

DEPARTMENTAL REVIEW 2013-2014

Academic Department of Emergency Medicine

Essential partners in an integrated health care system



ENHANCING PATIENT CARE



EDUCATING DOCTORS AND HEALTH CARE TEAMS OF THE FUTURE



ADVANCING RESEARCH



STRENGTHENING OUR PEOPLE AND ORGANIZATIONAL GOVERNANCE

emergency.medicine.dal.ca





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What is Emergency Medicine?

- Critical decision making in the undifferentiated and unexpected health event.
- Expertise in resuscitation and stabilization of the critically ill and injured.
- Design and coordination of integrated systems of patient management across the continuum of acute care.



Our Vision

Improved health outcomes for patients of all ages through influential research, education and the development of leaders in Emergency Medicine.

Our Mission

To save and improve lives through timely patient – centered Emergency care driven by educational innovation and practice changing research.

Our Values

INTEGRITY: We are committed, trustworthy, reliable and act conscientiously, consistently, and in accordance with our values.

ACCOUNTABILITY: We accept responsibility for our actions, follow through on our commitments, and measure up to your expectations.

COLLABORATION: We work together and value different perspectives to better understand and find solutions to complex problems.

CRITICAL THINKING: We systematically and continually assess our thinking for clarity, accuracy, bias, precision, logic, and relevance.

EVIDENCE-BASED DECISION MAKING: We effectively retrieve, evaluate, integrate, weight and apply knowledge to patient care and system design in the context of patient and social/cultural values.

ADVOCACY: We speak up for patient and population interests. Pushing for effective change from providers and policy makers.

INITIATIVE: We have the power to energetically begin a plan, or change what isn't working in ourselves, our department, or our system, and see it through.

PROFESSIONALISM: We are committed to the health and well being of individuals and society through ethical practice, respect, collegiality and high personal standards of behaviour.

The Evolving Role of Emergency Medicine

A message from Dr David Petrie: Department Head



Emergency Medicine (EM) is at the interface of many parts of the evolving Health Care system. EM is often a decision-making point that potentially connects primary care with tertiary care, pre-hospital care with in-hospital care, acute care with chronic care, and disease/service based care with whole person care. In that context, EM is a generalist discipline with respect to the breadth of knowledge-base/scope of practice, and a specialty with respect to its depth of knowledge and approach to the acute/unforeseen and undifferentiated health care event. Furthermore, by its nature, Emergency Care is often delivered in multi-disciplinary teams collaborating and coordinating their efforts in the service of improving patients and population outcomes.

It is an exciting time for Academic Emergency Medicine. Internationally, the critical role of our speciality is increasingly being recognized and relied upon. We are no longer seen as merely the passive canary in the coal mine of a broken system, but rather, as active partners in collaboration and catalysts in designing and improving the system. The Dalhousie Department of Emergency Medicine (established in 1998) continues to be a leader in Emergency Health System innovations in educating doctors and other health

care providers in providing the best care now, and in the future, and in discovering and translating the unique body of knowledge that defines Emergency Medicine.

As the discipline evolves with the challenges facing our Health Care system, and the important trends in medical education and outcomes research, we will fulfill our mission through our four strategic directions:

- 1. Enhancing patient care** – providing more timely access to high quality Emergency Medicine embedded in integrated networks of care.
- 2. Educating doctors and health care teams of the future** – being at the forefront of medical education ensuring competence, inspiring excellence, and developing leaders in Emergency Medicine.
- 3. Advancing Research** – developing a productive and collaborative research engine that emphasizes improving patient outcomes through research and knowledge translation.
- 4. Strengthening our people and organizational governance** – supporting an effective, efficient and adaptable approach to the Department of Emergency Medicine's CORE initiatives by engaged leaders and teams who create the conditions for emergence.

THE DEPARTMENT

DEPARTMENT HEAD
AND DISTRICT CHIEF OF
EMERGENCY MEDICINE:
DAVID PETRIE, MD, FRCP

Dr David A. Petrie is the Professor and Head of the Dalhousie Department of Emergency Medicine and the Chief of the Central Zone, NSHA. After medical school at Dalhousie and an Internship in Ottawa he worked for two years in small town Ontario and Nova Scotia. Since his specialty training in Emergency Medicine at the University of Western Ontario 1992-1996, he has been a faculty physician and Trauma Team Leader at the QEII Health Sciences Centre in Halifax. Dr Petrie has been Medical Director of the Halifax Regional ground EMS system and Medical Director of the LifeFlight Critical Care transport program. His academic interests are prehospital and trauma systems research, the impact of critical thinking on clinical decision making, and the implications of complex adaptive systems modeling to Health Care System Reform.

Integrated Network of Emergency Care

Academic Emergency Physicians are integral to moving toward a single coordinated, comprehensive, and accountable emergency care system with many access points.

Lifelight

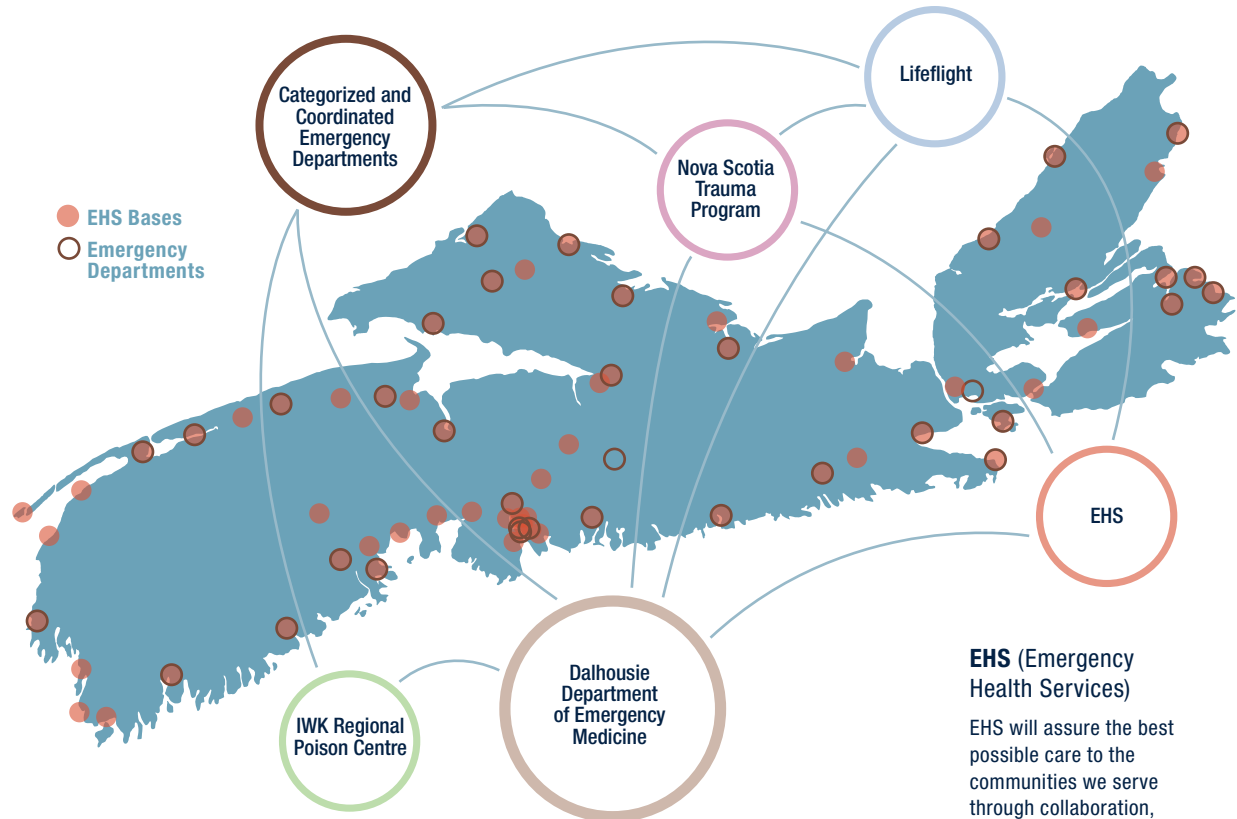
To provide critical care to ill and injured patients, immediate clinical expertise, decision-making support and safe, timely transport via rotor wing, fixed wing or ground ambulance.

