACTIVITIES

As a research institute, SREMI has had a world class output this year. Researchers have received \$1.4M in grants as Principal Investigators and \$5M as co-investigators. Faculty have presented 9 abstracts at international meetings and 14 at national meetings, as well as 19 other national and international invited presentations. SREMI faculty received 16 academic recognitions and published 49 peer-reviewed publications! This impressive record included and influenced the areas of geriatric EM, general EM, cardiovascular, COVID-19, triage and flow, mild traumatic brain injury, and early pregnancy. A testament to the broad strength of the team. 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. It is the most downloaded emergency medicine podcast in Canada, with now over 14 million downloads. This year has been one of the busiest as the need for COVID-19 related podcasts continues. The podcasts supports both physicians and patients as the stories in the report demonstrate. This year, Anton is expanding his conference offering to include a Cases Summit in November 2021. There is no doubt it will be a great success and enhance what is already the best Free Open Access Meducation (FOAMed) resource available.

Seniors have suffered more than any other group due to COVID-19. Dr. Don Melady continues to lead geriatric emergency education, knowledge translation and system change projects across North America, and be the geriatric resource for emergency care clinicians particularly related to COVID-19. This is the 7th year of the Geriatric EM Fellowship and the current fellow, Dr. Marie-Pier Lanoue, is updating and expanding the hugely successful educational website <https://geri-em.com>. Previous fellows are now leading programs from Victoria to Quebec City. Dr. Melady's international influence includes working with the US based Geriatric ED Collaborative <https://gedcollaborative.com>, as a member on the Board of Governors for the Geriatric ED Accreditation program <https://www.acep.org/geda/>, and as the vice-chair of IFEM's Task Force on Virtual Education Events. His upcoming book "Creating a Geriatric ED: A Practical Guide" will be the international go-to text for improving emergency care for older patients.

The RBC Pathway to Peers is a unique and highly successful Mount Sinai program in partnership with Stella's Place. Peer support workers are available seven days a week in the emergency department 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 2131 young adults, by providing personalized real time support for care in an often intimidating environment. These educational efforts are novel and impactful and demonstrate the power and influence of key SREMI leaders.

REFLECTIONS FROM THE CHAIR

I am incredibly proud to be a part of the International Advisory Board of SREMI and deeply honoured to have been asked to chair. The previous chairs, Dr. Brian Rowe and Dr. Chris Carpenter, are amazing leaders in emergency medicine and have helped to guide the growth of SREMI through the insights brought by the broad perspectives and experience of the board members. Emergency medicine is no longer the young specialty in the world of medicine. It has expanded its influence and respect to its rightful place as a critical component of our health care system both in the broad range of specialty services but also as an important component of primary care.

During these times of the pandemic and 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 structure of the systems that support care providers. Research and education are inextricably linked and must be integrated into clinical care if we are to act as a true Learning Health System. SREMI now holds its head high as a major leader and influencer in emergency care improvement nationally and globally, through research and education. This is an amazing achievement, given its short history, its faculty have contributed so much.

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.

Let's all celebrate the collective achievements of SREMI!

Respectfully submitted,



Dr. Jim Christenson, MD, FRCPC
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 x^wməθk^wəyəm (Musqueam), Səlilwətaʔ (Tseil-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 practiced emergency medicine for 38 years in Vancouver. He is a Professor in the Academic Department of Emergency Medicine in the Faculty of Medicine at the University of British Columbia. He currently is a Co-Principal Investigator for the Canadian Resuscitation Outcomes Consortium and co-director of the BC Resuscitation Research Collaborative, both aiming to improve care through early interventions in sudden cardiac arrest. He is also the Principal Investigator of a neuro-protective intervention given by paramedics to patients with severe stroke and Co-Principal Investigator for a multicenter trial evaluating a lower cut-point for hs Troponin in women with potential Acute Coronary Syndrome. Dr. Christenson leads a team that built and manages the BC Emergency Medicine Network to facilitate knowledge sharing and clinical support for all emergency practitioners in British Columbia. It is currently expanding to include nurses and is actively working with indigenous nations to improve emergency care in remote communities.

Dr. Chris Carpenter is a Professor of Emergency Medicine at the Washington University School of Medicine in St. Louis, Missouri, United States. He serves as the Deputy Editor-in-Chief of Academic Emergency Medicine and Associate Editor for the Journal of the American Geriatrics Society. His research focuses on diagnostic accuracy and efficiency, dementia risk assessment, and implementation science. He has co-authored over 200 peer-reviewed manuscripts and four textbooks. He also served as the NIH representative for the Enhancing the QUALity and Transparency Of health Research (EQUATOR) Network Implementation Science reporting guidelines called the Standards for Reporting Implementation Studies (StaRI). He is a member of the Society of Academic Emergency Medicine Board of Directors, as well as on the American College of Emergency Physician's Geriatric Emergency Department Accreditation Advisory Board. He also serves on the Clinician-Scientists Transdisciplinary Aging Research Leadership Core and leads the Geriatric Applied Research Network's Implementation Core.



Dr. Matthew Cooke is UK Chief Clinical Officer for Capgemini, an international company focussing on digital business solutions. He recently retired as clinical advisor in emergency care to NHS Improvement South East region. He is a Professor of Clinical Systems Design at Warwick Medical School. He was previously an adviser to the World Health Organisation, was the National Clinical director for Emergency Care in England, and was the Director of Strategy/Deputy Medical Director at Heart of England NHS Foundation Trust. Dr. Cooke specialises in improving quality, safety and flow in urgent and emergency systems by innovation, systems redesign and by addressing attitudes, behaviours and culture. Dr. Cooke, now retired from emergency medicine, 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.

Dr. Suzanne Mason qualified in medicine from London University in 1990. She pursued her training initially in surgery and then specialised in Emergency Medicine. Suzanne spent a year as a Royal College of Surgeons of England Research Fellow and joined Sheffield University as a Senior Clinical Lecturer in 2001 and was promoted to Reader in 2007 and Personal Chair in 2010. She is also an NIHR Senior Investigator. She divides her time between the university and as a consultant at the Barnsley Hospital Trust emergency department. Her main research interests include evaluating complex interventions in emergency and urgent care. She is particularly interested in the use of routine patient data to evaluate and model the Emergency and Urgent care System, identifying better ways to manage demand and improve outcomes in urgent and emergency care.





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 has 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 325 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), 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), 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. Michael Schull is CEO and Senior Scientist at ICES, a Professor in the Department of Medicine at the University of Toronto, and a Senior Scientist at the Sunnybrook Research Institute. His research focuses on health service utilization, quality of care, health system integration and patient outcomes, and the evaluation of health policy. Under his leadership, ICES has expanded the types of data available for researchers, created a virtual platform where researchers outside ICES can access and analyze linked datasets, launched a health artificial intelligence data and analysis platform, and engaged the public in the work of ICES to ensure it remains aligned with public values. Dr. Schull leads the participation of ICES in Health Data Research Network Canada (HDRN), a pan-Canadian initiative to build a national health and social data platform. He practices as an Emergency Medicine specialist at Sunnybrook Health Sciences Centre in Toronto.

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



"The greater the obstacle, the more glory in overcoming it." Molière

The global pandemic continues to be the story of 2021 and has challenged all of us personally and professionally. Under Dr. Bjug Borgundvaag's leadership, SREMI continues to face the challenges spectacularly well. Just a few examples follow. Our Research Director, Dr. Shelley McLeod was selected to join an eminent team of international experts working under the auspices of the WHO and the BMJ to conduct a living systematic review and network meta-analysis for the management of COVID-19, and she received a prestigious award at the annual IFEM meeting for her presentation of the ongoing work. Dr. Catherine Varner published a series of articles on evolving issues in health care during the pandemic and was the first physician to receive CAEP's Medical Journalism Award. Dr. Jacques Lee launched a project at both SREMI sites on social isolation and loneliness in the elderly and was featured in several national news stories.

