

# ANNUAL REPORT 2018



**SREMI**  
SCHWARTZ/REISMAN  
EMERGENCY MEDICINE  
INSTITUTE

Mount Sinai Hospital  
North York General Hospital

# 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

## Director, SREMI

Bjug Borgundvaag, MD, PhD

## Research Director, SREMI

Shelley McLeod, PhD(c)

## Hospital Liaison

### Committee, SREMI

Kevin Katz, MD, MSc

Howard Ovens, MD

## ED Chiefs

Kuldeep Sidhu, MD (NYGH)

David Dushenski, MD (MSH)

## SREMI Faculty

Keerat Grewal, MD, MSc

Anton Helman, MD

Don Melady, MD, MSc

Rohit Mohindra, MD, MASc

Aaron Orkin, MD, MSc, MPH

Rick Penciner, MD, MSc

Catherine Varner, MD, MSc

## SREMI Affiliated Scholars

Katie Dainty, PhD

Monika Kastner, PhD

Patricia Trbovich, PhD

## Research Coordinator

Cameron Thompson, MSc

## SREMI Fellows

Savannah Forrester, MD

Chris Skappak, MD, PhD

## Research Assistant

Jeyasakthi Venugopal, BSc

## Executive Assistant

Sylvia Lyons

## CONNECT

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# Welcome from the Director



Our annual report is an opportunity to reflect on our progress and renew our focus on our long-term goals. SREMI has had a productive 2018, and I am excited about the upcoming year.

Our top priority last year was to grow our number of investigators and increase research capacity. Unquestionably, our most important accomplishment was obtaining funding for two new Research Chairs. The addition of two successful clinician scientists to our group, with funding for them to build their programs of research will be transformative for SREMI. Two excellent applicants have been selected, and negotiations are nearing completion. We hope to formally announce our two new chairs before the end of the year.

We were also pleased to recruit Dr. Keerat Grewal, who joined SREMI in July. Keerat will spend her first 18-24 months with us as an Institute for Clinical and Evaluative Science (ICES) fellow, gaining additional experience in health services research, and establishing her own program of research. Keerat has had a productive first few months and we are looking forward to watching her career flourish. Additionally, Ms. Sylvia Lyons joined us this year in the role of administrative assistant supporting our entire group. Sylvia has quickly become an indispensable member of our group making all of our lives better.

Our second priority for 2018 was to expand our research collaboration with our partners at NYGH. We have made significant progress in integrating our work with the Research Chairs at NYGH and together; we have submitted a total of

9 grants with 4 projects under way. The areas of methodological expertise of the NYGH Chairs perfectly complement the expertise at Mount Sinai Hospital, and expand the types of projects we are undertaking.

With growth comes the need to expand our physical space. Once our new Research Chairs are in place, we will be at maximum capacity for office space. We have been working on growth projections and determining our space needs over the coming 5 years. Initial discussions with hospital administration have begun, and a plan for short and long-term growth is under way. The ability to keep our group together in a contiguous space is a priority for me as it helps foster a sense of community.

I would like to thank all our IAB members for their continued support and commitment to SREMI, and also welcome Dr. Suzanne Mason and Dr. Simon Mooijaart to the Board. I would like to thank our IAB Chair, Dr. Chris Carpenter, for his participation in our monthly meetings and mentorship of our junior faculty, which has been tremendously helpful. I would also like to recognize our hospital and foundation leadership, our benefactors, partners, and our clinical and research staff for their ongoing commitment to making SREMI the best center for academic emergency medicine in the world.

Finally, I would like thank Gerald Schwartz and Heather Reisman for their ongoing, support and engagement with the SREMI team. Their incredible generosity continues to transform the way emergency department patients are cared for today, and in the future.

A handwritten signature in black ink, appearing to be 'B. Borgundvaag', written in a cursive style.

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



# COLLABORATION

# Chair's Report to the Board



Welcome to the 4th Annual Schwartz/Reisman Emergency Medicine Institute (SREMI) International Advisory Board (IAB) Meeting. Under the leadership of Director Bjug Borgundvaag and Research Director Shelley McLeod, 2018 has remained impressively productive for SREMI. I wish to review these accomplishments and activities.

## IAB MEMBERSHIP

The IAB membership underwent a few changes. In addition to Brian Rowe rotating off the IAB, Frank Sullivan also moved on to new responsibilities. Eva Grunfeld, Lynn Wilson, Jim Christenson, John McLaughlin, Matthew Cooke, and Michael Schull generously agreed to remain on the IAB. Two new individuals also joined the IAB. Suzanne Mason is professor of emergency medicine at Sheffield University with a research focus on alternatives to hospital admission for complex disease processes, and Simon Mooijaart is a Leiden University geriatrician in the Netherlands with long-standing interest in emergency care of aging populations.

## SREMI CHAIR POSITION

SREMI obtained funding for a Research Chair Position. Interviews were conducted in June 2018, and the interview committee was so impressed with two of the candidates, that positions were offered to both. SREMI is finalizing contracts and the new Chairs should join the team in January 2019.

## NYGH ENGAGEMENT

Building on the strong NYGH brand in continuing medical education, a two-day Emergency Department Administration Conference (EDAC) conference was held in November 2017 at the Toronto office of the Ontario Medical Association, co-chaired by Kuldeep Sidhu and Howard Ovens. The conference featured several members of the IAB, exhibiting the international transdisciplinary leadership available to SREMI. In 2018, EDAC (November 27 and 28) will again follow the IAB meeting and will focus on challenges confronting emergency department administration such as hospital crowding, patient satisfaction, and the opioid epidemic. Co-Chairs Howard Ovens, David Dushenski, and Kuldeep Sidhu have organized the first day. A second full day co-Chaired by Teresa Chan and Rick Penciner explores the opportunities to cultivate education to promote a learning organization for leadership.

## SREMI KNOWLEDGE TRANSLATION ACTIVITIES

The SREMI team is pushing the envelope of disruptive innovation to transform knowledge into action. EM Cases (<https://emergencymedicinescases.com/>) was developed by Dr. Anton Helman of NYGH and disseminated with SREMI support. EM Cases began as a podcast (with well over 7 million podcast downloads since inception and episodes average 160,000 downloads per month), but has expanded to include blogs, videos, eBooks, and courses. The 4th Annual EM Cases course is Feb 9-10 and is already sold out.

EM Cases is not the only SREMI KT innovation. Dr. Don Melady created two highly recognized web-based asynchronous learning platforms. Geri-EM (<https://geri-em.com/>) includes six geriatric emergency medicine cases with video learner-

focused interactive modules that include the perspectives of patients, nurses, physiotherapists, and physicians confronting common bedside scenarios with continuing medical education credits for nurses and physicians. These modules have been widely used by American sites undergoing American College of Emergency Physician Geriatric Emergency Department Accreditation in 2018. Dr. Melady subsequently created <https://geriatric-ed.com/> to provide information to health system leaders interested in exploring the value of adaptations focused on aging populations, including information sources and exemplar quality improvement projects.