Nova Scotia Trauma Program

The Nova Scotia Trauma Program facilitates the provision of optimal trauma care through leadership in patient care, education, research, injury prevention and the continuous development and improvement of our trauma system.

IWK Regional Poison Centre

To provide optimal individualized care in the event of a real or potential poisoning.



EHS (Emergency Health Services)

EHS will assure the best possible care to the communities we serve through collaboration, regulation, operations, evaluation and research.

Enhancing Patient Care

More timely access to high quality Emergency Medicine embedded in integrated networks of care.



STRATEGIC INITIATIVES

Optimize timely access to medical care in the Emergency Department through:

- Catalyzing improvements in hospital patient flow initiatives, collaborating with related departmental/program leaders/colleagues, and advocating for system-wide change.
- Maximizing safe and patient-centered Emergency Department operational efficiencies.
- Provide, monitor, and continually improve high quality emergency medical care in the other dimensions of Health Care Quality (effectiveness, acceptability, cost-efficiency, appropriateness, and safety).
- Enhance and align (within our respective organizations) our Continuous Quality Improvement program.
- Collect and monitor key process indicators of care (and where possible measure outcomes) and benchmark against national targets and recommendations.
- Maximize the use of tools to support clinical care, such as clinical pathways, care maps, standing orders and electronic decision support tools.

Provide leadership in developing an “Integrated Networks of Emergency Care” system design model at the district, provincial and inter-provincial level by:

- Matching patient/population clinical needs with departmental capacity, the district clinical services plan and provider expertise.
- Improving transitions of care prior to, during, and beyond the Emergency Department.
- Exploring safe, effective and efficient inter-disciplinary models of care (including the potential use of mid-level providers).

Create and maintain a positive, satisfying and enjoyable working environment for all caregivers by:

- Optimizing the physical workspace and ergonomics of day-to-day clinical care.
- Embodying and emphasizing professional behaviour from all staff.
- Promoting an atmosphere of tolerance, respect and courtesy between staff members and when caring for patients.

AT A GLANCE

2014 Patient Volumes

Halifax Infirmary
72,349

IWK
28,362

Saint John
Regional Hospital
55,944

Cobequid Community
Health Centre
37,532

Dartmouth
General Hospital
40,429

Hants Community
Hospital
14,851



**CHIEF OF EMERGENCY
MEDICINE:**

SAM CAMPBELL

CCPF(EM), DIP PEC(SA),
FCCHL

Dr Sam Campbell went to medical school in South Africa and did his emergency training at St Paul's in Vancouver. He is a Professor of Emergency Medicine, Dalhousie University, Chief of Emergency Medicine, Halifax Infirmary, a Trauma Team Leader; and On-line Medical Consultant to the LWK/Regional Poison Centre, EHS Nova Scotia Air Ambulance and Ground Ambulance services. His special interests are: emergency management of infectious and respiratory disease, continuous quality improvement and airway management.

Halifax Infirmary Site

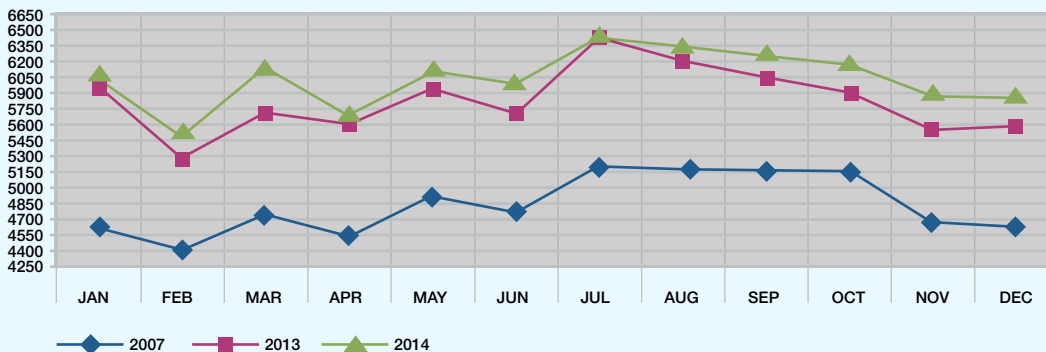


CLINICAL/OPERATIONAL HIGHLIGHTS:

- Patient volumes continue to rise with record numbers of patients every month. The patient census in 2014 was over 72,000 at the Halifax Infirmary site. Also increasing are the age of the patients as well as the complexity and acuity of their complaints.
- Emergency demand is predictably unpredictable, necessitating redundancy built into the system. With inpatient units frequently over 100% capacity, the length of stay in the emergency department of admitted patients is a major challenge, as delay in freeing up ED beds denies space and resources for waiting patients. This is expressed in worrying indicators of our ability to process the increasing patient volumes, including the time it takes for ambulances to offload their patients, the number and percentage of patients that leave the ED without being seen by a doctor (LWBS), the times patients wait to be seen and the number of activations of an overcrowding protocol, that involves pushing patients up into hallways in inpatient units. In most cases indicators of crowding vary directly with the incidence of delayed movement of admitted patients. Capacity limitations also push decision making toward earlier discharge of patients, increasing the risk of repeat visits by patients for the same illness.
- Improving ED efficiency is an ongoing area of commitment. Initiatives at the Halifax Infirmary site include a chair-centric, (bed sparing) process, a Rapid Assessment Unit, where patients consulted to specialty services are held, the use of a Clinical Decision Unit to avoid potentially avoidable hospital admission, having a senior internist stationed in the ED, using Advanced Care Paramedics as physician extenders in a low acuity area, providing information on personal efficiency to physicians and clinical team leads, and appointing emergency physicians specifically to address bottlenecks in flow at times of greatest patient demand. Cooperation with inpatient units to help them manage their load has also become an important area of focus.

Emergency Department Volumes and Flow

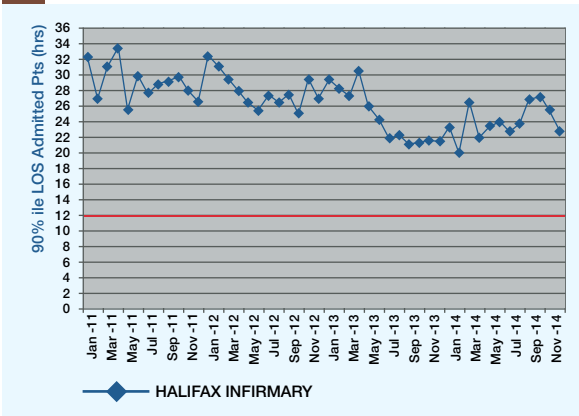
A. Monthly Census: Halifax Infirmary



A. Since the index year of 2007, patient volumes have increased 25 percent; from 57,936 patients per year to 72,349 patients per year. Our busiest months continue to be July through September and October as shown in graph A.

B. Despite this significant increase in volumes, the Emergency Department length of stay of admitted patients has been trending down over time due to improved hospital flow. Lack of surge capacity however, is still a problem and our 90 percent performance does not meet the 12 hour national standard proposed by the Canadian Association of Emergency Physicians (CAEP).

B. Length of Stay



Myths about Emergency department Flow:

MYTH 1: Wait times in the Emergency Department are just an inconvenience.

REALITY: Wait times are associated with morbidity and mortality rates.

Guttman A, Schull MJ, Vermeulen MJ. Association between waiting times and short term mortality and hospital admission after departure from emergency department: population based cohort study from Ontario, Canada. *BMJ* 2011; 342:d2983

MYTH 2: Emergency Department overcrowding is caused by low acuity patients.

REALITY: Published by the Canadian Health Services Research Foundation in *Mythbusters 2009*. "Myth: Emergency Room Overcrowding is Caused by Non-Urgent Cases".

