



Teamwork



Teamwork

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Teamwork

**“Alone we
can do so little;
together we can
do so much.”**

HELEN KELLER

Welcome to our annual report for our 2018-19 fiscal year. This year's report is built around the theme of teams. So many of our accomplishments as individuals, divisions and as a department are because of the strong teams we are part of every day. Our teams are not just internal entities. We partner with our stakeholders and collaborators in the Faculty of Medicine, the Health Authorities, Doctors Nova Scotia, the Department of Health and Wellness, Foundations, our communities and our patients and families every day. It is through these relationships that we optimize the care, research and education we provide for Nova Scotia and the Maritimes.

What has team work brought us this year? Tremendous results! Our team work has resulted in multiple awards and recognitions in research, education and clinical care.

In research, we brought in over \$16 million in funding. We had two successful CIHR grant applications by Dr. Karthik Tennankore for \$321,300 in the Fall 2018 Project Grant Competition, and Dr. Sudeep Shivakumar for \$4,482,900 in the Spring 2019 Project Grant Competition. Palliative Medicine received a \$4 million gift from the J & W Murphy Foundation to transform palliative care; \$3 million to create an Endowed Research Chair (cross appointed at the QEII, Nova Scotia Health Authority and Dalhousie University) and \$1 million for Hospice Halifax. Drs. Shelly McNeil, Melissa Andrew and the Canadian Centre for Vaccinology have demonstrated what happens when research teams come together. Their findings are building a case that vaccines promote healthy aging; and this will affect policy decisions on health care. Our hematology research group's team work with orthopedics and researchers across the country is changing the standard of patient care for anticoagulation after hip and knee surgery that has the potential to save the health system millions of dollars.

CHRISTINE SHORT, MD, FRCP(C), FACP

Head, Department of Medicine, Dalhousie University
Chief, Department of Medicine, Central Zone,
Nova Scotia Health Authority
Associate Professor of Medicine, Dalhousie University



In education, we not only survived Royal College accreditation, but all 16 of our programs received accreditation. Medical Oncology and Nephrology education teams successfully launched Competence By Design (CBD). Palliative Medicine launched a brand new, two-year Royal College training program. Dr. Eric Grant completed his term as Saint John Site Director. He was instrumental in launching the Dalhousie Core Internal Medicine Residency Training Program in Saint John, New Brunswick at our sister site.

We have research grants, education and clinical awards of excellence and lifetime achievements, but what would it all mean without our patient care. This year, the team work of our division of Physical Medicine and Rehabilitation (PM&R) with the rehabilitation program, helped bring the first ever federal/provincial funding project to Nova Scotia to better support people with brain injuries. Our General Internal Medicine team, along with Cardiology and Palliative Medicine, worked with the health authority and launched the Transitional Heart Failure Clinic to provide care, in the community for frail adults with end stage heart disease. Dr. Jenn Jones (Digestive Care and Endoscopy) teamed up with IT and Primary Care to create a virtual platform to allow better collaboration in the

management of patients with digestive conditions. Dr. Hernandez has teamed up with the lung transplant team, Dalhousie Department of Biomedical Engineering, the Health Authority and industry to better detect lung dysfunction in patients after lung transplant.

Above are just a few of highlights of the success team work has brought us.

We lost a valuable team member this year with the passing of Dr. Stephen Couban.

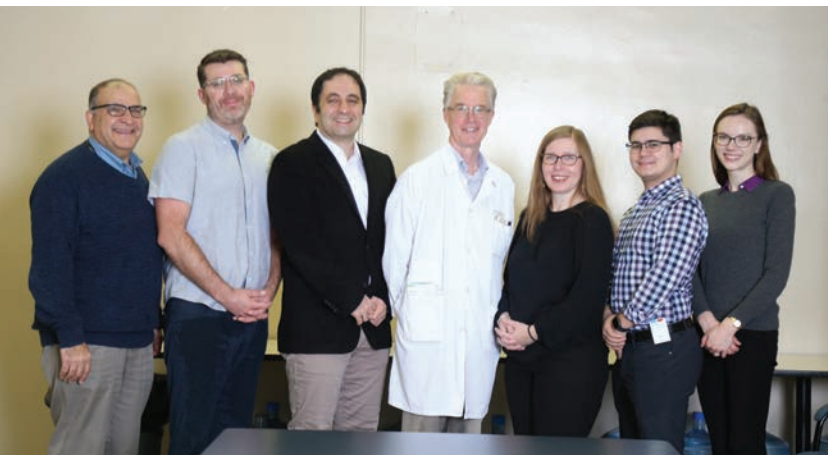
As Department Head, I feel so privileged to be a part of so many of these teams and am so proud of the team work by all of our Department members.

I hope you enjoy the content of this annual report. I look forward to seeing where team work will bring us in the coming year!