Virtual care exploded during COVID, with little evidence to guide public policy supporting and regulating practice. The usual government approach to policy evaluation is a confidential report from a private, for-profit consulting firm with little or no scientific expertise. In contrast, Bjug and Shelley led a rigorous scientific approach to the evaluation of eCTAS with publication of all results. They did so without government funding support. In recognition of the success of that effort, SREMI was awarded a contract from Ontario Health to lead a provincial evaluation of Ontario's 14 virtual urgent care pilot programs and make recommendations to guide future policy. Shelley is leading the evaluation. Bjug and many others took on leadership roles in the COVID response locally, regionally, provincially and nationally.

SREMI enjoyed impressive growth over the last year, and one especially exciting appointment was of our first clinician-scientist at our North York site, Dr. Rohit Mohindra. In another reflection of the growing size, productivity and complexity of SREMI, as well as her own leadership talents, Catherine was appointed as Deputy Director of SREMI.

SREMI has been very productive in all areas, in the report you will see details on grants, publications, presentations and awards. In the realm of education, EM Cases is a global phenomenon. Our fellowship programs are growing, and our graduates are assuming important leadership positions upon completion of their training. SREMI's success is also reflected in the growing size and diversity of supporters, including over \$2.5M in new donations this year. In recognition of the impact of Dr. Don Melady's work globally, Sinai Health has committed to funding an endowed Chair at SREMI in Geriatric Emergency Medicine in Don's name. This Chair will be part of a series of "Sinai 100" Chairs being created as part of the centenary celebration planned to mark Mount Sinai's 100th anniversary in 2023. It's a wonderful tribute to Don and will ensure the program will continue to thrive as a major part of SREMI's work.

The IAB has been a key part of SREMI's success. We thank you for your support, and hope you are as proud as we are of what SREMI has become and will become. We look forward to seeing you all in one way or another at this year's meeting.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Howard Ovens".

Howard Ovens MD, FCFP (EM)
Mount Sinai Hospital

A handwritten signature in black ink, appearing to read "Kevin Katz".

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



RESEARCH



Research Report



If I was asked to describe the last 12 months using only three words, I would choose disruptive, challenging and inspiring. Despite the general COVID uncertainty that continued to surround us in 2021, SREMI faculty stayed connected, motivated and engaged. What remained steadfast and clear was our commitment to advancing the discipline of emergency medicine through research, education and knowledge translation. The academic achievements and productivity of our SREMI researchers and scholars over the past year is simply astonishing.

RESEARCH IMPACT

With 49 peer-reviewed publications in high-impact journals like The British Medical Journal, Canadian Medical Association Journal (CMAJ), Intensive Care Medicine and Annals of Emergency Medicine, SREMI scientists are among the top academic producers in the country. Since November 2020, SREMI investigators have won 12 research awards, acknowledging the important contributions we are making towards emergency medicine on the national and international stage.

SREMI clinician scientist, Dr. Keerat Grewal truly had an exceptional year. Using administrative databases to conduct a large provincial study, Dr. Grewal found that patients sent home from the emergency department with an ankle fracture requiring limb immobilization were at significant risk

of developing a venous thromboembolism (blood clot) within 90 days. For this work, Dr. Grewal was awarded a plenary presentation at the 2021 Society of Academic Emergency Medicine conference, and the 2021 CanVECTOR research award from the Canadian Association of Emergency Physicians (CAEP). The resulting manuscript was recently accepted for publication in the CMAJ. For her work examining the risk of intracranial hemorrhage after head injury among elderly anticoagulated patients seen in the emergency department, Dr. Grewal was awarded a research plenary presentation at the 2021 CAEP conference showcasing the very best of Canadian emergency medicine research this year, and also won the CAEP 2021 New Investigator Award. Finally, Dr. Grewal supervised Dr. Sally Kang, an emergency medicine resident, on a systematic review on patient characteristics and outcomes associated with cancer diagnosis in the emergency department, which won a CAEP 2021 Top Resident Research Award.

For my work with the BMJ Rapid Recommendations group on a living systematic review and network meta-analysis for the management of COVID-19 patients, I had the honor of accepting the 2021 Best Paper Award at the International Conference of Emergency Medicine, and also won the 2021 Division of Emergency Medicine Award for Excellence in Research/Quality Improvement. In my role as Research Director at SREMI, part of my job is to identify, support and mentor junior and senior researchers and ensure their success as clinician scientists. Over the years, I have had the pleasure to serve as a research supervisor and mentor to hundreds of medical students, residents, fellows and physicians. In recognition of this service, I was awarded the 2021 CAEP Special Merit Award, and the 2021 Department of Family and Community Medicine Award for Research Mentorship.



EXTERNAL GRANT FUNDING

In 2021, SREMI scientists were successful in obtaining numerous grants totalling \$6.4 million to answer practical clinical questions of immediate value in the management of very common, everyday problems in emergency care. SREMI Research Chair Dr. Jacques Lee received a five-year \$850,000 grant from the Canadian Institutes of Health Research to determine if a simple urine sample can detect delirium in older people with hip fractures. Dr. Lee was also awarded an innovation grant to conduct a randomized trial to determine if a user-friendly video-conference solution is better than telephone support to reduce social isolation and loneliness for older people in the community.

SREMI Director, Dr. Bjug Borgundvaag was awarded an innovation fund grant to develop, an educational program for the medical management of alcohol use disorder in the emergency department. The goal is to improve patient care by increasing the prescribing of anti-craving medications given in the ED and referrals to outpatient services.

Dr. Catherine Varner, SREMI Deputy Director and clinician scientist, was also successful in obtaining innovation grant funding to co-design a freely accessible, web-based, education platform for patients experiencing symptoms of early pregnancy loss. This online platform will hopefully improve patient understanding of loss and provide tools for symptom monitoring and psychological supports. Over the past year, 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 national COVID-19 registry.

Virtual care has seen incredible growth since the beginning of the COVID-19 pandemic. In the fall of 2020, the Ministry of Health introduced a virtual urgent care pilot program across Ontario, intended to support emergency department diversion of patients with low acuity issues, and reduce the need for face-to-face contact whenever possible. SREMI was awarded a contract from Ontario Health to lead the provincial evaluation of this program, which will help inform provincial policy decisions on how to best structure and support virtual care moving forward in a sustainable manner.

The success of this past year is a direct reflection of the hard work and resiliency of our SREMI team. I would like to thank our Director, Dr. Borgundvaag for his leadership through these extraordinary times, our SREMI faculty, and our research coordinator Cameron Thompson for his incredible efforts. A huge thank you to our generous benefactors, Gerald Schwartz and Heather Reisman, for their ongoing patronage and support since inception.

As we look to the future, one bursting with promise and potential, we remain committed to global impact and ensuring the SREMI name is synonymous with excellence.