Emergency Department Triage Acuity, Admission Rates and Wait Times

Myths about Emergency Department Flow:

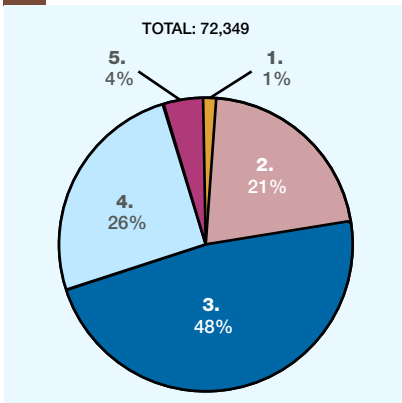
MYTH 3: The Emergency Department is the most expensive place to receive care in the system.

REALITY: Bernstein SL. "ED Care: Available, Competent, Affordable". *Acad Emer Med* 2014; 21(1):73-75

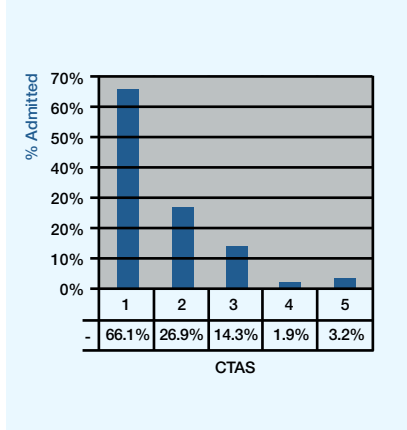
MYTH 4: Emergency Department overcrowding is an Emergency Department problem.

REALITY: Innes G. "Sorry - We're Full! Access block and accountability failure in the health care system". *CJEM* 2014; 16(0):30-47

A. Total Census by CTAS Level at the Halifax Infirmary



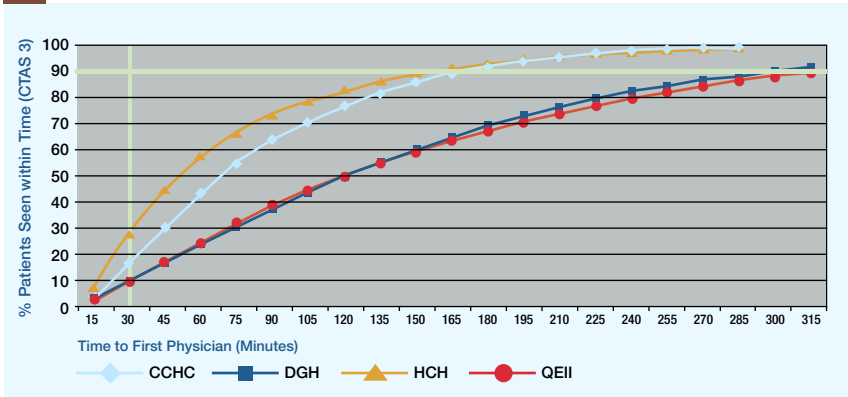
B. Admission Rate: Halifax Infirmary



A. Canadian Triage and Acuity Scale (CTAS) distributions are seen in this pie graph with Acuity 1 being the most ill or injured and Acuity 5 being the least.

B. The corresponding admission rates are seen for each triage level. For example, 14.3 of CTAS 3 patients are admitted.

C. Wait Times



C. The wait time curve for CTAS 3 patients is seen for all four Emergency Department facilities in the central zone. At the Halifax Infirmary site 90 percent of patients are seen within 2.5 hours. (The CAEP target is 30 minutes for CTAS 3 patients.)



CHIEF OF PEDIATRIC
EMERGENCY MEDICINE:
SHANNON MACPHEE
MD, FRCPC(PEDS), PEM

Dr Shannon MacPhee graduated from medical school at Dalhousie University in 1999. She did her Pediatric residency and Pediatric Emergency Medicine Fellowship at the Hospital for Sick Children. Dr MacPhee was recruited to the IWK in 2005 and is currently an Assistant Professor in the Department of Emergency Medicine at the IWK since 2009. With a keen interest in medical simulation she has been a driving force for the development of the program at the IWK Health Centre. Other interests include Knowledge Translation and optimizing communication during patient interactions.

IWK Site



The IWK Department of Pediatric Emergency Medicine (PEM) provides care to over 28,000 patients each year at the IWK Health Centre and serves as the only pediatric emergency department in the Maritime provinces.

Our physicians have clinical expertise in managing a broad range of conditions, from the neonatal period through to the teenage years. Many of our doctors have subspecialty training in pediatric emergency medicine, enabling us to provide expert care to children and youth.

Our faculty consists of a mix of seasoned, highly experienced clinicians, as well as younger physicians who possess additional specialized expertise in pediatric and emergency care at the IWK Health Centre.

We're dedicated to Dalhousie Medical School's academic

mandate, and our members have a long history of providing excellent teaching to medical students and residents.

The IWK Department of Pediatric Emergency Medicine is committed to continuously raising the standard of pediatric emergency care across the Maritimes. We operate in a research-rich environment and are in collaboration with pediatric emergency departments across the country through Pediatric Emergency Research Canada (PERC). We participate in numerous research studies. Most recently, the IWK Health Centre formed a partnership with the Saint John Regional Hospital, Miramichi Regional Hospital and the Cape Breton Regional Hospital to expand knowledge on unscheduled pediatric care in these centres.



CLINICAL ACADEMIC HEAD:
MIKE HOWLETT,
MD, CCFP(EM), MHA

Dr Mike Howlett is the Clinical Academic Head for the Department of Emergency Medicine, Horizon Health Network, Saint John Area. He is an Associate Professor in the Department of Emergency Medicine for Dalhousie University and is a Clinical Assistant Professor, Discipline of Emergency Medicine for Memorial University in Newfoundland. Mike's interests are in population health, system planning, ED crowding, staff health and quality improvement.

Saint John Site



The Saint John Regional Hospital is the largest tertiary care hospital in New Brunswick and is the primary health care referral centre for this area and to all New Brunswickers for major trauma and cardiac care. The New Brunswick Trauma Program is located within the hospital. It is also the center of Dalhousie Medicine New Brunswick's distributed medical education program.

The Saint John Regional Hospital Emergency Department Ultrasound Program was established as one of our priority academic programs. Amongst our physician group are a number of national and international leaders in the field of Point of Care Ultrasound (PoCUS). We run a growing number of PoCUS courses each year in Saint John.

The Simulation Program was started with the aim of

team training and training for less frequent, high acuity emergencies. With good investment into excellent equipment we now have multiple on site and off site programs. We have simulators for adult, child and infant scenarios. We run bimonthly in situ simulations. These simulations take place within the active clinical areas of the Emergency Department and involve all members of the ED team. The focus for this is team training and logistics.

We have also commenced our own, in house Emergency airway simulation program. This has been developed to improve confidence and maintain competence with difficult airway situations. In addition we are currently providing simulation based learning for Internal Medicine residents.

Global Health and the Department of Emergency Medicine

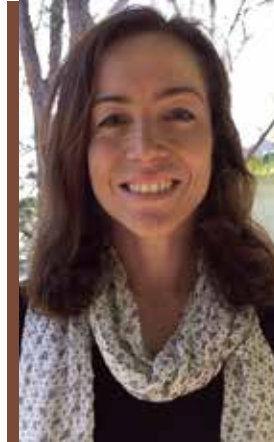
JOHN ROSS, MD, FRCPC



Dr John Ross trained as a Royal College Emergency Physician at Queen's University. He has been practicing Emergency Medicine for almost 25 years, primarily in Halifax at the Halifax Infirmary, but also clinically and academically at South Shore Regional Hospital, QE Hospital Charlottetown, UNIMAS in Sarawak Malaysia, Muhimbili National Hospital, Dar es Salaam

Tanzania, and HEODRA in Leon Nicaragua. Some of John's various department and hospital administrative roles included Clinical Chief, Capital Health and Academic Head, Dalhousie University 2004-09; Provincial Advisor on Emergency Care to the Deputy and Minister of the Department of Health and Wellness NS 2009-present and EM Royal College Residency Program Director 2011-2014. Dr Ross has been a professor in Emergency Medicine since 2005. His academic interests include airway, simulation, ultrasound education as well as select global health initiatives.