## SREMI RESEARCH ACTIVITIES

SREMI has had a truly impressive year of research activities for the SREMI scientists and their collaborators. Continuing research foci include geriatrics and the ageing population, alcohol and other substance use disorders, mental health, shared decision-making, transitions of care and emergency care equity.

## STRATEGIC PLAN

At the 2017 IAB meeting, the leadership of SREMI presented a Strategic Plan for the Institute. The first-draft Strategic Plan included an appropriately enthusiastic vision for career development, recruitment, research focus and knowledge translation to steer SREMI activities over the next five years. The IAB requested clarity on roles and resources required to fulfill this vision. SREMI leadership will provide updates on these queries at the 2018 IAB meeting.

## REFLECTIONS FROM THE CHAIR

I have participated in the monthly SREMI research updates throughout 2018. In addition, the IAB held the first mid-year IAB meeting on June 27 to maintain momentum and provide ongoing input to SREMI leadership. Throughout Canada, a four-year old SREMI is increasingly acknowledged and recognized as an innovative contributor to emergency medicine science and knowledge translation.

I've heard first-hand as senior research leaders in emergency medicine marvel at the potential for SREMI to impact the future of acute medical and surgical care worldwide based upon SREMI's initial productivity and stellar leadership. As a member of the ACEP Geriatric ED Accreditation Board of Governor's I have also witnessed hospital leaders' astonishment and then admiration for Dr. Melady's generous and high-quality web resources as frontline providers sought accessible asynchronous learning platforms that do not exist elsewhere. SREMI scholar Catherine Varner co-authored an Annals of Internal Medicine's ACP Journal Club commentary with me. I have sat in the audience as Dr. Helman provided a virtual clinic on how to engage an audience at a Best Evidence in Emergency Medicine conference. Finally, I participated via teleconference as the SREMI Chair Candidates were interviewed. Two of the candidates reached out to me before the interviews and both spoke of SREMI's future with unfettered admiration and pragmatic enthusiasm. As 21st Century emergency medicine moves forward, SREMI will undoubtedly influence the trajectory of healthcare.

I'd like to warmly acknowledge Dr. Ovens, Dr. Borgundvaag, Ms. McLeod, and the entire SREMI team for their vision and perseverance striving to improve the lives of patients seeking care for acute illness, injury and mental health problems. To communicate the importance of these efforts in words seems hollow, especially in these times of severe emergency department overcrowding, emerging federal health issues (e.g., opioid crisis, cannabis legislation, suicide epidemic) and the special populations we serve (e.g., disadvantaged, new immigrant, and Indigenous people). The IAB members look forward to working with the leadership team to accomplish the important goals ahead.

Respectfully submitted,



Christopher R. Carpenter, MD, MSc, FACEP, AGSF  
Chair, SREMI International Advisory Board  
Associate Professor, Department of Emergency Medicine  
Washington University in St. Louis

# 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 committee 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. Chris Carpenter** is an emergency physician and Associate Professor 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, Emergency Medicine Section Head for the Annals of Internal Medicine ACP Journal Club, and Associate Editor for the Journal of the American Geriatrics Society. He is the co-PI for the National Institute of Health (NIH) Grants for Early Medical/Surgical (GEMSSTAR) Specialists Transition to Aging Research U13 program, and co-led the 2016 Academic Emergency Medicine Consensus Conference on Shared Decision Making. He has co-authored 142 peer-reviewed manuscripts and two textbooks while developing a consumer-driven Evidence-Based Diagnostics series for Academic Emergency Medicine. He also served as the NIH representative for Implementation Science reporting guidelines called the Standards for Reporting Implementation Studies (StaRI).

**Dr. Jim Christenson** is an emergency physician at St. Paul's Hospital in Vancouver. He is a Professor and 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 and trauma. He is also the Principal Investigator of a neuro-protective intervention given by paramedics to patients with severe stroke. Dr. Christenson leads a team that has just launched the BC Emergency Medicine Network to facilitate knowledge sharing and clinical support for all emergency practitioners in British Columbia.



**Dr. Matthew Cooke** is clinical advisor to NHS Improvement SE region and until recently was regional clinical director for London at the NHS Improvement Emergency Care Improvement Programme. He is a Professor of Clinical Systems Design at Warwick Medical School and is Health Advisory Lead at Capgemini UK. 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. He is also an advisor to the World Health Organisation. He was Deputy Medical Director and then Director of Strategy at Heart of England NHS Foundation Trust. Dr. Cooke 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. Eva Grunfeld** is a physician scientist and Director of the Knowledge Translation Research Network, Health Services Research Program at the Ontario Institute for Cancer Research. She is the Giblon Professor and Vice Chair (Research and Advocacy) in the Department of Family and Community Medicine and Professor at the Institute for Health Policy, Management and Evaluation at the University of Toronto. Dr. Grunfeld's research focuses on evaluation and knowledge translation of cancer health services, covering the entire spectrum of cancer control activities. She is internationally recognized for research on cancer survivorship. Recently, Dr. Grunfeld was appointed Chair of the Institute Advisory Board, Institute for Cancer Research, Canadian Institute for Health Research.





**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, 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.

**Dr. John McLaughlin** is Chief Science Officer and a Senior Scientist at Public Health Ontario, a Professor in the Dalla Lana School of Public Health at the University of Toronto, and Executive Director of the Canadian Partnership for Tomorrow Project. As an epidemiologist, he leads research that integrates diverse disciplines in studies of environmental and biological determinants of health, which has led to more than 300 publications. As a 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. Michael Schull** is CEO and Senior Scientist at the Institute for Clinical Evaluative Sciences, 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. He practices as an Emergency Medicine specialist at Sunnybrook Health Sciences Centre in Toronto.



**Dr. Lynn Wilson** is the Vice Dean, Partnerships and a Professor of Family and Community Medicine at the University of Toronto. Prior to this role, Dr. Wilson served as Chair of the Department of Family and Community Medicine. 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. 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. She is co-leading the Ontario Opioids Clinical Primer Initiative, and is currently a Primary Care Consultant for Choosing Wisely Canada. Her clinical interests include palliative care, addiction medicine, obstetrics and global health.

# A Message From The Executive Liaison Committee



The last year has been very positive for SREMI and for the relationship between founding partners, Sinai Health System and North York General Hospital (NYGH).

In education, the quality and impact of activity under the “FOAMed” umbrella of EM Cases continues to flourish. Under the able leadership of NYGH emergency physician, Dr. Anton Helman, EM Cases continues to stay on the cutting edge of creation and delivery of high quality, peer-reviewed content, free of commercial bias. Last year’s emergency department administration course (EDAC) was an academic and commercial success and this year may be our strongest conference agenda ever. Dr. Rick Penciner (NYGH emergency physician and SREMI faculty) is co-chairing this year’s day two agenda for EDAC, focused on education in leadership and creating a “learning culture” in our healthcare teams.