Respectfully submitted,

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

Academic Achievements & Awards

Gerson-Sanders Award. Academy of Geriatric Emergency Medicine at the Society of Academic Emergency Medicine. [Dr. Don Melady](#)

International Conference on Emergency Medicine 2021 Best Paper Award. Drug treatments for COVID-19: A living systematic review and network meta-analysis. [Dr. Shelley McLeod](#)

International Conference on Emergency Medicine 2021 Best Paper - Evidence into Practice Award. Creation of a novel evaluation tool to manage conflicts of interest in clinical practice guideline panels. [Dr. Shelley McLeod](#)

Society of Academic Emergency Medicine 2021 Research Plenary. Venous thromboembolism in patients discharged from the emergency department with ankle fractures: A population-based cohort study. [Dr. Keerat Grewal](#)

The Academy of Geriatric Emergency Medicine Education Career Achievement Award. This award recognizes someone who has made a significant and sustained contribution to education in the field of Geriatric EM education. [Dr. Don Melady](#)

Canadian Association of Emergency Physicians 2021 Award for Medical Journalism. [Dr. Catherine Varner](#)

Canadian Association of Emergency Physicians 2021 Research Plenary: The Best of Canadian EM Research (Plenary 2). Intracranial hemorrhage after head injury among anticoagulated elderly patients seen in the emergency department: A population-based cohort study. [Dr. Keerat Grewal](#)

Canadian Association of Emergency Physicians 2021 Research Plenary: The Best of Canadian EM Research Top New Investigator Abstract Award. Intracranial hemorrhage after head injury among anticoagulated elderly patients seen in the emergency department: A population-based cohort study. [Dr. Keerat Grewal](#)

Canadian Association of Emergency Physicians 2021 CanVECTOR Research Award. Venous thromboembolism in patients discharged from the emergency department with ankle fractures: A population-based cohort study. [Dr. Keerat Grewal](#)

Canadian Association of Emergency Physicians 2021 Top Resident Research Award. Kang S, [McLeod SL](#), Walsh C, [Grewal K](#). Patient characteristics and outcomes associated with cancer diagnosis in the emergency department: A systematic review.

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

Promotion to Full Professor in Emergency Medicine. Department of Family and Community Medicine, University of Toronto. [Dr. Bjug Borgundvaag](#)

Department of Family and Community Medicine Award for Research Mentorship. Department of Family and Community Medicine, University of Toronto. [Dr. Shelley McLeod](#)

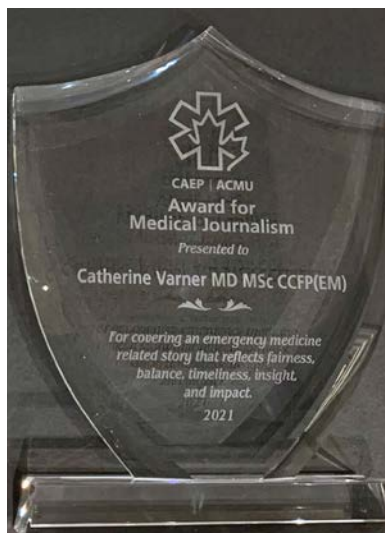
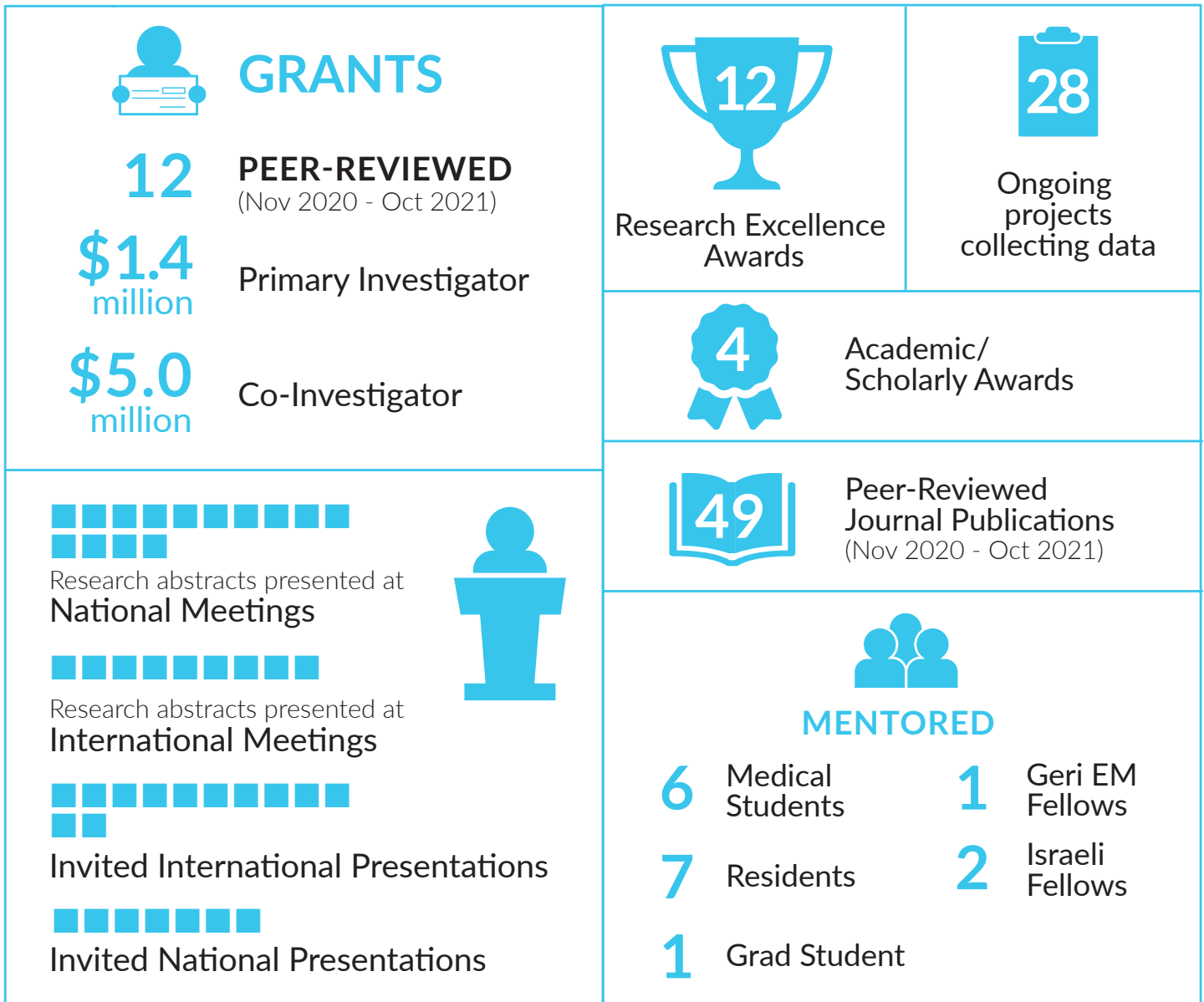
Division of Emergency Medicine Award of Excellence in Emergency Medicine. Department of Family and Community Medicine, University of Toronto. [Dr. Dave Dushenski](#)

Division of Emergency Medicine Award of Excellence for Excellence in Research/Quality Improvement in Emergency Medicine. Department of Family and Community Medicine, University of Toronto. [Dr. Shelley McLeod](#)

Appointment to Assistant Professor. Institute of Health Policy, Management and Evaluation, program of Clinical Epidemiology & Health Care Research, University of Toronto, Toronto. [Dr. Shelley McLeod](#)

Canadian Institutes of Health: Research Member of the College of Reviewers. In recognition of an accomplished research career, demonstrated track record of excellence, and dedication to peer review. [Dr. Jacques Lee](#) and [Dr. Shelley McLeod](#)