CHRISTINE SHORT

Head, Department of Medicine





“Alone we can do so little; together we can do so much.”
Helen Keller





Admin Tea 2019





Working together to continually improve

Two significant national events spearheaded by the Royal College contributed to a demanding 2018-19 for the Department of Medicine's education programs: the accreditation of its 16 residency programs, and the launch of Competence by Design (CBD). Through it all, the Department continued to offer a robust suite of education programs to a range of learners, from first-year medical students to veteran physicians.

"Our success was made possible by the hard work and collaboration of all education team members in our advancement of training across the continuum. Congratulations to residency program directors and program coordinators and assistants on a successful accreditation and launch of CBD", said Dr. Chris Gray, DoM Education Director.

The accreditation process and CBD were both prime illustrations of the collaboration that has become foundational for departmental initiatives. Working together and learning from each other have become critical to meeting objectives and continually improving.

ACCREDITATION – A TEAM EXERCISE

In November 2018 Dalhousie University's residency programs became the first nationally, to be accredited under the new Canadian Excellence in Residency Accreditation (CanERA) general standards. Dalhousie also became the first university to use the new Accreditation Management System (AMS); an online accreditation management portal. The new standards and processes weren't without growing pains, and the Department faced predictable challenges of being a first-time user.

"We couldn't call on the experience of programs across the country to help us," said Dr. Ian Epstein, Chair of Department Postgraduate Education. "We had to call on each other."

Teamwork became a hallmark of the year-long process, as each program readied for the accreditors' visit the week of Nov. 25-30, 2018. As part of the behind-the-scenes preparation, the

Department held a two-day workshop to facilitate collaboration among programs. Participants embraced the opportunity to learn from each other and share such documents such as policies, job descriptions and curriculum standards. Dr. Epstein noted that many department members had multiple roles, contributing to the Core program as well as committees in different divisions, making for some challenging scheduling. "The accreditation process is a tremendous amount of work," he said, extending thanks to those who led and participated in the process and to the Dalhousie Faculty of Medicine PGME office. "It was very stressful, but it does highlight the work the Department does in continuous quality improvement for our residency programs."

"It was a great opportunity to band together. Having everyone together for a two-day workshop in preparation for it, and everyone working together the week the accreditors came to ensure everything ran smoothly, was a really rewarding experience. I'm really proud of how well all our programs did."

The Department's 16 residency training programs were all accredited, many with exemplary performance and accreditation for a full eight-year cycle. The new accreditation cycle will move from a six to eight years, and fully accredited programs will next undergo the accreditation process in 2026.

COMPETENCE BY DESIGN ON TRACK

The Department also formally launched Competence by Design, a Royal College of Physicians and Surgeons initiative during the 2018-19 academic year. The divisions of Medical Oncology and Nephrology led the way, with the remaining 14 residency programs on track for CBD to be in place fully by 2021. As each program launches, staff will learn from the experiences of colleagues.

ACKNOWLEDGEMENTS

The Department would like to acknowledge several individuals:

Dr. Eric Grant completed his term on Dec. 31, 2018, as Site Director for the Core Internal Medicine program in Saint John, NB. The Department extends deep thanks for his years of hard work and dedication to the program and learners. He helped guide the Department through two successful Royal College accreditation processes and initiated the Saint John Core Internal Medicine Residency Training Program, governed by Dalhousie University, in 2007.

Dr. Angela McGibbon passed away Feb. 13, 2018, to the shock and sadness of many of her colleagues in the Dalhousie medical programs. Dr. McGibbon studied at Dalhousie Medical School from 1994 to 2003 and graduated from the Endocrinology Fellowship program. She was Director of Medical Education Zone 3 (Fredericton Area), Horizon Health Network and Coordinator of Regional Medical Education at the Horizon Health Network.

The Department of Medicine honours her with the annual presentation of the Angela McGibbon Outstanding PGY3 Resident Award at its spring party.

We also acknowledge the passing of Hematology Division Chief Dr. Stephen Couban on March 19, 2019. [See page 18](#) for a reflection from Department Head Dr. Christine Short. In his memory, we have established and award for faculty excellence in his name.



Medicine Matters and Teach The Teachers 2019



Ground-breaking studies continue to draw national support

Department of Medicine researchers continued to grow their reputations as leaders in their areas of expertise and strengthen their ability to attract funding support. In 2018-19, Department members received more than \$16.8 million in research funding, a 3.2 per cent increase from the previous year. The funding supports ground-breaking research projects that are changing care and improving lives for many.

The success has been grounded in an expansion of the Department's research mandate and purposeful investment in its research capacity. That has included a formal organizational structure comprising a departmental Research Committee, led by Research Director Dr. John Hanly, and a Resident Research Committee, led by Drs. Leah Cahill and Ravi Ramjeesingh.

RESEARCH TEAMS SECURE \$4.8 MILLION IN CIHR GRANTS

Confirming the Department's exceptional research talent, two teams were awarded much coveted and highly competitive grants from the Canadian Institutes of Health Research (CIHR) in 2018-19.