JOLENE COOK, MD, CCFP(EM)



Dr Jolene Cook is an Emergency Physician at the Halifax Infirmary and recently volunteered her time to work in Port-au-Princes, Haiti with Team Broken Earth along with several of the Halifax Infirmary Emergency Department nurses. Jolene is an active member of Medecins Sans Frontieres/Doctors Without Borders (MSF) and recently completed

a mission at an MSF trauma hospital in Port-au-Princes in 2015. Prior to her involvement in these humanitarian organizations, she served in the Canadian Forces. She completed her CCFP (EM) training at Dalhousie University in 2012 and went on to do an Emergency Medical Services (EMS) Fellowship in 2013. She continues to be involved in EMS on the local and international levels.



Educating doctors and health care teams of the future

Be at the forefront of medical education ensuring competence, inspiring excellence, and developing leaders in Emergency Medicine.



AT A GLANCE

For the 2015 academic year we received:

CFPC (EM)
Residency Program
95 CaRMs applications for 4 available spots

RCPS (EM)
Residency Program
108 CaRMs applications for 2 available spots

STRATEGIC INITIATIVES

Develop exemplary Emergency Physicians and system leaders through the support and innovation of our three PGME training programs and our EMS fellowship.

- Royal College of Physicians and Surgeons of Canada Specialist Certificate in Emergency Medicine
- Royal College of Physicians and Surgeons of Canada Pediatric Emergency Medicine Residency
- Canadian College of Family Physicians Certificate in Emergency Medicine
- Division of Emergency Medical Services Fellowship

Align our strengths as a department (clinical care opportunities, educational priorities, and research interests) to influence and support high impact undergraduate learning.

Enhance and advance the appropriate and integrated use of Simulation into all levels of medical education across sites and programs.

Take a leadership role in promoting inter-professional and multi-disciplinary education and clinical excellence throughout the province/Maritimes guided by the improving patient outcomes imperative.

Foster a creative and supportive environment to grow innovative, effective, and enthusiastic educators who constructively challenge the status quo and are on the leading edge of improvement in medical education.

Develop a Department-wide approach to ensure flexible, fair and sufficient support for advancing the scholarship of education.

Post Graduate Medical Education



ROYAL COLLEGE EMERGENCY MEDICINE PROGRAM DIRECTOR:
JANET MACINTYRE
MD, FRCPC

Dr Janet MacIntyre has been a faculty member at Dalhousie University and an emergency physician at the Halifax Infirmary since completing her specialty training in Emergency Medicine at Dalhousie University in 2005. Dr MacIntyre has been a consultant for the IWK Regional Poison Centre since 2008, a medical control physician for the LifeFlight Critical Care transport program and a Trauma Team leader at the Halifax Infirmary in Halifax since 2011. Her academic interests are in the area of medical education with an active role in undergraduate medical education as the Unit Head for Introduction to Clerkship and then PIER 1 (Positioning, Integration, Evaluation, Research/Review) before becoming Program Director for the Royal College Emergency Medicine Residency Program at Dalhousie University in July 2014.



CANADIAN COLLEGE OF FAMILY PHYSICIANS (EM) PROGRAM DIRECTOR:
BIJON DAS
MD, CCFP(EM)

Dr Bijon Das is a Dalhousie University Medical school graduate. He also completed his Family Medicine and Emergency Medicine training at Dalhousie. Currently an Assistant Professor at Dalhousie University, he works as an Academic Emergency Physician at the Halifax Infirmary Emergency Department. He acts as the Program Director for the CCFP(EM) Emergency Medicine Residency Program. His research interests include ergonomic redesign of various aspects of the Emergency Department. He has a strong interest in teaching and has initiated and developed Clinical Teaching Rounds (CTRs) in the adult Emergency Department.



PEDIATRIC EMERGENCY MEDICINE PROGRAM DIRECTOR:
ERIN KILLORN
MD, FRCPC

Dr Erin Killorn attended medical school at Dalhousie University, and completed her postgraduate training at the University of Western Ontario in London, Ontario, for both a residency in Pediatrics, and a fellowship in Pediatric Emergency Medicine. She is an Assistant Professor, Department of Emergency Medicine, Trauma Team Leader and is currently completing a Masters in Health Professions Education through University of Illinois in Chicago. Her main interests centre on learner education. Erin is the Program Director for the Royal College Pediatric Emergency Medicine Program in the Department of Emergency Medicine.

Three tracks in Emergency Medicine Training

The Department of Emergency Medicine continues to be a leader in the 3 PGME programs: The Royal College of Physicians and Surgeons specialist certificate in Emergency Medicine and FRCP Pediatric Emergency Medicine residency, as well as the Canadian College of Family Physicians with special competency in Emergency Medicine.

Under Graduate Medical Education

The department has increased its emphasis on the opportunity to contribute to UGME medical education. With a generalist approach to acute care issues and the Department's already strong pedigree in critical thinking and clinical decision making, there is a natural fit with the evolving curriculum and many of the recommendations in the Future of Medical Education in Canada white paper(s).



UNDER GRADUATE COORDINATOR -
CLERKSHIP
CHRISTOPHER COX
MA, MD, DAEBM

Dr Chris Cox completed his medical training at the Boston University School of Medicine and his Emergency Medicine Residency at the New York University at Bellevue Hospital, maintaining American Board of Emergency Medicine (ABEM) Diploma Certification since 2001. Chris is currently the Undergraduate Emergency Medicine Clerkship Coordinator, Dalhousie University. Some of his interests are in Emergency Department point of care ultrasound for Trauma, Cardiac, Pulmonary, First Trimester pregnancy, renal system/abdominal pain, vascular/thromboembolic disease, shock, orthopedic, and procedural applications, Pediatric EM, and EM Simulation. Chris recently was co-author of the textbook chapter "PoCUS in Early Pregnancy".



ASSISTANT UNDER GRADUATE
DEAN - CLERKSHIP
SIMON FIELD
MD, CCFP(EM), FCFP, M.Ed

Dr Simon Field graduated medical school at the University of Witwatersrand in South Africa. He holds a Masters of Education, Curriculum Studies from Acadia University. Currently, Simon is a respected academic Emergency Medicine Physician at the Halifax Infirmary and is known for his respect for others, his honesty and integrity as well as his sense of duty and responsibility. He is an Associate Professor with the Department of Emergency Medicine for Dalhousie University. Simon is currently the Assistant Undergraduate Dean of Clerkship for Dalhousie University. His interests lie in the areas of Emergency department utilization; end-of-life care; assessment of learners; critical thinking; and professionalism.



PEDIATRIC UNDERGRADUATE
COORDINATOR - CLERKSHIP
EMMA BURNS
MD, FRCPC

Dr Emma Burns graduated medical school at Dalhousie. Her Pediatric residency was at Dalhousie University and her Pediatric Emergency Medicine fellowship program was at the University of Ottawa. Now as an Assistant Professor at Dalhousie University, she is the Undergraduate Medical Education Coordinator at the IWK Emergency Department, and lead physician for Pediatric Emergency Ultrasound Education and Simulation within the Pediatric Emergency Medicine Fellowship. Her research interests include head injury in children and storytelling in medicine. Emma is working to establish a bedside ultrasound program in the department.

Interprofessional Team Based Learning



Emergency Medicine, by its nature is a team sport. Emergency care is often started at the roadside or in the patient's own home by paramedics and first responders. Different geographic locations call for different levels of response readiness and inter-professional teams. In regional and teaching hospitals there are often many overlapping but complementary roles and strengths of different members of the team. Communication, collegiality, and crisis resource management are a key aspect of inter-professional team paired learning which the Department of Emergency Medicine sees as a point of emphasis.

In the Department of Emergency Medicine, we work with the belief that interprofessional collaboration and team based learning should begin early in a career. This early start not only gives the experience needed to collaborate effectively and efficiently, it also gives the opportunity to learn about the wide variety of people who work to enhance patient health within the province.

Simulation

We have an active emergency simulation program. Our physicians are leaders in simulation training and contribute to learning at the undergraduate, postgraduate, and continuing education levels.