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. Keerat Grewal
Faculty



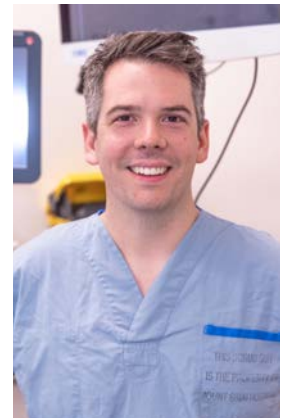
Dr. Paul Hannam
Faculty



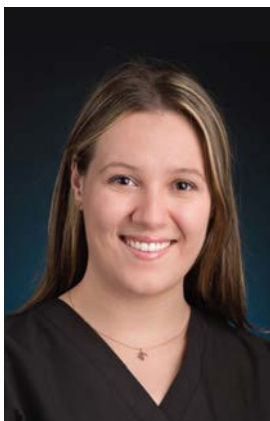
Dr. Anton Helman
Faculty



Dr. Kevin Katz
Executive Liaison
Committee



Dr. Shawn Lacombe
Israeli Fellowship
Director



**Dr. Marie-Pier
Lanoue**
Geri EM Fellow



Dr. Jacques Lee
Faculty



Sylvia Lyons
Executive
Assistant



Dr. Nana Maklada
Israeli Fellow



Dr. Shelley McLeod
Research Director



Dr. Don Melady
Faculty



Dr. Rohit Mohindra
Faculty



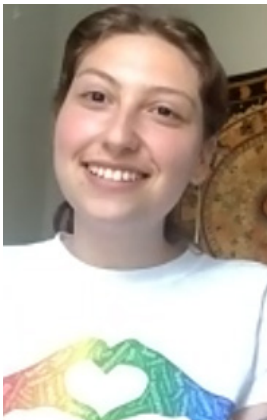
Dr. Howard Ovens
Executive Liaison
Committee



Dr. Nadia Primiani
Israeli Fellowship
Director



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



Bella Shulman
Peer Support
Worker



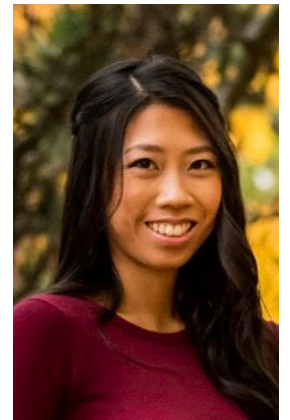
Cameron Thompson
Research
Coordinator



Dr. Catherine Varner
Faculty



Gillian Wilde-Friel
Faculty



Joanna Yeung
Research
Coordinator

SREMI Research Chair



DR. JACQUES LEE

Despite the many challenges posed by COVID-19, in his second year as the SREMI Inaugural Research Chair in Geriatric Emergency Medicine, Dr. Jacques Lee firmly established a robust prospective research program, significantly raised the profile of SREMI nationally, advanced his agenda to attract and train the next generation of future leaders in Geriatric Emergency Medicine (GEM), and developed new directions for the chair.

SOCIAL ISOLATION AND LONELINESS

The COVID-19 pandemic has forced the implementation of physical distancing and self-isolation strategies worldwide. It took only one patient in the early days of the pandemic for Dr. Lee to see just how brutal COVID-19 would be on seniors, even for those who didn't become infected with the deadly virus. "In April 2020, I saw a man from a long-term care home whose main reason for coming to the emergency department was that he felt he was dying from loneliness," said Dr. Lee. "His story ignited my interest and research in social isolation and loneliness."

To address the terrible effects of social isolation, Dr. Lee was awarded an Innovation Fund grant by the Ontario Ministry of Health and Ontario Medical Association to implement a three-arm randomized clinical trial to test if the HOW-RU intervention, a method developed by Australian collaborators to train hospital peer volunteers to support isolated older people over the telephone, compared to the HOW-RU intervention plus video-conferencing, is more effective at reducing loneliness compared to standard care.



Launching in November 2021, Dr. Lee's study will connect volunteers with isolated seniors over the telephone and video conferencing. These volunteers, who are also older adults, are being trained to engage with isolated seniors to make positive connections and have engaging conversations. Recruiting patients from the emergency departments of North York General and Mount Sinai Hospitals, and the Family Medicine, Geriatric Psychiatry and the Geriatrics clinics at Mount Sinai Hospital, the study will connect volunteers and participants for half hour telephone and video conversations weekly for three months.

For this work, Dr. Lee has had extensive media coverage with feature stories in The Toronto Star, on Global TV, and on CTV News. Dr. Lee also was recognized as the "Canadian of the Week" by Charles Adler of Global Media, and this media attention has directly led to the recruitment of volunteers and research trainees wanting to support the trial.

ONGOING RESEARCH AND NEW DIRECTIONS

Dr. Lee also received a five-year \$850,000 grant from the Canadian Institutes of Health Research to determine if a simple urine sample can detect delirium in older people with hip fractures. The goal of this study is to shed light on this poorly understood, deadly condition that affects to up 30% of older people with hip fractures. Using "metabolomics", Dr. Lee and his team will search for a chemical signal that can help better understand, diagnose and treat delirium. Critically, this funding ensures staffing to support prospective research for the next five years and will allow the support of a national collaborative GEM research network.

TRAINING THE NEXT GENERATION OF LEADERS

In collaboration with Dr. Don Melady, in 2021 Dr. Lee developed a novel curriculum designed to inspire and train the next generation of leaders in GEM research. The curriculum has been adapted for undergraduate, graduate and postgraduate learners and uses current educational best practices to maximize engagement. Nine learners took part in the summer of 2021, including two undergraduate, four medical students, one graduate student and one clinical fellow. In addition, Dr. Judah Goldstein will start the inaugural SREMI post-doctoral fellowship in January 2022.



Hospital emergency departments are filled with lonely people. This Sinai Health doctor is on a mission to help them



By **Nadine Yousif** Mental Health Reporter
Thu., Aug. 5, 2021 • 5 min. read

TORONTO STAR

'It broke my heart': ER doctor aims to fight loneliness 'epidemic' amid COVID-19

By **Jamie Maucher** • Global News
Posted June 26, 2021 8:00 am • Updated June 26, 2021 9:40 am



Charles Adler Tonight Global News RADIO
Dr. Lee is doing all within his power to make sure no senior is lonely.

Charles Adler Tonight

Meet this week's Greatest Canadian. Dr. Lee is doing all within his power to make sure no senior is lonely.

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Published Jun 29, 2021 11:31 PM

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CURIOUS

SREMI Deputy Director & Clinician Scientist



DR. CATHERINE VARNER

When picturing the interactions they will have with their health-care team, most pregnant people envision meetings with an obstetrician, a midwife, nurses and ultrasound technicians. Few anticipate a visit to an emergency department. Yet the reality is that emergency departments play a critical role in caring for women during early pregnancy. Sadly, the reasons for this care are often related to early pregnancy loss or miscarriage.

Because of her research, teaching and advocacy, SREMI Scientist and Deputy Director Dr. Catherine Varner is now regarded as an international expert on the care of patients experiencing loss in the emergency department. Her research has established that four in five people experiencing a miscarriage are cared for in emergency departments in Ontario, and the experiences patients have 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.

Dr. Varner, who is leading the way to establish province-wide best practices, states, “We know emergency departments are Canada’s number one early pregnancy care providers, and we want to provide women with early pregnancy loss the best possible care.”

Alongside collaborators at North York General Hospital, Dr.

Varner has led education training sessions for both hospitals’ emergency and obstetrical providers and has been an invited speaker at national and international conferences and medical education podcasts on caring for patients facing uncertainty or loss in early pregnancy.

With support from an Innovation Fund Grant, Dr. Varner now leads a team of providers, patients and researchers in the co-design of a web-based education platform for patients experiencing loss. Reflecting on this collaboration, she says, “We listen to patients’ experiences of loss, ask them what could have been done better, and if they would like to be partners in our research program. As a result of their partnership and input, we are paving the way for a more patient and family-centred experience of loss.”

In 2021 Dr. Varner also continued leading clinical trials in the emergency department. In May she and her SREMI co-investigators Dr. Shelley McLeod, Dr. Bjug Borgundvaag and Cameron Thompson, published one of the largest prospective clinical trials of adult concussion patients to date. The results demonstrated early exercise following concussion did not delay recovery and was chosen as the “Editor in Chief Pick of the Month” in *Academic Emergency Medicine* and was widely reviewed as ‘practice-changing’ by critical appraisal sources.