There are some changes in leadership and relationships that will create challenge and opportunity for the SREMI model. In education, the OHA has notified us that they are no longer interested in partnering with us on EDAC (a decision based on new strategic directions). Additionally, Dr. Tim Rutledge left NYGH as CEO this year and has been replaced by Dr. Josh Tepper. Dr. Tepper has roots in emergency medicine and medical education, but no prior history with SREMI. We hope it will be a positive transition and look forward to working with Dr. Tepper. Finally, Dr. Kuldeep Sidhu’s tenure as NYGH ED chief is ending in 2019 and an active search is underway, with SREMI represented on the search committee by Dr. Bjug Borgundvaag, SREMI Director.

Engaging front line providers in the academic agenda is a challenge in every ED. It has been particularly challenging at NYGH given the absence of a clinician scientist in the group. The successful recruitments to SREMI this year, including two new Research Chairs, may create opportunities to cross-appoint clinician-scientists and build this brand among staff.

The challenge of change has been an opportunity to communicate frequently and openly at the leadership level and deepen our understanding of how our organizations and their distinct interests and cultures can best partner. We are extremely positive about the relationship and the future of SREMI. Many thanks to the gracious support of our colleagues, hospitals and donors.

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



This past year has been a successful and productive year for the SREMI research program and I am very pleased to have the opportunity to share some of our recent accomplishments.

## EXTERNAL COLLABORATIONS

One of our goals this year was to continue to develop and collaborate on innovative projects that will have meaningful impact on advancing the discipline of emergency medicine.

Locally, we have been very involved with our colleagues across the greater Toronto area. We partnered with Dr. Lucas Chartier from NYGH/UHN to lead the evaluation of the Ontario emergency department return visit quality program. We also continued to collaborate with Dr. Jacques Lee from Sunnybrook, partnering on numerous projects involving delirium and care of older patients in the ED. Additionally, both MSH and NYGH are about to launch a study led by Dr. Clare Atzema from Sunnybrook to prospectively validate a clinical decision tool to aid in the management of atrial fibrillation patients presenting to the ED.

We have also been successful in expanding our research collaboration with our partners at NYGH. This year we have implemented numerous projects with the Research Chairs at NYGH, Dr. Katie Dainty, Dr. Patricia Trbovich and Dr. Monika Kastner. We also continue to participate in important randomized controlled trials with our colleagues across the country and remain committed to fostering the research of our own medical students, residents, nurses and junior faculty.

Later this year, SREMI will be inviting our colleagues from across the city to join a new initiative we are calling the scholarly collaboration of the Toronto central hospitals, with the goal of combining our research strengths across the city to produce more multicentered research studies that will inform best practices for our discipline.

## RESEARCH CHAIRS AND NEW RESEARCH FELLOW

One of our most important achievements over the past year was securing funding for two SREMI Research Chair positions. This visionary gift from the Schwartz/Reisman Foundation includes both salary and infrastructure support for two clinician scientists. We are in the process of finalizing their contracts and the new Chairs should be joining our team in January 2019.

SREMI was fortunate to attract the talent of Dr. Keerat Grewal, who joined us as a research fellow and emergency physician in July 2018. Dr. Grewal is a health services researcher with a focus on oncology patients presenting to the ED. We are thrilled to welcome her to the SREMI team.

## RESEARCH IMPACT

SREMI continues to grow our academic profile locally, nationally and internationally. Many of our faculty were invited speakers and program track chairs at CAEP 2018 and are vital members of international, national and provincial committees, working groups and panels. This year, our research team published over 40 peer-reviewed journal articles.



SREMI faculty have won numerous scholarly awards and grants, recognizing the important contributions we are making towards the advancement of emergency medicine research. Most notably, Dr. Varner received the 2018 New Investigator Award for Research Excellence from the Department of Family & Community Medicine at the University of Toronto and as part of the US-based Geriatric ED Collaborative, Dr. Don Melady and SREMI's IAB Chair, Dr. Chris Carpenter, were awarded a 3.8 million USD grant from the John A. Hartford Foundation and the West Health Foundation to continue their academic work in geriatric emergency medicine.

## CONTRIBUTIONS TO THE SCIENTIFIC EMERGENCY MEDICINE COMMUNITY

Dr. Borgundvaag and I have continued in our leadership roles with the research committee tasked to evaluate the implementation of eCTAS, an Ontario provincial project which will have national implications. As a result of their research work in the area, Dr. Catherine Varner and Dr. Borgundvaag were named co-chairs of the Health Quality Ontario panel on early pregnancy loss and opioid prescribing for acute pain, respectively.

This is the first year that SREMI has partnered with CAEP to fund two new junior investigator grants to help foster Canadian emergency medicine research:

- 1 x \$5,000 grant for research pertaining to the evaluation of an innovative educational program of relevance to emergency medicine
- 1 x \$5,000 grant for research aligned with the SREMI Pillars of Inquiry

The competition for this funding is peer reviewed and administered through the CAEP annual grant competition. We have over 10 applicants from across the country and the winners will be announced next month.

## RBC PATHWAY TO PEERS PROGRAM

Thanks to a transformational \$2 million gift by the RBC Foundation, we are thrilled to announce that SREMI will work with our community partner Stella's Place to implement and evaluate a novel, peer support model of care for young adults presenting to the ED with mental health and addiction related problems. Our program, called "RBC Pathway to Peers" will fund peer support workers with lived experience within our ED where they will provide support for young adults with mental health and addictions related problems at the time of their ED visit. We are honoured to partner with RBC to bring this important program to fruition.

The success of this past year is a direct reflection of the hard work, dedication and enthusiasm of our SREMI team. I would like to thank our Director, Dr. Borgundvaag for his leadership, the SREMI research faculty, our research coordinator Cameron Thompson, Kristin Blakely-Kozman and Judy Wells for their funding contributions, and our generous benefactors, Gerald Schwartz and Heather Reisman, for their ongoing patronage and support.

Respectfully submitted,



Shelley McLeod PhD(c) MSc MSc BScHons  
Research Director



# Academic Achievements & Awards

Research Excellence - New Investigator Award, Department of Family & Community Medicine, University of Toronto – [Dr. Catherine Varner](#)

Helen P. Batty Award for Excellence and Achievement in Faculty Development, Faculty of Medicine, University of Toronto - [Dr. Rick Penciner](#)

Faculty of Health Sciences Graduate Programs Excellence Award, Department of Health Research Methods, Evidence, and Impact, McMaster University - [Shelley McLeod](#)

Award for Excellence in Development and Use of Innovative Instructional Methods, Department of Family & Community Medicine, University of Toronto – [Dr. Anton Helman](#)

Government of Ontario Amethyst Award for Outstanding Achievement – [Dr. Howard Ovens](#), [Dr. Bjug Borgundvaag](#), [Shelley McLeod](#), on behalf eCTAS team.