The Dalhousie University Department of Emergency Medicine has embraced contextual experiential education through the adoption of simulation-based medical education. Supported in part by the Simulation Education Network, CDHA, and Dalhousie Medical School DEM is poised to have an explosion of simulation and will be on the leading edge of simulation based teaching and learning in Canadian academic medical institutions. Our in Canadian academic medical institutions use of high fidelity simulators, combined with clinical grade cadavers, and a stellar internationally recognized interprofessional teaching faculty results in an unmatched educational experience.

Our Department boasts the first undergraduate high fidelity simulation based curriculum, and we have active post graduate, and in situ simulation based learning occurring on a regular basis. Core EM material is being delivered through high fidelity simulation, which enriches learner outcomes while improving patient safety. With the creation of a new full time simulation coordinator position for our very active ED Simulation Bay, we are able to devote attention to the details of Simulation Based Medical Education (SBME), and as we are soon to break ground on our new state of the art simulation bay, the demand for such programming across the Faculty of Medicine delivered via EM staff will only increase.

Finally, DEM interprofessional faculty have been instrumental in delivering simulation support and expertise to Dalhousie UGME throughout areas such as PIERS and OSCE, and have played leading roles in simulation based CPD such as the Halifax Resuscitation Course, and Simulation Leader Instructors Course, which have all worked to bring faculty together enriching the learning of all.



ADULT SIMULATION LEADER:

STEPHEN G. MILLER

BSc, MD, FCFP(EM), MEd

Dr Stephen Miller is an Assistant Professor of Emergency Medicine with a cross-appointment to the Division of Medical Education, Dalhousie University. He works as an Emergency Physician at the Halifax Infirmary in Halifax. Steve also holds a Masters of Health Professions

Education (Curriculum Studies) from Acadia University and is the Medical Director of Emergency Medicine Simulation.



PEDIATRIC SIMULATION LEADER:

VERED GAZIT

MD

Dr Vered Gazit is an Assistant Professor in the Department of Emergency Medicine at Dalhousie University. She is a Pediatric Emergency Medicine Physician at the IWK Health Centre. Vered is the Director for the Pediatric Simulation Program at the IWK Emergency

Department in addition to being the Physician Co-Lead for the IWK Centre-wide Simulation Program. Vered also is the Disaster Management Liaison for the IWK Emergency Department.

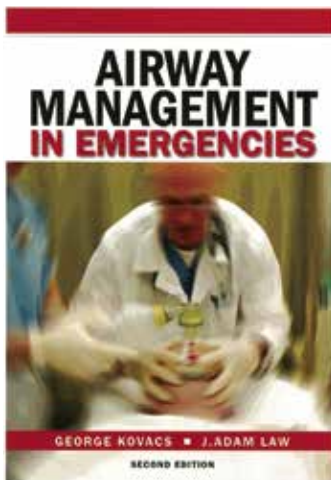
Clinical Cadaver Program

Since 2007, the Dalhousie Division of Anatomy, in collaboration with the Departments of Emergency Medicine and General Surgery, have been using “clinical grade cadavers” (CGC). These CGCs are preserved using a newly-adapted embalming technique that retains a natural compliance and texture that is very similar to that of living human tissues. This embalming process preserves the body’s clinical condition for up to a month after the donor’s death. The result is a truly realistic model that can replace or augment the use of other simulators. At our institution,

CGCs are now being used in a hospital setting to provide a multidisciplinary simulation environment for learners.

There is no higher-fidelity simulation than one that uses the human body as a medium for learning. Clinical cadavers provide a cost-effective, safe solution for teaching and learning lifesaving skills and address an experience/competency gap where educational opportunities are inadequate or simply not available in adequate numbers to attain or maintain competency.

Airway Management



Halifax has an international reputation as a hotbed for airway management education and research. This status has roots dating back 25 years when several staff worked and trained as both Anesthesiologists and Emergency Physicians. This collaborative spirit has continued with several members cross-appointed in the Departments of Emergency Medicine and Anesthesia. The AIME program (Airway Management & Interventions in Emergencies) was co-developed by Dr Adam Law and Dr George Kovacs and has been providing hands-on, skill-based clinical learning experience to thousands of practitioners across the country for fifteen years. AIME is not a ‘physicians only’ program. It has been adopted as core curriculum for airway management in various places around the world helping clinicians in prehospital medicine, critical care transport and nursing take care of the acutely ill and injured. An accompanying textbook entitled *Airway Management in Emergencies* has been published in two editions with a 3rd on the way. Numerous staff members make up a national faculty and are actively involved in airway management education and research.

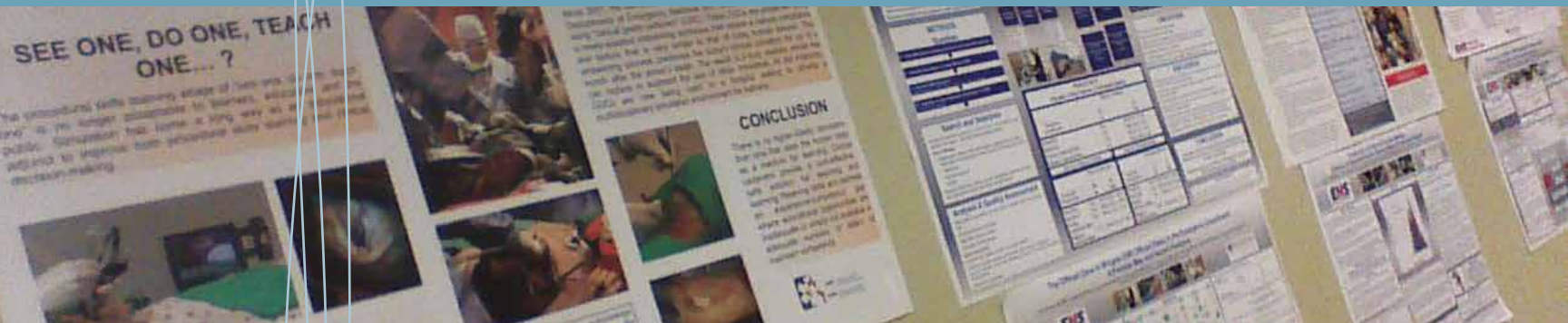


GEORGE J. KOVACS
MD, MHPE, FRCP

Dr George Kovacs is a Professor of Emergency Medicine and is cross-appointed in the Departments of Anesthesia, Medical Neuroscience and Medical Education at Dalhousie University. George holds a Masters of Health Professions Education from the University of Illinois. In addition to being an Emergency Physician at the Halifax Infirmary, George is an award winning educator and is the Co-developer of Airway Intervention & Management in Emergencies (AIME) as well as being a text book author of *Airway Management in Emergencies*.

Advancing Research

A productive and collaborative research engine that emphasizes improving patient outcomes through research and knowledge translation.



AT A GLANCE

Grants Captured

25

Total Grant Funding

\$4,127,211

Publications

66

Abstracts

72

On Going Studies

97

STRATEGIC INITIATIVES

Enhance research structure and process via Dalhousie department-wide communications, governance and a common vision/approach.

- Establish a functional steering committee with clear roles and responsibilities to steward and support the “Advancing Research” section of the Department of EM strategic plan.
- Establish a pragmatic process of nurturing the research cycle from curiosity to idea/question to project (protocol/ethics/grant) to presentation/manuscript.
- Establish a clear and shared vision of priority research foci within the Department (through natural selection but ultimately emphasizing outcomes research).
- Continue to seek out and promote strategic inter-departmental and inter-disciplinary research opportunities and alliances on a regional, national and international basis.

Build a sustainable research infrastructure.

- Enhance the securing of grant funding through the promotion and support of grant applications.
- Develop a Department-wide approach to ensure a critical mass of researchers with flexible, fair and sufficient salary support.

Increase the quality/quantity of achievements and activities.

Promote and support research education at the undergraduate, postgraduate, and faculty development levels.

Enhance knowledge translation to health care providers of all disciplines and levels.