Following the completion of a year-long health journalism program at the Dalla Lana School of Public Health at the University of Toronto in 2020, Dr. Varner has also been a regular contributor to *Canadian Medical Association Journal News*, *Healthy Debate*, and *The Conversation*. She writes stories describing urgent health concerns with viewpoints from frontline workers, such as the exodus of nurses from Canadian hospitals and violence in emergency departments. In 2021, Dr. Varner received the Canadian Association of Emergency Physician’s Medical Journalism Award and was the first physician to receive this national recognition. In her new role as Deputy Director of SREMI, Dr. Varner also uses her writing and journalism expertise to promote the accomplishments of SREMI faculty.



Catherine Varner
CAEP Medical Journalism
Award Winner

healthydebate

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Article

Oct 14, 2021 by Catherine Varner

‘Do I really need this in my life?’ Concerns grow over violence in ERs

5 Comments Share on: [f](#) [t](#) [in](#)

AUTHOR

Catherine Varner
Deputy Editor

SREMI Clinician Scientist



DR. KEERAT GREWAL

A dreaded part of a patient's journey with cancer can be ending up in an emergency department with acute illness or side effects from treatment. Moreover, during the COVID-19 pandemic, patients have been more frequently diagnosed with cancer during emergency department visits for prolonged, unexplained symptoms.

To date, very little is known about how these emergency department visits impact the outcomes for cancer patients, but SREMI Clinician Scientist Dr. Keerat Grewal is using some of the world's largest health administrative databases to study the relationship between the emergency department and patient outcomes throughout the cancer continuum. "Even prior to the COVID-19 pandemic, we often saw patients with a new or suspected cancer that were diagnosed in the emergency department. However, during the pandemic, it seems we are seeing more cancers being diagnosed in the emergency department, often at a more advanced stage," says Dr. Grewal.

As a health services researcher, Dr. Grewal taps into province-wide, administrative health databases to look at trends among patients across Ontario. In a first of its kind study, she found that cancer patients in Ontario frequently require emergency care, and that almost one in four emergency department visits by these patients are due to possible infection.

This year she supervised University of Toronto emergency medicine resident, Dr. Sally Kang, who was awarded one of the Top Resident Research Awards at CAEP 2021 for her abstract "Patient characteristics and outcomes associated with cancer diagnosis in the emergency department: A systematic review." As Dr. Grewal said, "These findings will inform future studies and I'm hoping we can positively impact outcomes and care for these patients."

Dr. Grewal is also using similar databases to quantify how the COVID-19 pandemic has affected emergency department usage and health outcomes of non-COVID-19 patients in Ontario. With many emergency departments reporting a significant drop in patient visits at the height of the pandemic, there is concern that people who should be seeking emergency care are delaying their care, and their health is suffering as a result.

In addition, Dr. Grewal has built a successful research program studying venous thromboembolism and head injuries among patients on blood thinners. This year she completed a study examining patients with an ankle fracture requiring limb

SREMI SCHWARTZ/REISMAN EMERGENCY MEDICINE INSTITUTE

Sinai Health

NORTH YORK GENERAL Making a World of Difference

IC/ES Data Discovery Better Health

Venous thromboembolism in patients discharged from the emergency department with ankle fractures

Keerat Grewal,^{1,2,3} Clare L. Atzema,^{2,3,4} Rinku Sutradhar,^{3,5} Karl Everett,³ Daniel Horner,^{6,7} Cameron Thompson,¹ John Theodoropoulos,⁸ Bjug Borgundvaag,^{1,9} Shelley L. McLeod,^{1,9} Kerstin de Wit^{10,11}

¹Schwartz/Reisman Emergency Medicine Institute, Sinai Health, Toronto, Ontario, Canada; ²Division of Emergency Medicine, Department of Medicine, University of Toronto, Toronto, Ontario, Canada; ³ICES, Toronto, Ontario, Canada; ⁴Department of Emergency Services, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; ⁵Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto; ⁶Salford Royal NHS Foundation Trust, Salford, UK; ⁷Division of Infection, Immunity and Respiratory Medicine, University of Manchester, Manchester, UK; ⁸Division of Orthopedic Surgery, Sinai Health, Toronto, Ontario, Canada; ⁹Department of Family and Community Medicine, University of Toronto, Toronto, Ontario, Canada; ¹⁰Department of Emergency Medicine, Queens University, Kingston, Ontario, Canada; ¹¹Department of Medicine, McMaster University, Hamilton, Ontario, Canada

immobilization in the emergency department and found immobilization increased the risk of developing blood clots. Dr. Grewal presented this study at the Society for Academic Emergency Medicine (SAEM) conference as a plenary presentation and won the national Canadian Association of Emergency Physicians (CAEP) CanVECTOR award. The study was published in the field's most prestigious journal, *Annals of Emergency Medicine*

Dr. Grewal continues to lead the iBLEED-ED study, a study examining the risk of intracranial hemorrhage in older patients seen in the emergency department with a head injury and comparing these risks by anticoagulation status. The study was recently accepted by CMAJ, and was presented at the CAEP conference as a plenary presentation. For this work, Dr. Grewal won CAEP's New Investigator Award. Several sub-studies from this project are in the process of being submitted for publication in high-impact, peer-reviewed journals.

Keerat Grewal MD MSc FRCPC
Assistant Professor
Department of Emergency Medicine, U of T
Emergency Physician, Mount Sinai Hospital, Toronto

Key Take-away Messages

- DOACs, including apixaban, edoxaban, and rivaroxaban, provide an effective option to LMWH for some/most patients with CAT and are preferred for most patients
- Use of some DOACs in patients with GI cancers and history of GI bleeding is associated with higher rates of bleeding
- Patient characteristics, including bleeding risk, cancer origin, comorbidities, and potential DDIs, need to be considered when choosing a specific DOAC

NYGH Research Lead



DR. ROHIT MOHINDRA

In early 2020, with COVID-19 spreading and the demand for critical care rising, emergency departments across Ontario prepared for worst possible scenarios. While North York General emergency department honed protocols and repurposed space for sick patients, Dr. Rohit Mohindra recognized adding emergency department research to the hospital's pandemic response was an obvious and important next step.

“To quickly acquire information about a new virus, we needed large hospitals that were likely to see many COVID patients be part of a national research strategy” says Dr. Mohindra. Having spent the last two years building North York General's emergency research program, Dr. Mohindra and his team had the necessary personnel, technology and staff support to make significant contributions to the national COVID-19 registry and continued to build research collaborations with other departments and hospitals across Canada.

To facilitate ongoing studies in the department, Dr. Mohindra created a novel, web-based enrollment portal embedded within the electronic medical record. In addition, two ongoing projects pivoted to remote patient enrollment which allowed research assistants to administer surveys and enter clinical data safely and securely from home.

Sinai Health Foundation

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SINAI HEALTH, NYGH JOIN FORCES TO STUDY COVID-19 FROM THE EMERGENCY DEPARTMENT

In early 2020, with COVID-19 spreading and the demand for critical care rising, emergency departments across Ontario prepared for worst possible scenarios.

While North York General Emergency Department honed protocols and repurposed space for sick patients, Dr. Rohit Mohindra, an emergency physician at North York and clinician scientist at the Schwartz/Reisman Emergency Medicine Institute based at Sinai Health, realized the importance of emergency department research during a global pandemic.