John A. Hartford Foundation \$3.9 Million USD – [Dr. Don Melady](#)

Canadian Association of Medical Education's 2018 Certificate of Merit Award - [Dr. Rick Penciner](#)

Wightman-Berris Academy Teaching Award of Excellence for Postgraduate Education, Faculty of Medicine, University of Toronto - [Dr. Don Melady](#)

Ontario Innovation Fund Showcase 2018: Innovation, Integration and Implementation - [Dr. Bjug Borgundvaag](#)

Ontario Innovation Fund Showcase 2018: Innovation, Integration and Implementation - [Dr. Don Melady](#)

Provincial Appointment, Co-Chair, Early Pregnancy Complications and Loss Quality Standard Advisory Committee, Health Quality Ontario - [Dr. Catherine Varner](#)

Academic Appointment, Senior Fellow, Institute of Health Policy, Management and Evaluation, University of Toronto – [Dr. Howard Ovens](#)

Academic Appointment, Faculty, Institute Health Policy, Management and Evaluation, University of Toronto – [Dr. Catherine Varner](#)

Dr. Walter Mackenzie Visiting Professorship Award, University of Alberta Faculty of Medicine & Dentistry – [Dr. Aaron Orkin](#)

MSH Rose Turno Bursary – [Jeyasakthi Venugopal](#)



# SREMI by the Numbers



## GRANTS

### PEER-REVIEWED

**\$5**  
million

Co-Investigator  
(Nov 2017 - Oct 2018)

**11**

Under Consideration  
(\$4 million)

### NON PEER-REVIEWED

**\$2.1**  
million

Co-Investigator  
(Nov 2017 - Oct 2018)



Research  
Excellence  
Awards



On-going  
projects  
collecting data



Peer-Reviewed  
Journal Publications  
(Nov 2017 - Oct 2018)



Research abstracts presented at  
**National Meetings**



Research abstracts presented at  
**International Meetings**



**2** SREMI  
appointments

**1** New  
executive  
assistant

### MENTORED

**7** Medical  
Students

**4** Residents

**2** Geri-EM  
Fellows



# SREMI Team



**Dr. Bjug Borgundvaag**  
Director



**Dr. Howard Ovens**  
Executive Liaison Committee



**Dr. Kevin Katz**  
Executive Liaison Committee



**Shelley McLeod**  
Research Director



**Linor Berezin**  
Research Student



**Dr. Dave Dushenski**  
Faculty



**Dr. Brittany Ellis**  
GEM Fellow



**Dr. Savannah Forrester**  
GEM Fellow



**Sophie Glanz**  
Research Student



**Robin Glicksman**  
Research Student



**Dr. Keerat Grewal**  
Faculty



**Dr. Anton Helman**  
Faculty



**Hanna Jalali**  
Research Student



**Sylvia Lyons**  
Executive Assistant



**Dr. Don Melady**  
Faculty



**Dr. Rohit Mohindra**  
Faculty



**Dr. Aaron Orkin**  
Faculty



**Dr. Rick Penciner**  
Faculty



**Vanessa Rojas-Luengas**  
Research Student



**Dr. Kuldeep Sidhu**  
Faculty



**Dr. Christopher Skappak**  
GEM Fellow



**Cameron Thompson**  
Research Coordinator



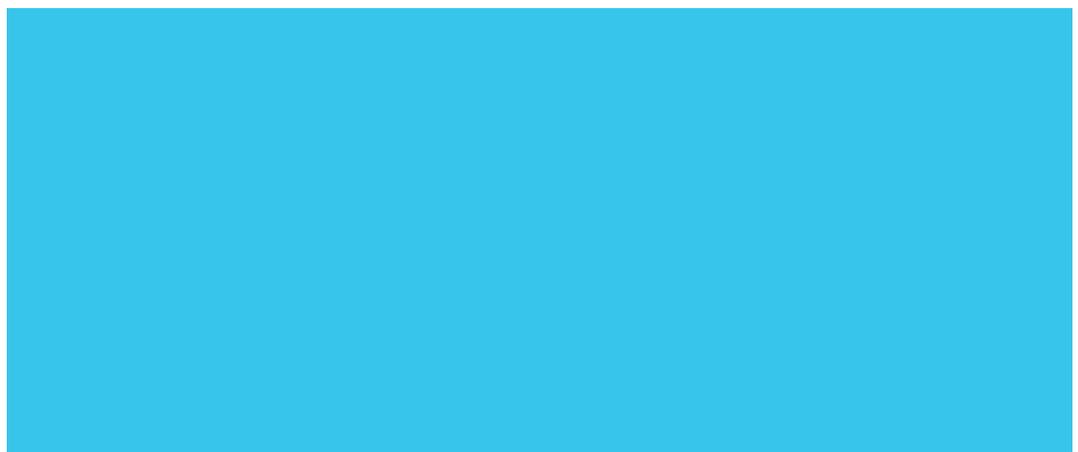
**Dr. Catherine Varner**  
Faculty



**Jeyasakthi Venugopal**  
Research Assistant



**Gillian Wilde-Friel**  
Faculty



# SREMI Clinician Scientist Profile

## DR. CATHERINE VARNER



SREMI scientist and emergency physician, Dr. Catherine Varner has continued a successful trajectory as an early career researcher. In 2018, Dr. Varner's research in early pregnancy care in the emergency department (ED) expanded due to a unique collaboration with Dr. Kristin Blakely-Kozman, a public sociologist committed to advancing gender equality through scholarly teaching, advocacy, and philanthropy. This partnership facilitated several novel studies in the area of early pregnancy complications and loss.

In the summer of 2018, with the additional guidance of qualitative researchers Dr. Katie Dainty and Ms. Bianca Seaton, University of Toronto medical student Vanessa Rojas-Luengas completed interviews of women who experienced early pregnancy complications or loss. These interviews will inform improvements in processes of care as well as provide input for novel advances for this patient population. Dr. Varner also supervised University of Toronto medical student Robin Glicksman who completed surveys of ED directors and chief obstetrician/gynaecologists across Ontario to better characterize the care of patients with early pregnancy loss.

For her work in this area, Dr. Varner has been invited to co-chair the Health Quality Ontario's Early Pregnancy Complications and Loss Quality Standard Advisory Committee. Convening patients with lived experience, radiologists, gynaecologists, emergency physicians and policy makers, this group will establish standards for high quality care of patients experiencing early pregnancy loss across the province.