HALIFAX INFIRMARY SITE
DIRECTOR EMERGENCY
MEDICINE RESEARCH:
KIRK MAGEE
MD, MSc, FRCPC

Dr. Kirk Magee is an Emergency Medicine Physician, Halifax Infirmary. Kirk completed his FRCPC in Emergency Medicine and a Masters of Science in Epidemiology at the University of Alberta. He is an Associate Professor, Department of Emergency Medicine with Dalhousie University and after completing his term as the Program Director for the Royal College Emergency Medicine Program, he serves as the Halifax Infirmary Site Director of Research, Department of Emergency Medicine, Dalhousie University and is a member of the Trauma Team with the Nova Scotia Trauma Program. Kirk is also an Editor with the Cochrane Heart Group, and has an interest in systematic reviews.



STACY ACKROYD
BSc(OT) MSc PhD

Dr Stacy Ackroyd is an occupational therapist and scientist with the Department of Emergency Medicine. She is Canada's first post doctorate in patient safety, and was awarded the Dr. David Rippey Patient Safety Fellowship Award for her proposal "Safer Medication Use in Emergency Departments". She received her MSc in Community Health and Epidemiology at Dalhousie University and has worked as a researcher since 1997. Her present health services research focuses on patient safety for older patients in the ED and acute care setting. She is involved in patient safety education for medical students and with the Advancing Safety for Patients in Residency Education (ASPIRE) Program with the RCPSC.

Since its inception, the Department of Emergency Medicine has demonstrated an exceptional commitment to building research capacity and advancing knowledge in emergency medicine.

Our investigators have a broad range of research interests that reflect the diverse nature of clinical practice in emergency departments and in pre-hospital care. Our particular research strengths are in the areas of:

- EMS and trauma systems
- resuscitation
- advanced airway management
- patient safety and clinical decision-making

We collaborate closely with EMS colleagues across Nova Scotia, Canada and the United States.

Publications

A sample of the 66 peer reviewed manuscripts that have been published in 2013-2014.

Croskerry P. From Mindless to Mindful Practice - Cognitive Bias and Clinical Decision Making. *N Engl J Med* 2013; 368:2445-2448

Murphy L, Kovacs G, Reardon P, Law A. Comparison of the King Vision Video Laryngoscope with the MacIntosh Laryngoscope. *J Emer Med* 2014; 47(2):239-46

Howlett M, Doody K, Murray J, Leblanc-Duchin D, Fraser J, Atkinson P. Burnout in emergency health care professionals is associated with coping style: a cross sectional survey. *Emerg Med* 2015

Hurley K., Magee K, Green R. Aminophylline for bradycardiac arrest in adults. *Cochrane Database of Systematic Reviews* 2013; 2013(8): 1-42

Zed P, Black K, Fitzpatrick E, Ackroyd-Stolarz S, Murphy N, Curran J, MacKinnon N, Sinclair D. Outcomes of pediatric patients presenting to the emergency department with a medication-related visit. *CJEM* 2013; 15(S1):EP01

Tallon J, Flowerdew G, Stewart R, Kovacs G. Outcomes in Seriously Head-Injured Patients Undergoing Pre-Hospital Tracheal Intubation vs. Emergency Department Tracheal Intubation. *Int J Clin Med* 2013; 4(2):78-85

Beatty L, Green R, Magee K, Zed P. A Systematic Review of Ethanol and Fomepizole Use in Toxic Alcohol Ingestions. *Emerg Med Int* 2013; 2013 (Article ID 638057): 14 pages

Croskerry P, Petrie D, Reilly J, Tait G. Deciding About fast and Slow Decisions. *Acad Med* 2014; 89(2):197-200

Croskerry P. From Mindless to Mindful Practice - Cognitive Bias and Clinical Decision Making. *N Engl J Med* 2013; 368:2445-2448

Atkinson P, French J, Nice A. Procedural Sedation and analgesia for adults in the emergency department. *BMJ* 2014

Ackroyd-Stolarz S, Bowles S, Giffin L. Validating administrative data for the detection of adverse events in older hospitalized patients. *Drug Healthc Patient Saf* 2014; 13(6):101-8

For a complete list of publications visit:

emergency.medicine.dal.ca

Editorials

A sample of editorials published in 2013-2014.

Ross P, Atkinson P, Henneberry R. Coming of Age – Emergency Point of Care Ultrasound in Canada. *CJEM* 2014; 16(4):265-268

Ackroyd-Stolarz S. Improving the prevention of pressure ulcers as a way to reduce health care expenditures. *CMAJ* 2014; 186(10):E370-1

Kovacs G. Airway management: “the times they are a-changin’”. *CJEM* 2013; 0(0):1-4

Petrie D. Kreisberg J, Huffaker P. The First International Congress on Whole Person Care - A Report. *Perm J* 2015; Spring;19(2):88-90

Abstracts

A sample of the 72 abstracts that our research members have presented in 2013-2014.

Carter A, Jensen J, Greene J, Goldstein J, Swain J, Fidgen D, Richardson L, Cain E. State of the Evidence for EMS Care of Respiratory Distress: An Analysis of Appraised Research from the Canadian Prehospital Evidence-Based Practice Project. *PEC* 2015; 19(1):166

Campbell S, Magee K, Cajee I, Field S, Butler M, Campbell C. The utility of measuring international normalized ratio (INR) as part of the investigation of patients with cardiac-type chest pain. *CJEM* 2014; 16(S1):S30

Atkinson P, Vaillancourt C, Talbot J, Howlett M. Does increasing age affect emergency physician willingness to work night shifts? *CJEM* 2014; 16(S1):S50

Loubani O, McVey J, Deveau B, Jensen J, LeRoux Y, Travers A. Paramedic diagnostic accuracy of ST-elevation myocardial infarction on 12-lead ECG: a systematic review. *CJEM* 2014; 16(S1):S54

Campbell S, Cajee I, Field S, Magee K, Butler M, Campbell C. The utility of chest x-ray as part of the investigation of patients with chest pain suspected to be cardiac in origin. *CJEM* 2014; 16(S1):S73

Jensen J, Carter A, Rose J, Visintini S, McVey J, Bourdon E, Brown R, Travers A. Alternatives to traditional EMS dispatch or transport to ED: a scoping review of published outcomes. *CJEM* 2014; 16(S1):S75

Campbell S, Field S, Magee K, Cajee I, Butler M, Campbell C. The utility of routinely measuring serum electrolytes as part of the investigation of patients with cardiac-type chest pain. *CJEM* 2014; 16(S1): S80

Carter A, Gould J, Vanberkel P, Jensen J, Cook J, Carrigan S, Wheatley M, Travers A. Offload zones in the emergency department to mitigate emergency medical services (EMS) offload delay: a process map and hazard analysis. *CJEM* 2014; 16(S1):S80

Jarvis C. Can a focused education program increase staff familiarity with an emergency department disaster plan? *CJEM* 2014; 16(S1):S93

Sowers N, Green R. Impact of the age of stored blood on trauma patient mortality: a systematic review. *CJEM* 2014; 16(S1):S108

Loubani O, McVey J, Deveau B, Jensen J, LeRoux Y, Travers A. Paramedic Diagnostic Accuracy of ST-Elevation Myocardial Infarction on 12-Lead ECG: A systematic Review. *PEC* 2014; 18(1):124

Goldstein J, Carter A, Rockwood K, Travers A. Epidemiology of prehospital emergency responses for older adults in a provincial EMS system. *CJEM* 2013; 15(S1):S72

Travers A, Green R, Cain E, Campbell S, Jensen J, Petrie D. Can paramedics diagnose sepsis in the prehospital setting? A feasibility study. *CJEM* 2013; 15(S1):S55

Campbell S, Froese P, Butler M, Etsell G, LaPierre A, MacKinley R, Watson M, Magee K, Zed P, Kovacs G. Propofol is officially the “sedative of choice” in Halifax: An update from the Halifax ED Procedural Sedation Registry. *CJEM* 2013; 15(S1):S46

Campbell S, Butler M, MacPhee S, Zed P, Froese P, Watson M. Is propofol for Emergency Department Procedural Sedation any Less Safe in Older Teenagers than in Older Patients? *CJEM* 2013; 15(S1):S46

Travers A, Green R, Cain E, Campbell S, Jensen J, Petrie D. Can Paramedics Diagnose Sepsis in the Prehospital Setting? A Feasibility Study. *PEC* 2013; 17(1):109

DeSousa N, Vaillancourt C, Atkinson P, Fraser J, Chandra K. Improving Emergency Department Care for Acute Exacerbation of COPD. *CJEM* 2014; 16(S1)

For a complete list of abstracts visit:

emergency.medicine.dal.ca

Studies and Projects in Development

GRANTS

There have been 25 successfully captured grants from January 2013 to December 31, 2014.