CHARLOTTE & LEWIS STEINBERG EMERGENCY

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After a busy year of adapting to the pandemic-era emergency department environment, Dr. Mohindra and his team continued research collaborations with critical care, surgery, and in this year alone, clinicians in the North York General Hospital Emergency Department published seven peer-reviewed publications and supervised numerous medical students

and residents. Dr. Mohindra was also successful obtaining grant funding for four research projects as a co-investigator, including two collaborations with SREMI Research Chair, Dr. Jacques Lee. The emergency department at North York will be critical for the enrollment of patients for both of Dr. Lee's studies detecting delirium in hip fracture patients and social isolation and loneliness in older adults.

With more than 65 percent of all hospitalizations taking place in non-academic centres in Canada, Dr. Kevin Katz, clinician researcher and Medical Director of Infection Prevention and Control at North York General Hospital, says conducting research in large volume community hospitals is a no-brainer. "North York General is a leading community academic hospital. We strive to provide leading edge diagnostics and therapeutics to our patients through applied research." More eligible patients, more efficient study enrollment and wider study recruitment leads to faster implementation of study results, improved patient outcomes and lower health care costs, says Dr. Katz, and "Dr. Mohindra and the entire NYGH emergency department are leading the way."

The pandemic has brought clinical research to the forefront and has also shown the reliance of the Canadian health care system on emergency departments, says Dr. Mohindra. "COVID has shown us how quickly we can get research launched while ensuring it is safe, and it has also shown us ways to make care better. We always put patient care first, so looking for ways we can do it better is a natural extension of what we are already trying to do."

Looking forward to 2022, the emergency department research team at North York General Hospital will build on this infrastructure and will make research a seamless part of providing care in the department.

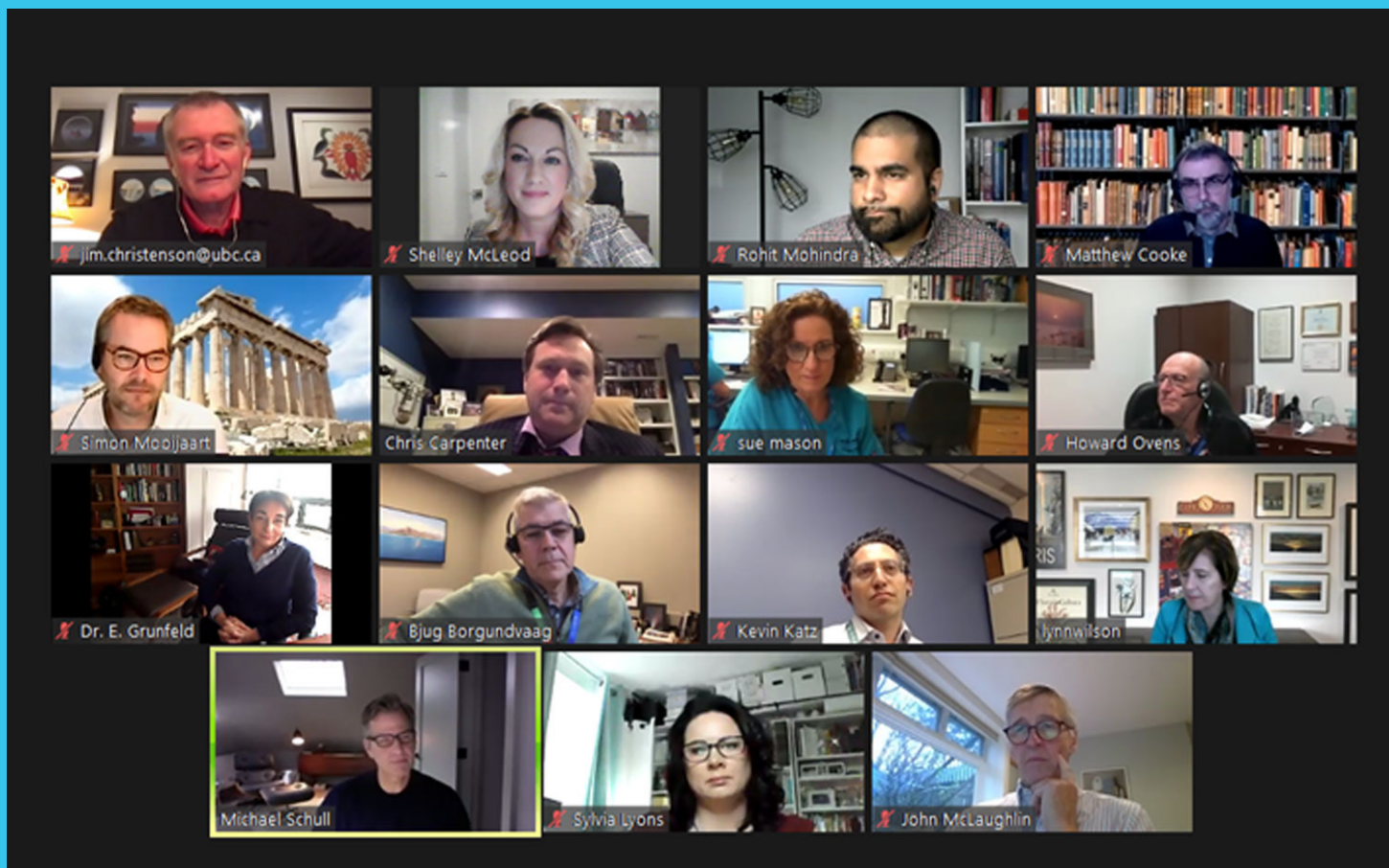




Noor Al-Kaabi completed her Honours Bachelor of Science degree at the University of Toronto and was awarded the Summer Undergraduate Research Program (SURP) director's award from the Institute of Medical Science. She worked with SREMI Research Chair Dr. Jacques Lee and Sara Corvinnelli on a research study focused on delirium in the emergency department. Specifically, Noor examined the relationship between predictors and different motor subtypes of delirium by conducting a secondary analysis in a prospective cohort of 1310 older emergency department patients. Noor found that while cognitive impairment and comorbidities predicted delirium, those with cognitive impairment were more likely to develop the hypoactive form of delirium over the hyperactive form. These findings will be submitted to the CAEP 2022 abstract competition in Quebec City.



Iris Kim is a 3rd year medical student from the University of Toronto. She joined the SREMI team, working with Dr. Borgundvaag and Cam Thompson, as part of the Comprehensive Research Experience for Medical Students (CREMS) program in summer 2021. As part of the larger project, "The Development of an Educational Program for the Medical Management of Alcohol Use Disorder (AUD) in the Emergency Department", Iris conducted a chart review of 200 alcohol-related ED visits at Mount Sinai Hospital to characterize current medical and non-medical management of AUD in the ED. Additionally, Iris created a flowchart for ED physicians to help facilitate medical management of AUD. Moving forward, Iris aims to continue working on the project and evaluate the needs and barriers for better AUD care through ED physician surveys, and eventually assess the effectiveness of the educational intervention for healthcare providers. She hopes to share the results of the project through manuscripts and conference presentations.



EDUCATION



Geriatric Emergency Medicine

DR. DON MELADY



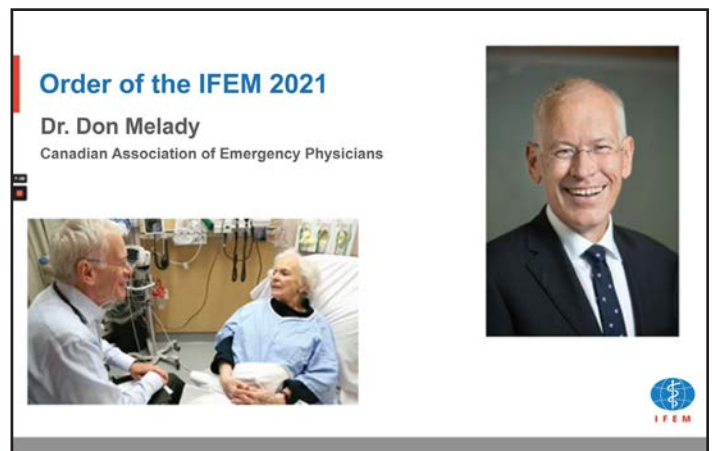
The COVID-19 pandemic has been devastating for seniors' health and well-being, and ensuring the emergency department is a safe haven for older adults facing acute illness has never been more urgent.