Dr. Varner has continued successful patient recruitment for her ongoing studies. Her multi-site randomized controlled trial for minor traumatic brain injury challenges the current 'sit in a dark room' treatment dogma and funded by the Canadian Association of Emergency Physicians and Workplace Safety and Insurance Board. This study evaluates the impact of prescribing mild, daily exercise (e.g., 30 minutes of daily walking) compared to avoidance of exercise until symptom free, and is enrolling patients at Mount Sinai, Juravinski, and Hamilton General Hospitals and McMaster Urgent Care Centre.

The SREMI investigators' collaborative study entitled, "A blinded, randomized controlled trial of opioid analgesics for the management of acute fracture pain in older adults discharged from the emergency department" launched in the spring of 2018 to compare the efficacy of codeine, oxycodone and hydromorphone for acute pain in older patients discharged from the ED. The trial procedures and participation have been successful to date, and the team is actively seeking ways to ensure eligible patients are being enrolled in this important trial.

Dr. Varner has also continued her collaboration with Dr. Kerstin de Wit, an emergency physician and scientist at McMaster University. Dr. Varner is a co-investigator for The Falls Study which seeks to develop a decision rule for emergency physicians to inform which patients older than 65 years patients should have a CT scan of the head following a fall. This study recently received funding (\$857,756) from the Canadian Institutes of Health Research and will launch in 2019.

For her academic work this year, Dr. Varner received the 2018 University of Toronto Department of Family and Community Medicine New Investigator Award for Research Excellence.



# SREMI Researcher Profile

## DR. AARON ORKIN



Dr. Aaron Orkin is a SREMI fellow and doctoral student in Clinical Epidemiology and Health Care Research at the University of Toronto. His research focuses on involving laypeople in the delivery of essential and emergency health care services, especially among vulnerable and underserved populations. Dr. Orkin combines community-based and collaborative strategies with clinical epidemiology methods to involve patients in every step of the research process.

In partnership with St. Michael's Hospital and OCAD University, Dr. Orkin leads the Surviving Opioid Overdose with Naloxone Education and Resuscitation Project, a CIHR-funded design initiative and randomized trial. In 2018, SOONER investigators and community members developed a new design for naloxone kits and are launching a feasibility trial to assess the effectiveness of the kit in emergency departments, family practice, and addictions medicine settings. The trial will combine design and clinical epidemiological methods with high-fidelity simulation, to assess whether this novel naloxone distribution tool can enhance participants' capacity to respond to opioid overdose. Dr. Orkin also co-leads a collaboration with the Canadian Research Initiative in Substance Use to improve emergency department care for patients with opioid use disorders and opioid-related emergencies across Canada. He was delighted to be featured on an EMCases podcast episode on opioid-related problems in the emergency department as well.

Dr. Orkin leads several community-based projects to enhance and evaluate public engagement in emergency health care. With support from the Ontario Meta:Phi project and in collaboration with the Canadian Red Cross and Heart & Stroke Foundation, Dr. Orkin is building and evaluating an educational partnership between emergency health care personnel and supervised injection site workers. He also leads initiatives to build Indigenous emergency health services in remote settings in Windigo First Nations communities (Ontario) and Gwich'in communities (Northwest Territories). Based on his leadership in community-based first aid education, Dr. Orkin was invited to

join the American Heart Association/American Red Cross First Aid Guidelines writing group, which will continuously review and update global guidelines for public first aid education and practice.

Dr. Orkin's work is supported by a CIHR Postdoctoral Fellowship Award, the University of Toronto Department of Family and Community Medicine, and the Schwartz/Reisman Emergency Medicine Institute.



# SREMI Researcher Profile

## DR. KEERAT GREWAL



Dr. Keerat Grewal joined SREMI as a research fellow and emergency physician in July 2018. She is also a fellow with the Cancer Program at the Institute for Clinical Evaluative Sciences (ICES). While completing her emergency medicine residency training at the University of Toronto, Dr. Grewal earned a Master's of Science in Clinical Epidemiology and Health Services Research at the Institute for Health Policy, Management and Evaluation. During this time, she was enrolled in the Eliot Phillipson Clinician Scientist Training Program through the Department of Medicine and the Clinical Investigator Program at the University of Toronto.

Dr. Grewal is a health services researcher who uses provincial administrative data to examine outcomes among patients presenting to the emergency department. One of Dr. Grewal's areas of interest is the care of patients with cancer in the emergency department. The Canadian Cancer Society estimates that almost 1 in 2 Canadians will develop cancer during their lifetime. Previous literature has shown that patients with cancer use the emergency department frequently. However, the intersection of oncology and emergency medicine is rarely addressed in the literature. During Dr. Grewal's fellowship, she will continue to use ICES data to understand why patients with cancer use the emergency department and explore outcomes in this population so that we can ultimately improve emergency care for oncology patients.

Another area of emerging research focus for Dr. Grewal is the risk of intracranial hemorrhage (ICH) following a head injury for elderly patients on anticoagulation. At present, there are no published guidelines on the management of elderly patients on anticoagulation after a minor head injury.

Dr. Grewal will be leading a health services study to provide a unique Canadian perspective using population-based data on the care provided to elderly anticoagulated patients with a head injury in the ED. More importantly, she hopes to compare outcomes between patients using different types of anticoagulants and provide clinicians with guidance on management of these patients based on outcomes.



# SREMI Summer Student Report



## LINOR BEREZIN

This summer, Linor Berezin, a second year medical student at the University of Toronto joined the SREMI team as a research student. Linor previously completed a biochemistry degree at Queen's University, and has been volunteering with SREMI since January 2018 to recruit patients for various studies in the emergency department. Working together with Shelley McLeod, Cameron Thompson, Vanessa Rojas-Luengas, and Dr. Bjug Borgundvaag, Linor worked on a retrospective chart review to determine the rates of spinal imaging and narcotic prescription for patients presenting to the emergency department with non-traumatic low back pain with no red flags or pathologic indicators. Linor thoroughly enjoyed the opportunity to participate in emergency department research and looks forward to developing a manuscript for this study and presenting the results at the Canadian Association of Emergency Physicians Conference 2019.



## SOPHIE GLANZ

This summer, Sophie Glanz, a 3rd year medical student at the University of Toronto, worked under the supervision of Dr. Don Melady, Dr. Michelle Nelson and Shelley McLeod to complete a scoping review of volunteer services implemented in the emergency department to improve patient experience and/or outcomes. The review was inspired by Maximizing Ageing Using Volunteer Engagement in the Emergency Department (MAUVE-ED), a volunteer program at Mount Sinai Hospital that uses specially trained volunteers to help with non-clinical tasks for the geriatric population. The goals of the program included improving patient and caregiver experience by targeting core needs, which also overlap with risk factors for delirium. Sophie is planning to share the results of her review at CAEP 2019 in Halifax.