FALL 2018 CIHR PROJECT GRANT

Principal Investigator:
Karthik Tennankore | \$321,300

Co-investigators:
Gunaratnam, Lakshman;
Keough-Ryan, Tammy M;
Kiberd, Bryce A; Prasad, Bhanu;
Rockwood, Kenneth; Sills, Laura;
Suri, Rita; Tangri, Navdeep;
Vinson, Amanda; West, Kenneth A;
Yohanna, Seychelle

Project Title:
Frailty and the Kidney Transplant Wait List

SPRING 2019 CIHR PROJECT GRANT

Principal Investigator:
Sudeep Shivakumar | \$4,482,900

Co-Investigators:
Anderson, David R; Andreou, Pantelis;
Belzile, Etienne L; Bohm, Eric R;
Carrier, Marc; Dolan, Sean;
Dunbar, Michael J; Forsythe, Michael E;
Gofton, Wade T; Gross, Peter L;
Ikesaka, Rick T; Kahn, Susan R;
Macdonald, Steven J; Pelet, Stéphane;
Rodger, Marc A; Vendittoli, Pascal-Andre;
Wells, Philip S; Zukor, David J

Project Title:
EPCAT III - Extended Venous Thromboembolism Prophylaxis Comparing Rivaroxaban and Aspirin to Aspirin Alone Following Total Hip and Knee Arthroplasty

See page 22 to read more about the EPCAT III project.

INVESTING IN DEPARTMENT RESEARCHERS

Securing funding is the foundation to any research team's success. With that in mind, the Department has dedicated funds to invest in its researchers, with a large part of that funding provided by the Department's own University Internal Medicine Research Foundation (UIMRF).

UIMRF funding allows the Department to be strategic and responsive to the needs of our researchers, giving them a competitive edge. The Department has been able to offer support to its members through a variety of grant and fellowship competitions, including: matching funds with the NSHA Research Fund's Category 1 competitions, Strategic Research Incentive Grants, internal and external research fellowships including the Dalhousie Clinical Investigator Program (CIP) for residents, bridge and pilot funding, and investing in junior investigators. The Department also continues to offer matching funds to help secure national and international grants.

DEPARTMENT OF MEDICINE STRATEGIC RESEARCH INCENTIVE GRANTS

Dr. Karthik Tennankore

\$24,744 NSHA; \$10,000 DoM

Validation of a Risk Prediction Model for Urgent Dialysis after Ambulance Transport to the Emergency Department

Dr. Ian Davis

\$21,374 NSHA; \$10,000 DoM

Does Increased Vancomycin MIC Increase the Risk of Complications in Patients with Methicillin Sensitive Staphylococcus Aureus Blood Stream Infections? A Retrospective Review

UIMRF INTERNAL FELLOWSHIP AWARD – CLINICAL INVESTIGATOR PROGRAM

Dr. Jasmine Mah | first year

CIP sponsorship

PGY2 Internal Medicine/Supervisor:

Dr. Melissa Andrew

UIMRF INTERNAL FELLOWSHIP AWARD

Clove Haviva, PhD | \$55,000

How Does Religiosity Influence the Health of Middle-Aged and Older Adults Across Levels of Frailty?

UIMRF EXTERNAL FELLOWSHIP AWARD

Dr. Ben Whatley | \$96,040

Validating an Automatic Detector for EEG High Frequency Oscillations and Evaluation the Clinical Utility and Impact of EEG Video Telemetry

UIMRF JUNIOR DEPARTMENT MEMBER AWARD

Dr. Leah Cahill

(Howard Webster Department of Medicine Research Chair) | \$49,610

Eating Frequency and Timing as a Predictor of Developing Type 2 Diabetes

UIMRF JUNIOR DEPARTMENT MEMBER AWARD – NSHA MATCHING FUNDS

Dr. Amanda Vinson | \$35,090

Kidney Graft Loss in Female Recipients of Male Kidneys: The Effect of Pre-Transplant Pregnancy

UIMRF PILOT FUNDING AWARD

Dr. Jennifer Jones | \$25,000

Impact of Stakeholder-Defined Access Barriers on Healthcare Resource Use and Disease-Related Outcomes: Application of a Patient-oriented Systems Mapping Approach

ENDOWED RESEARCH CHAIRS

In 2018-19, the Department of Medicine had four endowed research chairs. As leaders in their fields, the research chairs had a critical role in increasing knowledge of their area of expertise through research and teaching:

Dr. Leah Cahill, PhD

Howard Webster Department of Medicine Research Chair

Dr. Jafna Cox

Heart and Stroke Foundation Endowed Chair in Cardiovascular Outcomes

Dr. Sultan Darvesh

DMRF Irene MacDonald Sobey Endowed Chair in Curative Approaches to Alzheimer's Disease

Dr. Kenneth Rockwood

DMRF Kathryn Allen Weldon Endowed Chair in Alzheimer's Research

DEPARTMENT OF MEDICINE RESEARCH COMMITTEE

Dr. John Hanly (*Chair*)