- **\$4,127,211** as Primary Investigator/or core research team based at Dalhousie
- Another **\$5,231,298** as co-investigator/or core research team based at another university

Some Examples:

- *Integrating Emergency health Services and Palliative Care to Enhance the End of Life Experience for Nova Scotia and Prince Edward Island Cancer patients and Their Families.*
Carter A, et al - Investigators
Grant Provided by the Canadian Partnership Against Cancer
- *Understanding Discharge Instructions for Children and Caregivers in the Transition from Pediatric Emergency Care.*
Curran J, et al - Investigators
Grant Provided by the Canadian Institute of Health Research (CIHR)



IWK SITE DIRECTOR PEDIATRIC EMERGENCY MEDICINE RESEARCH:
KATRINA HURLEY
MD, FRCPC

Dr Katrina Hurley graduated from medical school at Memorial University in Newfoundland. She pursued a residency in Emergency Medicine at Dalhousie University and concurrently completed the Clinician

Investigator Program and a Masters in Health Informatics. She has been an Emergency Physician at the IWK since 2009 and is an Assistant Professor in the Department of Emergency Medicine. Katrina is the Division of Pediatric Emergency Medicine Research Director and is author of the book "OSCE and Clinical Skills Handbook" published in 2011. Recently she has completed her second trip to Haiti with the Broken Earth Organization and with her team they are beginning to campaign for funds to be back in Haiti for the fall.



ELEANOR FITZPATRICK,
RN, MN, ENC(C)

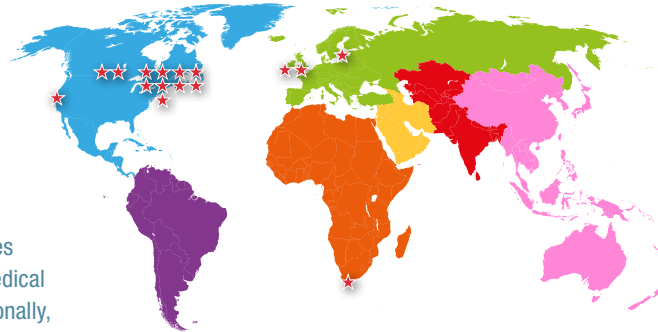
Eleanor Fitzpatrick is the coordinator of the IWK Health Centre Emergency Department's research program. She is one of the key players in the development of clinical research programs within the IWK Emergency Department. Prior to her role in research she worked as a pediatric emergency nurse

for 12 years. In addition to having an expertise in research development and management, Eleanor has been an active investigator and collaborator on numerous clinical research projects both locally, nationally and internationally. Her clinical research work is in the areas of parental uncertainty in illness, patient safety, parent/family education and mental health care in the Emergency Department. In addition to a research leadership role in the IWK Emergency Department she is presently a member of the IWK Research Ethics Board, a member of the Translating Emergency Knowledge for Kids (TREKK) prioritization committee and a member of the Pediatric Emergency Research Canada (PERC) Executive. She has an academic appointment with the Faculty of Medicine at Dalhousie University in the Department of Emergency Medicine.

Research Saint John

The Saint John Regional Hospital Department of Emergency Medicine's Research Program has grown by leaps and bounds. The program has now proven to be well established with the appointment of Dr Paul Atkinson as Director of Research and Jacqueline Fraser, Research Coordinator. Studies have focused on bedside ultrasound, trauma, knowledge translation, and most importantly, improving patient care. The program provides research opportunities for many disciplines including medical residents and students. It is also recognized locally, nationally, and internationally as a leading program in Emergency Medicine research.

Collaboration has been a priority for the research program as it helps raise awareness of the program. Partnerships have been developed with the Departments of Infectious Diseases & Pediatrics, Public Health, IWK, NB Trauma Program, Department of Psychology, Research Services, Universities of New Brunswick, Dalhousie, Calgary, Memorial, Capetown, and Cambridge, Canadian Centre of Vaccinology, and staff of



Areas of collaboration / presentations of SJRH ED Research Program

the Saint John Regional Hospital ED. The site also initiated the formation of a Dalhousie DEM Ultrasound Research working group which would see Atlantic Canada on the map for investigator initiated protocols and projects in the field of ultrasound. This group has just become a National Canadian Association of Emergency Physicians (CAEP) committee led by Dr Paul Atkinson.



SAINT JOHN SITE DIRECTOR EMERGENCY MEDICINE RESEARCH:

PAUL ATKINSON, BSC(HONS), MB BCH BAO, MA(CANTAB), MRCP(UK), FCEM, CFEU

Dr Paul Atkinson's career in Emergency Medicine has involved periods of learning, practicing medicine, teaching, and performing research, in internationally and regionally recognized teaching hospitals and tertiary centres such as the Royal Victoria Hospital in Belfast, Royal North Shore Hospital in Sydney, Australia, Addenbrooke's Hospital, Cambridge University Hospitals in the UK, and now at Saint John Regional Hospital and Dalhousie University in Canada. Since receiving his Fellowship in Emergency Medicine, Paul has worked as a clinician, educator and researcher in the academic positions of Consultant and Associate Lecturer (Cambridge University), Professor (Dalhousie University) and Clinical Associate Professor (Memorial University).

Division of Emergency Medical Services (EMS)

To advance the scientific knowledge of EMS by advocating for, facilitating and performing world class research, knowledge translation, education and leadership.



The Division of EMS seeks to improve patient care in EMS through knowledge translation activities such as the Prehospital Evidence-based Practice (PEP) database, the introductory critical appraisal course Paramedic Evidence Based Practice (PEBP), and the hosting of journal clubs for paramedics and others in EMS.

Annually, the Division hosts an EMS Research Day, with projects presented by local and national EMS researchers. Through this opportunity, and chairing the Nova Scotia EMS Research Steering Committee, the Division works to advance EMS research and advocate for paramedic researchers. We also offer bursary support to paramedics who wish to undertake post-graduate education, and to all researchers for the performance or knowledge translation of research.

The Division strives to educate EMS leaders for the future, providing opportunities for post-residency Fellowship, EMS electives in medical school and residency, and research opportunities for paramedics, physicians, or other scientists.

The Division of EMS seeks to advance paramedicine as a health profession, and the discipline of EMS, valuing innovation, mentorship, and interprofessional collaboration.



**DIRECTOR, DIVISION OF EMS:
ALIX CARTER**
MD, FRCPC, MPH

Dr Alix Carter is an emergency physician working at the Halifax Infirmary in Halifax. She is also an EMS physician and researcher, working as Research Medical Director at EHS Nova Scotia and Division Director at the Dalhousie Division of EMS. Her research interests are emergency health system design and innovation.

The Department of Emergency Medicine / Division of EMS is proud that Dr Alix Carter (et al) is the successful recipient of a \$1 million dollar grant provided by the Canadian Partnership Against Cancer to improve and study the quality of life for palliative care patients. This is the culmination of significant work by many people and significant collaborations across disciplines, departments, and organizations. Most importantly, this innovative system level research will hopefully lead to improved quality of life and dignity of death in many patients that we often care for in the Emergency Department.

Strengthening our People and Organizational Governance

Effective, efficient, and adaptable support of the Department of Emergency Medicine CORE initiatives by engaging leaders and teams who create the conditions for emergence.



STRATEGIC INITIATIVES

Entrench a governance as leadership model and board that meets the strategic, fiduciary, and generative challenges of the department.