## ROBIN GLICKSMAN

Second year University of Toronto medical student Robin Glicksman joined the SREMI research team this summer working on a project to better characterize the care of women experiencing early pregnancy complications in Ontario EDs. Under the supervision of Dr. Catherine Varner, Dr. Jackie Thomas and Shelley McLeod, Robin surveyed chief emergency medicine physicians and chief obstetricians/gynaecologists about access to early pregnancy clinic services, psychosocial supports, ultrasound availability and follow-up protocols for women who present to the hospital ED with first trimester complications. This study found that less than half of the hospitals surveyed had access to an early pregnancy clinic, demonstrating the need for better delivery care models for women experiencing first trimester complications in Ontario EDs.



## HANNA JALALI

Hanna Jalali is a second year medical student at the University of Toronto, who worked on the evaluation of the Ontario Emergency Department Return Visit Quality Program (RVQP) that was started by Health Quality Ontario (HQQ) in 2016. The purpose of this program was to promote a culture of continuous quality improvement in the ED, and to reduce misdiagnosis and other factors that increase the risk of return visits. Participation in the program was mandatory for hospitals participating in the provincial pay-for-results program (although funds were not tied to performance). The program was also open to hospitals on a voluntary basis, and in total, 89 sites were involved. Hanna conducted phone interviews to gain perspectives and feedback from those involved in the program across the province. In partnering with HQO to assess their project, we hope to determine the efficacy of this type of large-scale intervention in promoting quality improvement culture in EDs in the province. This data will be primarily

of interest to HQO, but may also be of use to other system leaders or organizations looking to improve quality improvement culture across their jurisdiction.



## VANESSA ROJAS-LUENGAS

This past summer, Vanessa Rojas-Luengas, a 3rd year medical student at the University of Toronto joined the SREMI team as a research student, funded by the Comprehensive Research Experience for Medical Students (CREMS) Program. Under the supervision of Dr. Catherine Varner, NYGH Research Chair Dr. Katie Dainty and Shelley McLeod, and in collaboration with Bianca Seaton, Vanessa designed and carried out a phenomenologically-informed qualitative study exploring the experiences of women seeking care for early pregnancy loss in the emergency department (ED) and early pregnancy clinic (EPC) at Mount Sinai Hospital. A total of 30 women were interviewed; 14 were recruited during their ED visit, and 16 were recruited during their EPC visit. Our results demonstrate that women's experiences and perceptions about their care drastically differed in the ED versus the EPC. Overall, many women felt a stronger sense of patient-centered support in the EPC compared to their experiences

in the ED. Currently, these results are undergoing thematic analysis and 2 manuscripts will be drafted from this comprehensive study. These results will be presented at the national scientific meetings of the Canadian Association of Emergency Physicians and the Society of Obstetricians and Gynaecologists of Canada. Given the paucity of knowledge about the experiences of women seeking care for early pregnancy complications in EDs and EPCs in Toronto and the large body of literature suggesting these experiences can result in higher rates of psychological comorbidities, this data is vital to ensure women and their families are being well supported.

# Research Publications

November 2017 – October 2018

1. Villa-Roel C, **Borgundvaag B**, Majumdar SR, Emond M, Campbell S, Sivilotti M, Abu-Laban RB, Stiell IG, Aaron SD, Senthilselvan A, Rowe BH; AIR Investigators. Reasons and outcomes for patients receiving ICS/LABA agents prior to, and one month after, emergency department presentations for acute asthma. *J Asthma*. 2018;12:1-10. ★★
2. Hawrylyshyn K, **McLeod SL**, Thomas J, **Varnier C**. Methotrexate for the treatment of unruptured tubal ectopic pregnancy. *CJEM*. 2018;8:1-4. ★
3. Brignardello-Petersen R, Murad MH, Walter SD, **McLeod S**, Carrasco-Labra A, Rochweg B, Schünemann HJ, Tomlinson G, Guyatt GH; GRADE working group. GRADE approach to rate the certainty from a network meta-analysis: Avoiding spurious judgments of imprecision in sparse networks. *J Clin Epidemiol*. 2018; Sep 22. pii: S0895-4356(18)30497-9. doi: 10.1016/j.jclinepi.2018.08.022.[Epub ahead of print] ★
4. **Thompson C**, Brienza VJM, Sandre A, Caine S, **Borgundvaag B**, **McLeod S**. Risk factors associated with acute in-hospital delirium for patients diagnosed with a hip fracture in the emergency department. *CJEM*. 2018;11:1-9. ★★
5. **Grewal K**, Austin PC, Kapral MK, Lu H, Atzema CL. The impact of opioid medications on subsequent fractures in discharged emergency department patients with peripheral vertigo. *CJEM*. 2018;20(1):28-35. ★★
6. Huang S, Martin LJ, Yeh CH, Chin A, Murray H, Sanderson WB, **Mohindra R**, Chan TM, Thoma B. The effect of an infographic promotion on research dissemination and readership: A randomized controlled trial. *CJEM*. 2018; 5:1-8. ★
7. Tillmann BW, Klingel ML, **McLeod SL**, Anderson S, Haddara W, Parry NG. The impact of delayed critical care outreach team activation on in-hospital mortality and other patient outcomes: a historical cohort study. *Can J Anaesth*. 2018;65(11):1210-1217. ★★
8. **Melady D**. Geriatric emergency medicine: Research priorities to respond to “The Silver Boom”. *CJEM*. 2018;20(3):327-328. ★★
9. Kouyoumdjian FG, Cheng SY, Fung K, **Orkin AM**, McIsaac KE, Kendall C, Kiefer L, Matheson FI, Green SE, Hwang SW. The health care utilization of people in prison and after prison release: A population-based cohort study in Ontario, Canada. *PLoS One*. 2018 Aug 3;13(8):e0201592. ★
10. **Melady D**, Perry A. Ten Best Practices for the Older Patient in the Emergency Department. *Clin Geriatr Med*. 2018;34(3):313-326. ★★
11. Arbel Y, Ko DT, Yan AT, Cantor WJ, Bagai A, Koh M, Eberg M, Tan M, Fitchett D, **Borgundvaag B**, Ducas J, Heffernan M, Morrison LJ, Langer A, Dzavik V, Mehta SR, Goodman SG; TRANSFER-AMI Trial Investigators. Long-term Follow-up of the Trial of Routine Angioplasty and Stenting After Fibrinolysis to Enhance Reperfusion in Acute Myocardial Infarction (TRANSFER-AMI). *Can J Cardiol*. 2018;34(6):736-743. ★★
12. **Grewal K**, Lockett-Gatopoulos S, Renny M, Ann Howland M, Su MK. Comment on ‘Iron overdose epidemiology, clinical features and iron concentration-effect relationships: the UK experience 2008-2017’. *Clin Toxicol (Phila)*. 2018 Aug 1:1. doi: 10.1080/15563650.2018.1492723.[Epub ahead of print]
13. Perry A, Macias Tejada J, **Melady D**. An Approach to the Older Patient in the Emergency Department. *Clin Geriatr Med*. 2018;34(3):299-311. ★★
14. Archambault PM, McGavin C, Dainty KN, **McLeod SL**, Vaillancourt C, Lee JS, Perry JJ, Gauvin FP, Boivin A. Recommendations for patient engagement in patient-oriented emergency medicine research. *CJEM*. 2018;20(3):435-442. ★