Dr. Amir AbdelWahab

Dr. Melissa Andrew

Dr. Chris Blanchard

Dr. Leah Cahill

(Howard Webster Department of Medicine Research Chair; Co-chair, Resident Research Committee)

Dr. Sultan Darvesh

Dr. Natalie Parks

Dr. Ravi Ramjeesingh

(Co-chair, Resident Research Committee)

Dr. John Sapp

Dr. Ferhan Siddiqi

Dr. Alexa Smith

(New Brunswick Representative)

Dr. Karthik Tennankore

Dr. Olga Theou

Dr. Christine Short

(Department Head; ex officio)

Kathryn Nelson

(Administrative Coordinator)

DEPARTMENT OF MEDICINE RESIDENT RESEARCH COMMITTEE

Dr. Leah Cahill

(Howard Webster Department of Medicine Research Chair; Co-chair, Resident Research Committee)

Dr. Ravi Ramjeesingh

(Co-chair, Resident Research Committee)

Dr. Lisa Barrett

Dr. Mahmoud Elsayy

Dr. Ian Epstein

(Director, Postgraduate Training Program)

Dr. Jordan Francheville

(Resident Representative)

Dr. Jennifer Jones

Dr. Magnus McLeod

Dr. Ari Morgenthau

(Resident Representative)

Dr. Najaf Nadeem

Dr. Daniel Smyth

(New Brunswick Representative)

Kathryn Nelson

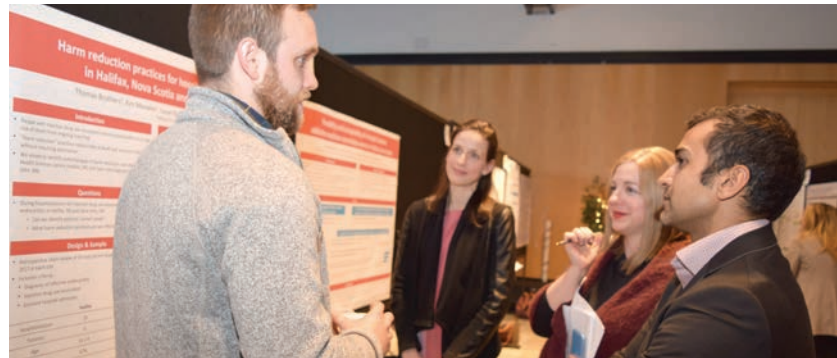
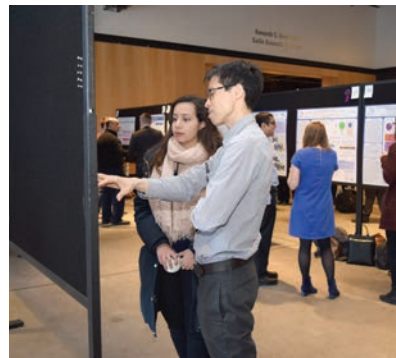
(Administrative Coordinator)

Research Day 2019

Keynote Speaker Dr. Heather Ross

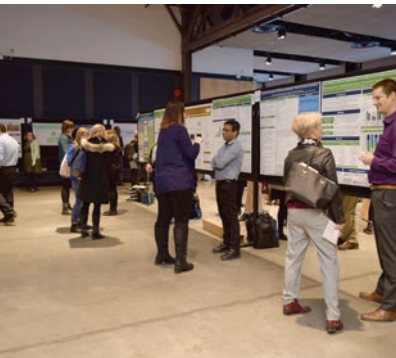
In March 2019, more than 140 people gathered at Pier 21 to learn more about the research taking place in the Department of Medicine. Research Day featured 10 podium presentations and 84 posters from department members, undergraduate students, residents, research fellows, graduate students, and research associates.

Keynote speaker Dr. Heather Ross provided an entertaining and informative address on Remote Patient Monitoring in Heart Failure: Myth or Magic? As cardiac failure approaches epidemic proportions, she advocates for the use of mobile technology in monitoring patients' health. Dr. Ross completed her cardiology training at Dalhousie and holds numerous leadership roles, among them, professor of medicine at the University of Toronto, Loretta A. Rogers Chair in Heart Function, site lead at the Ted Rogers Centre for Heart Research in Toronto, and division head and fellowship program director of cardiology at the Peter Munk Cardiac Centre, Toronto General Hospital, University Health Network.





In March 2019, more than 140 people gathered at Pier 21 to learn more about the research taking place in the Department of Medicine.