- Adapt the current organizational design to ensure streamlined processes are managed by appropriate leadership, committee structure, team members and administrative support.
- Strengthen faculty mentorship, career path counseling, leadership development, and the wellness and resilience of physicians and teams.
- Improve our communications activities to support the department's operational goals and strategic directions.
- Advocate for and influence important health system reform through the strategic participation in university, district, provincial, national and international committees and working groups.
- Ensure ongoing fiscal responsibility through fair and competitive funding, transparent and priority-guided budgeting and a transparent practice plan.

More Faces of Emergency Medicine



GRAHAM BULLOCK
MD, FRCP(C)

Dr Bullock came to Halifax in 1990, having completed specialty training in Emergency Medicine at the University of Western Ontario. During his time at Dalhousie, in addition to his clinical responsibilities he developed a keen interest in medical education, specifically program design and trainee assessment. In the late 1990's, he helped found the Faculty of Medicine's Learning Resource Center and led the development of its undergraduate Procedural Skills and Simulated Patient Programs. From 2003-2007, he was the RCPSC Program Director for Emergency Medicine at Dalhousie. He was a member of the RCPSC Examination Board in Emergency Medicine from 1994-2000, and served as Chair from 2000-2004. A longstanding member of the RCPSC Evaluation (now Assessment) Committee, he served as Chair from 2008-2013. In 2014, he left clinical practice to take the position of Medical Director – Physician Performance at the CPSNS, where he is responsible for College assessment and educational programs. Dr Bullock continues to work in a consultative capacity to the Royal College as a Senior Advisor on Examinations.



PAT CROSKERRY
MD, PhD, FRCP(Edin)

Dr Pat Croskerry is a Professor in Emergency Medicine. In addition to his medical training, he holds a doctorate in Experimental Psychology with Fellowship training in Clinical Psychology. He has worked in the area of Patient Safety for the last 15 years. He is senior editor on a major text 'Patient Safety in Emergency Medicine' published in 2008. He implemented the first undergraduate course on medical error in Canada at Dalhousie University. Pat received the Ruedy Award from the Association of Faculties of Medicine of Canada for innovation in medical education and then joined the teaching faculty for the Canadian Patient Safety Officer Course in Ottawa, and, the teaching faculty of the Netherlands Emergency Medicine Fellowship Training Program in Rotterdam. He is a past Associate Editor of the journal *Academic Emergency Medicine*, and currently a reviewer for several leading journals. He was appointed to the Board of the Canadian Patient Safety Institute (CPSI), then to Domain Co-Chair of the CPSI Safety Competencies initiative, and most recently to the CPSI Health System Innovation Advisory Committee.



JANET CURRAN

RN, PhD

Janet Curran is an Assistant Professor in the School of Nursing and the Department of Pediatrics and Emergency Medicine, Dalhousie University. Janet also holds Affiliated Scientist rank in Emergency Medicine at the IWK Health Centre and the Nova Scotia Health Authority. Her research is focused on developing and evaluating interventions to improve transitions in care for patients and their caregivers. She was the 2015 recipient of the Pediatric Emergency Research Canada (PERC) Terry Klassen Young Investigator Award and the Dalhousie University Faculty of Health Professions Early Career Research Excellence Award. Janet's research is supported by a CIHR New Investigator Award in Knowledge Translation and she currently leads a CIHR-NSHRF funded multi-centred national study exploring best practice strategies for discharge communication in emergency practice settings. She is also collaborating with emergency clinicians and administrators from NSHA and IWK on a TRIC funded study to improve care in the Emergency Department.



RYAN J. HENNEBERRY

MD, BSc, CCFP(EM), RDMS, Dip Sport Med

Ryan is a full-time Emergency Physician and Sports Medicine Physician from Halifax. His primary practice is at the Halifax Infirmary, Charles V. Keating Emergency & Trauma Centre and is the Director of PoCUS (Point of Care Ultrasound) and the PGY1 Director for the Halifax Infirmary Emergency Department. Ryan is also the chair of the Canadian Association of Emergency Physicians (CAEP) PoCUS Committee and has contributed to various Emergency Critical Care Ultrasound (ECCU), Emergency Department Echo (EDE), Intensive Cardiac Care Ultrasound (ICCU), and the CAEP Emergency Department Targeted Ultrasound (EDTU). He has been an examiner for the CFPC (EM) qualifying exam, the residency selection committee, medical school selection committee, the Residency Progress Committee and Education Committee. Ryan also is a team physician for the Halifax Moosehead's Major Junior Hockey Club.

The people who make up the Department of Emergency Medicine are its greatest strength.

More Faces of Emergency Medicine



CONSTANCE LEBLANC,
FCFP, CCFP(EM), MAEd, Associate Dean, CPD

Dr Connie LeBlanc has been an Emergency Physician at the Halifax Infirmary since 1989, is a Professor of Emergency Medicine and has served as Associate Dean for Continuing Professional Development (CPD) since 2010. She is a CAEP Education Champion and a speaker for their EM Review Road Show new this year. She is a member of the IFEM CPD and education committees and Chair of the Emergency Medicine examination committee for the College of Family Physician of Canada. Connie provides workshops and invited lectures broadly and is involved in research in medical education she has presented nationally and internationally. Her masters' thesis focused on the Hidden Curriculum in Emergency Medicine. She is currently the Education Director for the Department of Emergency Medicine for Dalhousie University in Halifax. Connie has been the recipient of several awards including a Freddie Film Award for the PARTY program, a Clinical Scholar Award in Education and was rated as Internet Gold for her presentation at the Essentials of Emergency Medicine in 2015.



JAN JENSEN
ACP, MAHSR

Jan L Jensen is the Performance Manager for EHS Operations Management in Nova Scotia. She is an Advanced Care Paramedic and has worked in the EHS ground ambulance system in the Central region, serving in operations and continuing education leadership positions. Jan has worked in Nova Scotia's prosperous EMS research program and has received her Masters in Applied Health Services Research from Dalhousie University. Her last most recent position was as Research Leader for the EHS system. In addition, Jan is an Assistant Professor with the Dalhousie University Division of EMS (Department of Emergency Medicine). Her areas of research are paramedic clinical decision making, evidence-based practice and health services research in EMS. Of note, she was the principal investigator for the recent *Canadian National EMS Research Agenda* study, she is a senior editor of the *Canadian Prehospital Evidence-based Practice* (PEP) project, and she is a member of the *International Liaison Committee on Resuscitation* (ILCOR).



CARL JARVIS

MSc, MD, CCFP(EM)

Dr Carl Jarvis has been at the Halifax Infirmary Emergency Department since 2005. He graduated from Dalhousie Medical School in 1993 and Family Medicine in 1995. After practicing in the United States for eight years, he moved to Sudbury, Ontario, in 2003 to study Emergency Medicine. In addition to his clinical practice, he is the Medical Director of Emergency Preparedness. He has served on several provincial working groups, partnered in developing and delivering the federally sponsored METER program (Medical Emergency Treatment for Exposure to Radiation) across Canada. Carl has also served as an expert in disaster preparedness in variety of local, provincial and national projects. He is a director of the Center for Excellence in Emergency Preparedness, and Atlantic Regional Director for Canadian Medical Assistance Teams (CMAT). In March 2011, Dr Jarvis went to Japan as the Medical Lead of a CMAT medical team. His special interests include radiation emergencies, research, and ultrasound.



NANCY MURPHY

MD, CCFP(EM), DABEM(TOX)

Dr. Nancy Murphy is an Emergency Physician at the Halifax Infirmary and the Medical Director of the IWK Regional Poison Centre. Nancy completed a fellowship in Medical Toxicology and Clinical Pharmacology at the University of California in San Francisco. She is the only American Board-Certified Medical Toxicologist in the Atlantic Provinces. Nancy serves as a member of the Executive Council for the Academic Department of Emergency Medicine. Her interest focus is on antidote stocking and antidote use as well as adverse drug events and acetaminophen toxicity.

Academic Department of Emergency Medicine

DEPARTMENTAL REVIEW 2013-2014