15. Clinkard D, Stiell I, Lang E, Rose S, Clement C, Brison R, Rowe BH, **Borgundvaag B**, Langan T, Magee K, Stenstrom R, Perry JJ, Birnie D, Wells G, McRae A. Between- and within-site variation in medication choices and adverse events during procedural sedation for electrical cardioversion of atrial fibrillation and flutter. *CJEM*. 2018;20(3):370-376. ★★
16. **Ellis B**, Carpenter C, Lowthian J, Mooijaart S, Nickel C, **Melady D**. Statement on Minimum Standards for the Care of Older People in Emergency Departments by the Geriatric Emergency Medicine Special Interest Group of the International Federation for Emergency Medicine. *CJEM*. 2018;20(3):368-369. ★★
17. **Orkin AM**, McArthur A, McDonald A, Mew EJ, Martiniuk A, Buchman DZ, Kouyoumdjian F, Rachlis B, Strike C, Upshur R. Defining and measuring health equity effects in research on task shifting interventions in high-income countries: a systematic review protocol. *BMJ Open*. 2018 Aug 1;8(7):e021172. ★★
18. Argintaru N, Quinn KL, Chartier LB, Lee J, Hannam P, O'Connor E, Steinberg L, **Ovens H**, McGowan M, Vaillancourt S. Perceived barriers and facilitators to goals of care discussions in the emergency department: A descriptive analysis of the views of emergency medicine physicians and residents. *CJEM*. 2018 May 8:1-8. ★★
19. Parashar R, **McLeod S**, **Melady D**. Discrepancy between information provided and information required by emergency physicians for long-term care patients. *CJEM*. 2018;20(3):362-367. ★★
20. Nolan B, Ackery A, Mamakwa S, Glenn S, VanderBurgh D, **Orkin A**, Kirlaw M, Dell E, Tien H. Care of the injured patients at nursing stations and during air medical transport. *Air Med J*. 2018;37(3):161-164. ★
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22. Hawrylyshyn K, **McLeod SL**, Thomas J, **Varner C**. Ectopic pregnancy outcomes in patients discharged from the emergency department. *CJEM*. 2018;4:1-4. ★★
23. Poon E, Self L, **McLeod SL**, **Caine S**, **Borgundvaag B**. Uncomplicated urinary tract infections in the emergency department: a review of local practice patterns. *CJEM*. 2018;20(4):572-577.
24. Jeffery MM, Hooten WM, Hess EP, Meara ER, Ross JS, Henk HJ, **Borgundvaag B**, Shah ND, Bellolio MF. Opioid prescribing for opioid-naive patients in emergency departments and other settings: Characteristics of prescriptions and association with long-term use. *Ann Emerg Med*. 2018;71(3):326-336. ★★
25. Claret PG, Calder LA, Stiell IG, Yan JW, Clement CM, **Borgundvaag B**, Forster AJ, Perry JJ, Rowe BH. Rates and predictive factors of return to the emergency department following an initial release by the emergency department for acute heart failure. *CJEM*. 2018;20(2):222-229. ★★
26. Gravel J, LeBlanc C, **Varner C**. Management of priapism with a trial of exercise in the emergency department. *CJEM*. 2018;16:1-4. ★
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28. Thoma B, Murray H, Huang SYM, Milne WK, Martin LJ, Bond CM, **Mohindra R**, Chin A, Yeh CH, Sanderson WB, Chan TM. The impact of social media promotion with infographics and podcasts on research dissemination and readership. *CJEM*. 2018;20(2):300-306.
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32. Curran J, Ritchie SD, Beardy J, VanderBurgh D, Born K, Lewko J, **Orkin AM**. Conceptualizing and managing medical emergencies where no formal paramedical system exists: Perspectives from a remote indigenous community in Canada. *Int J Environ Res Public Health.* 2018 Feb 4;15(2). ★★
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38. Chin A, **Helman A**, Chan TM. Podcast use in undergraduate medical education. *Cureus.* 2017;9(12):e1930.
39. Carpenter CR, **Melady D**, Krausz C, Wagner J, Froelke B, Cordia J, Lowery D, Ruoff BE, Byrne LE, Miller DK, Lewis L. Improving emergency department care for aging Missourians: Guidelines, accreditation, and collaboration. *Mo Med.* 2017;114(6):447-52. ★★
40. Wang JJ, **Mohindra R**, Milne K, Crocco A, Bond C. SGEM Hot Off the Press: Management of bronchiolitis in community hospitals. *CJEM.* 2017;19(6):475-479. ★

## 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.

# EDUCATION



# Geriatric Emergency Medicine

## DR. DON MELADY

As the Geriatric Emergency Medicine Lead at SREMI, Dr. Don Melady has continued to foster activities in knowledge translation, quality improvement, education, and research at the local, national, and international level.

Dr. Melady is the Director of Canada's first clinical fellowship in geriatric emergency medicine (GEM). In 2017-18, there were two GEM fellows, Dr. Brittany Ellis (University of Ottawa) and Dr. Alice Gray (University of Toronto.) Both made significant contributions in several areas:

- Dr. Ellis helped introduce a volunteer engagement program to have specially trained volunteers supporting our older emergency department patients locally at Mount Sinai Hospital.
- Drs. Ellis and Melady led a project to develop a policy statement for the International Federation of Emergency Medicine, which was adopted by the Board in October 2017. Dr. Ellis presented this work at ICEM 2018 in Mexico City and also at CAEP 2018 in Calgary.
- Dr. Gray designed and implemented a well-received GEM simulation module for resident education.

There are two fellows in the program this academic year, Dr. Savannah Forrester (Queen's University) and Dr. Christopher Skappak (McMaster University), with another two exceptional fellows confirmed for next year.

Dr. Melady continues as one of the nine leads in the US-based Geriatric ED Collaborative, which is a project to disseminate the Geri ED Guidelines and support implementation of quality improvement projects around the US. In June, the John A.





Hartford Foundation and the West Health Foundation announced three more years of funding for this project with a 3.8 million USD grant and a goal to involve 100 more hospitals over the next phase. There are multiple components to this collaborative, including a major research initiative led by SREMI's IAB Chair, Dr. Chris Carpenter. Dr. Melady is leading two components of the dissemination and education strategy, the creation of a multi-purpose website and presenting up to ten one-day Geri ED Courses across the country.