CELEBRATING

Our People





Spring Party 2019

Our People

SERVICE

25-YEAR SERVICE

Dr. Kenneth West,
Division of Nephrology

RETIREMENTS

Dr. Bryce Kiberd,
Division of Nephrology
Dr. Mahesh Raju,
Division of General Internal Medicine
(Saint John)
Dr. Franzjosef Schweiger,
Division of Digestive Care
& Endoscopy (Moncton)

PROMOTIONS

(as of July 1, 2019)

TO PROFESSOR

Dr. Gordon Gubitz,
Division of Neurology
Dr. Paige Moorhouse,
Division of Geriatric Medicine

TO ASSOCIATE PROFESSOR

Dr. Amir AbdelWahab,
Division of Cardiology
Dr. Helen Bishop,
Division of Cardiology
Dr. Ian Davis,
Division of Infectious Diseases
Dr. Barna Tugwell,
Division of Endocrinology

AWARDS

(Presented Spring 2019)

Brian M. Chandler Lifetime Achievement Award in Medical Education

Dr. Stephen Couban,
Division of Hematology
(awarded posthumously)

Department of Medicine Lifetime Achievement Award for Excellence in Research

Dr. Kenneth Rockwood,
Division of Geriatric Medicine

Department of Medicine Achievement Award

Dr. Jorin LindenSmith,
Division of General Internal Medicine

Clinical Excellence Award

Dr. Lynn Johnston,
Division of Infectious Diseases

Award of Excellence in Leadership

Dr. Paige Moorhouse,
Division of Geriatric Medicine

Award of Excellence in Quality and Innovation

Dr. Nabha Shetty,
Division General Internal Medicine

Faculty Excellence in Medical Education Awards

Dr. Meredith Chiasson,
Division of Respiriology
Dr. Samantha Gray,
Division of Medical Oncology
Dr. Allen Tran,
Division of General Internal Medicine
Dr. Stacey Williams,
Division of Digestive Care
& Endoscopy
Dr. Tallal Younis,
Division of Medical Oncology

Stephen Couban Outstanding Faculty – Residents' Choice Award

Dr. Ian Epstein,
Division of Digestive Care & Endoscopy

RESIDENT RECOGNITION AWARDS

Chief Medicine Residents, Core Internal Medicine Residency Training Program

Drs. Douglas Motomura
and Shannon Murphy, Halifax
Dr. Andrea Letourneau, Saint John, NB

MTU Chief Resident

Dr. Eric Pond

Award for Excellence in Undergraduate Teaching

Dr. Thomas Brothers

Award for Excellence in Summer Grand Rounds

Dr. Shannon Murphy

Outstanding Residents Awards

PGY1 – Dr. Rachel Sullivan
 PGY2 – Dr. Thomas Brothers
 PGY3 – Dr. Lazar Milovanovic
 (Angela McGibbon Outstanding
 PGY3 Resident Award)

**Outstanding Academic
 Performance Awards**

PGY1 – Dr. Sulaiman Alamro
 PGY2 – Dr. Curtis Marcoux
 PGY3 – Dr. Alexandra Legge
 and Dr. Kyle Murnaghan

RESEARCH AWARDS

**Department of Medicine Research
 Lifetime Achievement Award**

Dr. Kenneth Rockwood,
 Division of Geriatric Medicine

**Department of Medicine Research
 Excellence Awards**

Dr. Olga Theou,
 Department of Medicine Research
 Dr. Amir AbdelWahab,
 Division of Cardiology
 Dr. Michael West,
 Division of Nephrology

**Department of Medicine Resident
 Research Excellence Awards**

Dr. Thomas Brothers, PGY1-3
 Dr. Daniel Belliveau, PGY4-6/CIP

2019 RESEARCH DAY AWARDS

Best Undergraduate Presentation

Jordan Boudreau,
 Undergraduate Student
 Public Knowledge of Prevention
 During an HIV Outbreak: Are the most
 at-risk individuals PrEPared?

Best Core Resident Presentation

Dr. Alex Legge, PGY3 Internal Medicine
 The Systemic Lupus International
 Collaborating Clinics Frailty Index
 (SLICC-FI) as a Predictor of Organ
 Damage Accrual and Hospitalizations
 in System Lupus Erythematosus (SLE)

**Best Sub-Specialty Resident
 Presentation**

Dr. Daniel Belliveau, PGY5 Cardiology
 Cardioembolic and Bleeding
 Outcomes of Patients Treated for Left
 Ventricular Thrombus Following
 Primary Percutaneous Intervention

**Best Research Fellow/Graduate
 Student Presentation**

Allie Carew, Research Associate
 Haptoglobin Phenotype as a Predictor
 of Incident Cardiovascular
 Disease Within the Action to Control
 Cardiovascular Risk in Diabetes
 (ACCORD) Randomized Clinical Trial
 of Strict Glycemic Control

Best Overall Poster

Scott Kehler,
 Postdoctoral Fellow
 Does Cardiac Rehabilitation
 Improve Frailty Levels?