Dr. Don Melady, a world-renowned expert in the design of geriatric-friendly emergency departments and the Geriatric Emergency Medicine (Geri EM) Lead at SREMI, was called upon by multiple international organizations to provide his input to caring for seniors in the face of the pandemic. In addition to providing this guidance to emergency medicine clinicians globally, over the last year Dr. Melady has continued to lead education, knowledge translation and system change projects across North America.

This marks the seventh year of the SREMI-based fellowship in Geri EM, the only one of its kind in Canada and only one of six in North America (the others are at Harvard, Johns Hopkins, UNC, Beaumont, UC Davis). Over the past seven years, eight emergency physicians have completed six or twelve months of advanced training in this field. They are now working in Canadian health systems from Victoria to Quebec City. Two of their stories are in the side bars. This year's Geri EM fellow, Dr. Marie-Pier Lanoue, is updating and expanding the hugely successful educational website <https://geri-em.com> with funding provided by the American John A. Hartford Foundation. The first international Geri EM fellow from Singapore will start in 2022.

Dr. Melady became the immediate past-chair of the CAEP Geri EM committee. This committee produced a national policy statement that will impact the standard of care that exists for older people in Canada's EDs.

Outside of Canada, Dr. Melady works with the American grant-funded Geriatric ED Collaborative <https://gedcollaborative.com> where he is responsible for its educational website; a series of international webinars (with monthly attendance of around 200); and system interventions at Advocate-Aurora in Wisconsin-Illinois, San Francisco hospitals, the Mayo Clinic, and the Veterans Administration. He presented virtually at the recent conference for the American College of Emergency Physicians and is on the Board of Governors for the Geriatric ED Accreditation programme <https://www.acep.org/geda/> which has reviewed and accredited 260 EDs across the US and around the world. His work with the International Federation of Emergency Medicine (IFEM) involved coordinating content from eight different clinical areas at the International Conference of Emergency Medicine in



Dubai in June 2021 (virtual) which was presented as a successful educational marketplace. He is also the vice-chair of IFEM's Task Force on Virtual Education Events.

This past year, Dr. Melady was made a fellow of the IFEM in recognition of his contributions to the development of emergency medicine internationally. He also received the Gerson-Sanders Award from the Society for Academic Emergency Medicine, awarded to someone who "has made significant lifetime contribution to improving care for older adults in emergency medicine."

His principal pandemic project was writing a book with the American gerontologist, Dr. John Schumacher, to be published in December 2021 by Cambridge University Press. "Creating a Geriatric ED: A Practical Guide" will be the international go-to text for anyone wanting to change their ED and improve care of older patients <https://www.cambridge.org/core/books/creating-a-geriatric-emergency-department/8A860CD9BADB4E1C1509BDB49B814159>

Dr. Melady would like to thank Ms. Penny Rubinoff and Bill and Cathy Graham for their generous support towards the Geriatric Emergency Medicine Program at SREMI.

Creating a Geriatric Emergency Department

A Practical Guide

John G. Schumacher and Don Melady



CAMBRIDGE Medicine

GEM FELLOW UPDATE



Dr. Audrey-Anne Brousseau.

After completing SREMI's Geriatric EM fellowship, I returned to a faculty position at Université de Sherbrooke. Using the knowledge and skills I learned at Sinai Health, I developed our Geriatric ED program. Within two years of returning, our department successfully received accreditation by ACEP

as a Level 2 Geriatric ED, which is the first in Canada. As a result of that experience, I was asked to lead a Quebec Ministry of Health project to create a pathway for all the EDs in the province to improve care of older patients. I also completed a teaching certificate during the fellowship, which enabled me to organize two courses for Quebec emergency physicians and nurses on clinical topics in geriatric ED care. The first one in 2019 was attended by 200 people (live), and the second in 2021 by 400 people (of which around 300 physicians). I think that course, which I couldn't have done without my experience from the SREMI fellowship, is changing the care that Quebec emergency physicians provide to older patients every day.

Dr. Brittany Ellis. After completing the SREMI GEM fellowship, I was hired half-time by University of Saskatchewan to be an emergency physician EM (and to develop their local geriatric programmes) and half-time by the Saskatchewan Health Authority to be the provincial lead for geriatric emergency medicine. In the later



role, I lead programs in EDs across the province to improve care of older people, for example Saskatchewan's first ED delirium pathway. I also am involved in research and have supervised multiple learners on projects relating to older people in the ED, as well as co-authored multiple peer reviewed publications. I am the current Chair of the CAEP Geriatric EM Committee where I recently led a year-long project to create a position statement for the CAEP Board regarding care of older people in EDs across Canada which has the potential to shape the ED standard of care nationally. I am confident in my ability to advocate for care of older people in the acute care setting, and routinely speak to and advise both health care and community organisations about related topics. I think it is unlikely that I would have been offered these two roles or been able to complete these various projects without having completed my fellowship in Geriatric EM, and without the support and networking the SREMI fellowship program provided me.

EM Cases

DR. ANTON HELMAN

Launched eleven years ago, Dr. Anton Helman's EM Cases is part of the Free, Open Access Medical Education movement, widely known as FOAMed. As an exemplar of this movement, EM Cases produces freely accessible, emergency medicine-related podcasts, written material, push emails and videos. Having recently released its 300th podcast, EM Cases has well over 14 million podcast downloads, 3 million users of its website, and is the most downloaded emergency medicine podcast in Canada.

At the beginning of the pandemic, Dr. Helman felt an urgency to produce COVID-related podcasts. "There was an enormous amount of fear amongst emergency providers, and I felt the earlier I could help educate the community, the sooner we could manage that fear and get going on managing the crisis effectively."



EM Cases normally produces just one podcast every two weeks, but in March and April of 2020, at the height of COVID preparations across Canada, it put out eight full-length podcasts as well as various other online resources. During these two months, EM Cases podcasts were downloaded over 500,000 times by 100,000 users around the world, and emergency medicine personnel were depending on their expert guidance.

Dr. Andrea Unger, the chief of emergency services at Brant Community Health System, says EM Cases was not just about clinical information, but providing the most up-to-date information about PPE, surge capacity, screening and diagnosis in those early days of the pandemic. She says EM Cases was her "go-to place, because it was relevant to my community in southern Ontario." Dr. Unger used EM Cases to ensure their region's COVID plans aligned with the rest of the country and to convince other hospital leaders of new policies. As she put it: "When I had challenges, I wrote down EM Cases and said, 'You need to look at this.'"



EM CASES NEW USERS - TOP 5 COUNTRIES



As the pandemic made in-person health care less accessible, EM Cases also became a resource for patients and their caregivers, as described in a recent letter of gratitude to EM Cases.