As Chair of the Geri EM Committee at the International Federation of Emergency Medicine, Dr. Melady has been active as a speaker and consultant around the world, including:

- Key note speaker at the Hong Kong College of EM annual conference
- Key note speaker and advisor to the American National Academy of Neuropsychology consensus conference to develop guidelines for screening and assessment of cognitive impairment in the ED
- Key note speaker for the Chilean National Conference on integrated care of older adults
- Key note speaker at the Emergency Medicine Association of Trinidad conference
- Presenter at the EurAsian Association of EM conference in Antalya Turkey
- Organizer and speaker at the first Geri EM conference for the Emergency Medicine Association of Thailand.
- Coordinator of the Geriatric EM tracks at ICEM 2018 in Mexico City
- Course director for the Senior-friendly ED Course presented in conjunction with CAEP 2018 in Calgary
- Invited speaker at University of Ottawa and the Mayo Clinic



Dr. Melady would like to thank Ms. Penny Rubinoff for her generous support towards the Geriatric Emergency Medicine Program at SREMI.

# EM CASES

## DR. ANTON HELMAN

Emergency Medicine (EM) Cases is a free, online, medical education podcast, medical blog and website dedicated to providing emergency medicine education and continuing medical education for physicians, residents, students, nurses and paramedics. In each Main Episode Podcast, two or more experts in a particular emergency medicine topic join Dr. Anton Helman in a round-table, case-based, discussion on key practice changing clinical topics, which are then carefully edited to maximize learning.



### EMERGENCY MEDICINE CASES

Bringing you Canada's brightest  
minds in Emergency Medicine

### CANADA'S MOST LISTENED TO EMERGENCY MEDICINE PODCAST

2018 has been a tremendously successful year for EM Cases with a growing content team of 23 emergency physicians and residents. EM Cases is Canada's most listened to emergency medicine podcast with thousands of subscribers, well over 7 million podcast downloads since 2010, with an average of approximately 160,000 podcast downloads per month. Page views on the website have surpassed 100,000 per month. The number of users of the website has increased more than 100% over the past 2 years.



7.3  
MILLION



Total downloads  
Since inception (2010)

1.9  
MILLION



Total downloads  
Nov. 2016 - Oct. 2017

44  
THOUSAND



Average downloads per  
Main episode podcast

37  
THOUSAND



Average downloads per  
BCE podcast

44  
THOUSAND



Website Users  
Oct. 2017 - Sept. 2018

1.1  
MILLION



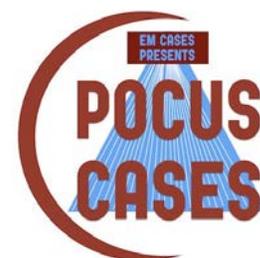
Website Page Views  
Oct. 2017 - Sept. 2018

2018 marked the development of 2 new projects to augment EM Cases multimodal learning system: In [POCUS Cases](#), instructional videos of evidence-based, key point-of-care ultrasound techniques are reviewed using sound educational principles, and the [EM Cases Quiz Vault](#), a bank of multiple choice questions based on the EM Cases main episode podcast content, where learners can customize a quiz to test their knowledge by episode or medical field. The Quiz Vault incorporates immediate feedback and represents the last step in the EM Cases Learning System, a learning framework designed according to multimodal, spaced repetition, learning theory.

## EM CASES QUIZ VAULT

Dr. Helman and colleagues also hosted the 3rd annual EM Cases Course, a sold out conference, where participants got a chance to talk face-to-face with EM Cases guest experts about cases, questions, controversies, pearls and pitfalls. The course allowed the participants to be engaged in their learning in small groups with a flipped-classroom model: they listened to the podcasts related to

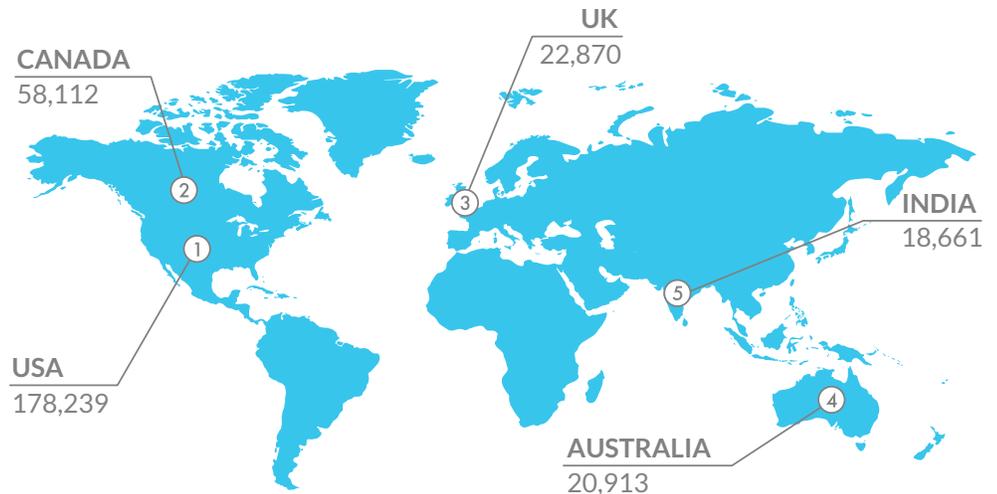
each workshop prior to the course. The 2019 EM Cases Course will be expanded to 2 days and will incorporate hi fidelity simulation sessions at Mount Sinai Hospital.



EM Cases [Journal Jam Podcast](#) has two formats. One brings together world-renowned researchers and educators to keep learners up to date on key research publications in emergency medicine. The other chooses a specific topic, such as epinephrine use in cardiac arrest, and does a deep dive into the world's literature on the topic.



## EM CASES NEW USERS - TOP 5 COUNTRIES



[Best Case Ever Podcast](#) has guest experts sharing their tacit knowledge on particularly interesting cases. EM Cases also offers the [CritCases Blog](#) with challenging emergency critical care cases, [Rapid Reviews Videos](#) based on content from the main episode podcasts, and [Waiting to Be Seen Blog](#) covering important administration topics in emergency medicine.

Plans are underway to introduce a 4th podcast format to the EM Cases audio offerings: EM Quickies, a collection of seven 5-minute audio bites, each by an expert on a particular topic. Each topic is one that either is generally not taught very well in EM training or that most practicing EM physicians find challenging. These include addictions, ophthalmology, orthopaedics, paediatrics, resuscitation and toxicology.

Dr. Helman's incredible vision and execution of EM Cases goes way beyond just a novel development of an innovative instructional method. He has contributed to innovative change in how emergency physicians learn and interact. In respect of his efforts, Dr. Helman was honored with the 2018 "Excellence in Development and Use of Innovative Instructional Methods" award from the Department of Family and Community Medicine at the University of Toronto.



## CONNECT

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