OTHER NOTABLE AWARDS

**Gold-Headed Cane Award,
 College of Physicians and
 Surgeons of Nova Scotia**

Dr. David Brake,
 Division of General Internal Medicine

**Governor-General Gold Medal in the
 Natural Sciences and Engineering,
 Dalhousie University**

Dr. Alex Legge,
 Core Internal Medicine resident

**Consulting Resident Award,
 QEII HSC Emergency Department**

Dr. Margaret Sheridan,
 Core Internal Medicine resident

**DALHOUSIE FACULTY OF
 MEDICINE AWARDS**

**Dr. G.W. Archibald Gold-Headed Cane
 Award in the Humanities**

Dr. Kenneth Rockwood,
 Division of Geriatric Medicine

**FACULTY OF MEDICINE RESIDENT
 RESEARCH AWARDS**

Best Work in Clinical Research

Dr. Alex Legge,
 PGY3 Internal Medicine

**Best Research Awards for
 a Senior Resident**

Dr. Andrew Caddell, PGY5 Cardiology
 Dr. Dan Belliveau, PGY5 Cardiology

Dr. Stephen Couban
1960–2019

A life lived in service and leadership

Dr. Stephen Couban embodied all the characteristics of an academic physician and was a mentor to many in the Department of Medicine. He loved his work and his patients, and he strongly believed in the Department. Most of all, he was a wonderful colleague and friend to so many of us.

Stephen joined our medicine family when he started his studies at Dalhousie Medical School in 1982. He practised as a family physician from 1987-89 before returning to complete fellowships in internal medicine and hematology. In 1997, after a fellowship in bone marrow transplant at University of Toronto, he returned to our Department in the Division of Hematology as an assistant professor, where he had a long and productive career. Stephen became a national and international leader in hematologic oncology, specializing in bone marrow transplant.

He was a respected leader, serving internally as Director of the Blood and Marrow Transplant Program, Service Chief for Hematology, Service Chief for the Medical Teaching Unit, Division Chief for Hematology and Deputy Department Head. He was also the Physician Lead for the Ambulatory Committee for the QEII Redevelopment Project. He held many committee and leadership roles at the faculty and the health authority as well as nationally and internationally in hematology.

We are going to miss him greatly. We know he has left a tremendous void in our Department. We are indebted to him for all he gave us during his time with us. The world and the Department are a better place because he was here.

Dr. Christine Short



**DEPARTMENT OF MEDICINE
GRAND ROUNDS AWARDS**

Overall Excellence

Dr. Simon Jackson,
Division of Cardiology
Pulmonary Hypertension: Common
Questions and Misconceptions

Awards of Merit

Dr. Lisa Barrett,
Division of Infectious Diseases
TBD: HCV Elimination in Canada?
Dr. Andrew Moeller,
Division of Cardiology
Liquid Iron - Improving Health of Heart
Failure Patients with IV Iron
Transfusions
Dr. T. Jock Murray,
Division of Neurology
Artists Who Painted Their Illnesses

Guest Speaker

Dr. Michael Walsh,
presented by the Division of
Nephrology Management of ANCA
Associated Vasculitis: Early Decisions,
Long-Term Consequences

GRADUATING RESIDENTS

PGY3 Core Internal Medicine

Dr. Bader Alamri
Dr. Shahad Al Ghamdi
Dr. Badr Alhumayyd
Dr. Albert Chang,
SJ Site
Dr. Amanda Formosa
Dr. Nichole Gill
Dr. Larry James
Dr. Pierre Landry
Dr. Alexandra Legge
Dr. Andrea Letourneau,
SJ Chief Medicine Resident
Dr. Stuart McAdam
Dr. Ameena Meerasa,
SJ Site
Dr. Lazar Milovanovic
Dr. Julie Mongeau
Dr. Douglas Motomoura,
Chief Medicine Resident
Dr. Kyle Murnaghan
Dr. Shannon Murphy,
Chief Medicine Resident
Dr. Eric Pond,
MTU Chief
Dr. Brahim Redouane,
SJ Site
Dr. Teresa Rodriguez
Dr. Jaclyn Vertes
Dr. Angella Woodman
Dr. Bethany Woodrow
Dr. Ronald Yan

PGY4 General Internal Medicine

Dr. Lyndsay Sprigg
Dr. Rayan Al Hazmi

PGY5 General Internal Medicine

Dr. Yazan Ghanem
Dr. Jessica Klassen

Dr. Josee McBeath
Dr. Victor Rogozovsky

PGY5 Dermatology

Dr. Ashley Sutherland

PGY5 Endocrinology

Dr. Heather Mackenzie

PGY5 Gastroenterology

Dr. Matthew Miles

PGY5 Hematology

Dr. Alissa Visram

PGY5 Infectious Diseases

Dr. Jaclyn Leblanc

PGY5 Medical Oncology

Dr. Myuran Thanana

PGY5 Nephrology

Dr. Keigan More

PGY5 Neurology

Dr. Yousef Alnajjar
Dr. Michael Thorne

**PGY5 Physical Medicine
& Rehabilitation**

Dr. Zainab Al-Lawati
Dr. Paula Barker
Dr. Shahzad Tanwir

PGY5 Respiriology

Dr. Daniel Altman

PGY5 Rheumatology

Dr. Mehveen Merchant

PGY6 Cardiology

Dr. Opeyemi Fadahunsi
Dr. Joseph Kim
Dr. Adil Al Jabri



“There’s a bottleneck in the Central Zone, where most of the specialists are located. We need to leapfrog over traditional processes, break down traditional barriers and work together to improve access and decentralize diagnosis and treatment.”