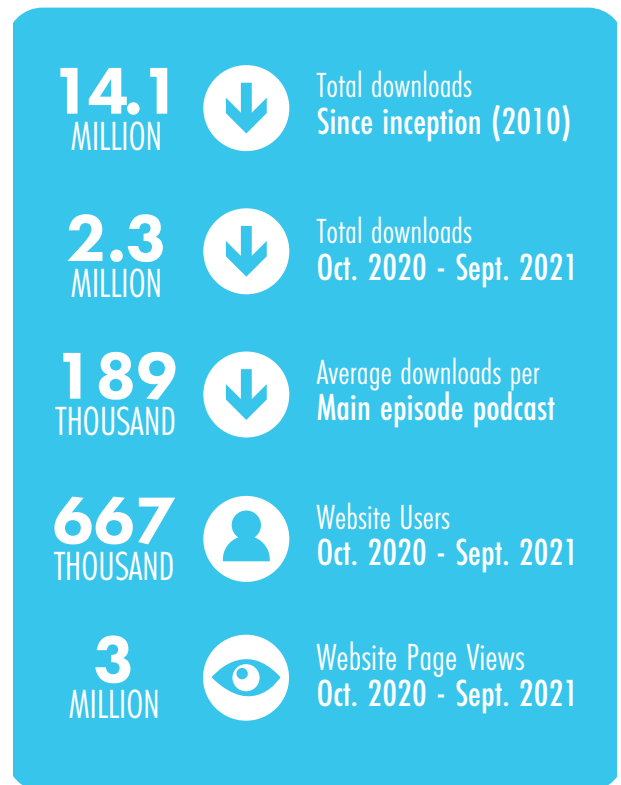
In Ontario, Beth* was processing the sudden and devastating loss of her husband who had suffered an intracerebral hemorrhage in April of 2020. She had read an article online suggesting the pain medication she had let her husband use for back pain may have caused his brain to bleed, causing her overwhelming guilt, regret and self-blame.

In her search for answers and solace, she came upon the EM Cases podcast Emergency Management of Intracerebral Hemorrhage. After listening, Beth reached out to Dr. Walter Himmel, the podcast's guest expert and an emergency physician at North York General Hospital. In the following weeks, Dr. Himmel had several telephone conversations with Beth to help her understand that the medication did not cause or contribute to her husband's passing, which gave her, as she wrote, "the facts and knowledge that I needed to replace the misconceptions that I had about what happened."

Her letter concluded by expressing her thanks to Drs. Himmel and Helman for creating educational podcasts that everyone can freely access.

Not surprisingly, the number of users of the site has increased 100% over the past two years, as its multi-modal learning system attracts medical learners from all stages of training. EM Cases Quiz Vault, for example, is a growing bank of multiple choice questions started two years ago and has been used by more than 10,000 people from around the world.

*Name has been changed to preserve anonymity.





ATTENDEES

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“Collaborating with members recognizing we are all in this together and sharing experiences and learnings, good or bad are of value in our professional and personal life.”

“Felt connected even though virtual, break-out was excellent.”

“Session focus was timely and relative to current clinical landscape, focusing on wellness, COVID-19, and collaboration”



2020

Canada’s leading Emergency Department (ED) Administration Conference, presented by the Schwartz/Reisman Emergency Medicine Institute (SREMI), was held virtually on November 24, 2020. It was a half day interactive 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; “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.



DR. MATTHEW COOKE

Has the Pandemic Really Accelerated Our Use of Technology: UK Experience



MATTHEW ANDERSON

Is COVID-19 Accelerating Health Care Reform?



DR. KERSTIN DE WIT

Wellness During the COVID Pandemic



DR. ALEXIS HALPERN

Surviving a Tragedy: A Case Report



DR. ANDREW PETROSONIAK & DR. CHRISTOPHER HICKS

Design & Rapid Change



DR. EVE PURDY

Creating the ED Culture Your Staff and Patients Deserve

INNOVATION



RBC Pathway to Peers



CHRISTINE BRADSHAW

The RBC Pathway to Peers (P2P) program helps young people between the ages of 16 to 29 years navigate the fast-paced and sometimes intimidating emergency department, providing comfort, care and information to those who need it most. Led by SREMI and in partnership with Stella's Place, the program's peer support workers are available seven days a week in the emergency department, collaborating with the healthcare team to assist young adults seeking care for mental health or substance use. The peers also assist patients by connecting them with community-based resources to support their long-term health.

Since the inception of the RBC P2P program in 2020, the feedback from emergency department staff and patients has been incredible. As part of its comprehensive evaluation, physicians and nurses have shared overwhelmingly positive feedback about its impact 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. I cannot thank the program enough!"

This year has been exciting as the program is expanding. Two exceptional part-time peer support workers joined the team, Bella Shulman and Jordyn Ethier, enabling the program to extend hours of coverage to evenings and weekends. In recognition of the program's positive impact, clinical staff also asked for increased access to peers in the ED. Clinical staff can now call the RBC P2P worker directly through a secure hospital phone, can make electronic referrals to connect patients, and an after-hours referral form was created for telephone follow-up for when patients present when peers are not there. These connections were found to be huge success.





To broaden the awareness of the program, the P2P team also reached out to various community agencies and universities in the area, introducing them to the peer program in the ED. These efforts have increased awareness, and people are now coming into the ED asking to see the peer during their visit.

The RBC P2P team are recognized experts, advocates, and youth mental health champions within the broader hospital system. Christine Bradshaw, Yolanda Delmonte, Bella Shulman and Jordyn Ethier were invited to join the systemic bias and racism committee at Sinai Health, bringing a youth perspective to help recognize bias, reduce barriers and ensure inclusive care for all patients. They also participated in simulation training and orientation sessions 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, including peer support workers, can ensure inclusive and accommodating care in the department.

The P2P team also submitted abstracts to local, provincial and national conferences and has delivered five presentations and workshops to date. These abstracts presented information on how the RBC P2P program was conceived and implemented at Sinai Health, and many requests for further information on how to replicate the program from several institutions across Canada have followed.

Since its introduction in the Mount Sinai Hospital Emergency Department, the RBC P2P program has supported 2131 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 2020 - October 2021



GERIATRIC EM (n=10)

1. **Carpenter CR**, Hammouda N, Linton EA, Doering M, Ohuabunwa UK, Ko KJ, Hung WW, Shah MN, Lindquist LA, Biese K, Wei D, Hoy L, Nerbonne L, Hwang U, Dresden SM; GEAR Network. Delirium Prevention, Detection, and Treatment in Emergency Medicine Settings: A Geriatric Emergency Care Applied Research (GEAR) Network Scoping Review and Consensus Statement. *Acad Emerg Med*. 2021 Jan;28(1):19-35.
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9. Rose L, Burry L, Agar M, Campbell NL, Clarke M, **Lee J**, Marshall JC, Devlin JW, Blackwood B, Needham DM, Siddiqi N, Page V; Del-COrS Group. A Core Outcome Set for Research Evaluating Interventions to Prevent and/or Treat Delirium in Critically Ill Adults: An International Consensus Study (Del-COrS). *Crit Care Med*. 2021 Sep 1;49(9):1535-1546.
10. **Grewal K**, Atzema CL, Austin PC, de Wit, MD K, Sharma S, Mittmann N, **Borgundvaag B, McLeod SL**. 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. *CMAJ* October 12, 2021 193 (40) E1561-E1567; DOI: <https://doi.org/10.1503/cmaj.210811>.



GENERAL EM (N=10)

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CARDIOVASCULAR (N=9)

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COVID-19 (N=8)

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TRIAGE AND FLOW (N=7)

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MILD TRAUMATIC BRAIN INJURY (N=4)

- Blais Lécuyer J, Mercier É, Tardif PA, Archambault PM, Chauny JM, Berthelot S, Frenette J, Perry J, Stiel I, Émond M, **Lee J**, Lang E, McRae A, Boucher V, Le Sage N. S100B protein level for the detection of clinically significant intracranial haemorrhage in patients with mild traumatic brain injury: a subanalysis of a prospective cohort study. *Emerg Med J*. 2020. Dec 18;38(4):285-289.
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EARLY PREGNANCY (N=1)

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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-centred 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.