DR. JENNIFER JONES

Pictured (left to right): Dr. Michael Stewart, Gastroenterologist, Dr. Ian Epstein, Gastroenterologist, Dr. Jennifer Jones, Gastroenterologist

Multidisciplinary effort aims to ‘leapfrog’ over traditional processes

WORKING TO IMPROVE ACCESS AND CARE FOR PATIENTS WITH CHRONIC DIGESTIVE CONDITIONS

Nova Scotians with gastrointestinal conditions such as irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) may have to wait years to get a referral to a specialist, depending on the severity of their symptoms. For those treating patients with these often debilitating conditions, that’s unacceptable – and an interdisciplinary team is working hard together to do something about it.

Gastroenterologist Dr. Jennifer Jones is heading a pilot study called *Implementation of a Patient-Oriented, Virtual Medical Neighborhood Across Primary and Specialty Digestive Healthcare*, or VMN for short.

Dr. Jones is team lead for the Nova Scotia Collaborative IBD Program (nscibd.ca), as well as vice-chair of the Canadian IBD Network for Research and Growth in Quality Improvement.

In 2018, Dr. Jones received a QEII Foundation Translating Research into Care (TRIC) grant to launch the pilot study.

“The traditional process of referral, triage and wait listing isn’t cost-efficient,” she says. “There’s a bottleneck in the Central Zone, where most of the specialists are located. We need to leapfrog over traditional processes, break down traditional barriers and work together to improve access and decentralize diagnosis and treatment.”

The VMN is a model that leverages information technology to improve integrated evidence-based health-care delivery between primary health care providers and specialists. It allows for better collaboration and implementation of evidence-based practices regardless of locale.

Initial feasibility testing began during the year with Dr. Aaron Smith of the Westville Medical Clinic in New Glasgow, an underserved area for gastrointestinal specialty services. The study’s multidisciplinary team consists of primary care and specialist physicians, dietitians, nurse practitioners, a clinical health psychologist, colorectal surgeons, health-care administrators and senior leaders – and patients. The team is also consulting with practitioners in Alberta who are working on related projects.

In the spring of 2020, the team will start a community-engagement process to determine the specific VMN needs of stakeholders in their local work environment to prepare for the pilot launch. Dr. Jones and her colleagues in the Division of Digestive Care and Endoscopy hope the pilot will demonstrate reduced wait times and delays in diagnosis, improved access to treatment and, ultimately, better outcomes for the one in 83 Nova Scotians who have IBD, as well as those with other serious digestive conditions.

“We’ve already demonstrated a need for a more integrated system,” says Dr. Jones. “Now our goal is to demonstrate benefit, and that this model is sustainable. There are lots of moving parts, and to do this requires incredible teamwork and collaboration.”



“We try to tailor strategies to the dementia behaviour, which can be difficult for loved ones to understand. Once we’ve learned the behaviour, we come up with coping strategies.”

JODY WELLS & TERRI BUCKLAND

Pictured (left to right): Jody Wells, Terri Buckland — Geriatric Medicine Community Outreach Nurses

Outreach nursing team moves from clinic to community

SEEING BROADER CONTEXT CAN HELP PEOPLE TO STAY IN THEIR HOMES LONGER

The team at the outpatient Geriatric Ambulatory Care Clinic saw a better way – and acted.

What Dr. Chris MacKnight and his team observed was that the needs of many patients visiting the clinic at the Camp Hill Veterans' Memorial Building could be better met by a nurse in their homes. What they did was launch a pilot program to create a new outreach nurse role to visit patients living within an approximately 30-minute drive from the Veterans' Memorial Building.

“We thought about how we could provide better care for more people by making appropriate use of resources,” says Dr. MacKnight, who heads the Division of Geriatric Medicine and is a geriatrician at the Centre for Health Care of the Elderly in Halifax. “The objectives of the outreach nurse are to help prevent emergency room visits and hospitalizations, and to help patients and their families manage in the community.”

Launched in February 2019, the project supports one outreach nurse position, a role shared by Jody Wells and Terri Buckland, both of whom had previously worked at the clinic. As outreach nurses, one of their functions is to conduct memory and functional home-safety assessments, since most of the patients they visit have some degree of dementia. As well, working with an occupational therapist, they inspect the home for safety risks such as unsafe stairs, loose throw rugs or bathtubs lacking safety equipment.

“We do assessments that lead to individualized care plans that target caregiver burnout, which facilitate the overall goal of keeping people in their homes for longer,” says Wells. “Without these interventions, the result can be earlier institutionalization and over-use of resources.”

Educating the vulnerable patients' caregivers is key. “We try to tailor strategies to the dementia behaviour, which can be difficult for loved ones to understand,” says Wells. “Once we've learned the behaviour, we come up with coping strategies.”

For example, patients with dementia often misplace things, and it's common for them to accuse family members of stealing. “The natural response is to argue with them, but we tell the caregivers that **while we can't change the person, we can change our interaction with them.** We encourage caregivers to agree, as long as it is safe, no matter how hard that is.”

Wells and Buckland enjoy taking the work they did in the clinic into the community. “Our goal is to keep people at home as long as possible,” says Wells. “We believe that seeing patients in their own environment has a bigger impact on their well-being because we get a broader picture of their concerns, and they're more comfortable and open with us. The need for this type of service is only going to increase as the population ages.”



“It’s a massive team effort, both nationally and locally, involving hematologists, surgeons, pharmacists, research staff and many others.”

DR. SUDEEP SHIVAKUMAR

*Pictured (left to right): Dr. Sudeep Shivakumar, Hematologist
Susan Pleasance, Hematology’s Associate Research Director*

Can Aspirin alone prevent blood clots after hip and knee replacement surgery?

MEDICINE AND SURGERY TEAM TO LEAD \$4.5 MILLION NATIONAL STUDY

The humble Aspirin (acetylsalicylic acid, or ASA) may become the new standard of care to prevent blood clots following hip and knee replacement surgery – depending on the results of a Canada-wide clinical trial led by Dr. Sudeep Shivakumar, Division of Hematology.

“ASA costs pennies a day, compared with dollars a day for the prescription anticoagulant rivaroxaban,” says Dr. Shivakumar, associate professor and clinical chief. “We’ve already found ASA can safely and effectively replace rivaroxaban after the first five days post hip and knee replacement surgery... now we want to know if we can dispense with the more expensive drug altogether after these surgeries.”

The study, known as EPCAT* III, will involve 5,400 patients over four years in 15 university-affiliated health centres across Canada. The Canadian Institutes of Health Research awarded \$4.5 million to the effort, which could ultimately save millions of dollars per year.

Dr. Shivakumar and Susan Pleasance, associate research director in the Division of Hematology, are overseeing the national trial with input and assistance from Nova Scotia Health Authority’s Department of Pharmacy and the Research Methods Unit. Meanwhile, Dr. Michael Dunbar from Orthopedic Surgery is leading the Halifax part of the trial, which involves a large team of orthopedic surgeons at the QEII Health Sciences Centre.

“It’s a massive team effort, both nationally and locally, involving hematologists, surgeons, pharmacists, research staff and many others;”

says Dr. Shivakumar. “To design and run a study of this magnitude is a complex feat our team in Halifax has taken on with great skill and enthusiasm.”

The Halifax team has had lots of practice. EPCAT III builds on two previous studies, EPCAT I and II, both designed and run from Halifax under the leadership of Dr. David Anderson, Dean of Dalhousie’s Faculty of Medicine.

The results of EPCAT II were published in the New England Journal of Medicine in 2018. The editors of the influential journal noted at the time the results would likely define a new standard of care internationally.

“If EPCAT III proves ASA can stand alone as a safe and effective agent for preventing blood clots, we will see a big shift toward this more affordable drug,” Dr. Shivakumar says. “With 5,400 patients in our trial, the results have the potential to make a major impact on practice.”

**EPCAT – Extended Venous Thromboembolism Prophylaxis Comparing Rivaroxaban to Aspirin Following Total Hip and Knee Arthroplasty*



“The SOS Network attempts to improve care locally by exposing medical and nursing students and residents to the importance of testing for influenza and promoting vaccines.”

DR. SHELLY McNEIL

Pictured (left to right): Dr. Melissa Andrew, Geriatrician; Dr. Shelly McNeil, Infectious Disease Specialist

Vaccinology centre collaboration broadens understanding

ONE FOCUS: HOW CAN WE USE VACCINES TO PROMOTE HEALTHY AGING

Established in 2007, Canadian Center for Vaccinology (CCfV) (centerforvaccinology.ca) has emerged as a successful, productive model for what interdisciplinary, collaborative research can achieve – and one that should be embraced and expanded upon.

The CCfV, located at the IWK Health Centre, has brought together Canadian researchers especially in the fields of geriatrics, pediatrics, infectious diseases, medical microbiology and immunology. The researchers are primarily from Dalhousie University, the IWK and Nova Scotia Health Authority. Collaboration has allowed for a better understanding of the burden of infectious diseases on Canadian and global health.

“We’re taking vaccinology in a whole new direction,” says Dr. Shelly McNeil, chief of the Division of Infectious Diseases and a clinical research scholar at Dalhousie. “It’s about more than Vaccine X preventing Disease Y. For example, we want to know how we can use vaccines to promote healthy aging so that Canadians can safely stay in their homes longer.”

An integral part of this research focuses on how well vaccines work in frail older adults. The work stems from the hospital-based Serious Outcomes Surveillance (SOS) Network, established in 2009, which collects information about adults who are admitted to hospital with influenza or pneumonia. The SOS Network provides reports to its funding body, the Public Health Agency of Canada, as well as to the National Advisory Committee on Immunization to inform public health decision-making.

Dr. McNeil is one of several Dalhousie University Department of Medicine physicians and CCfV members who have been involved with the SOS Network to study the H1N1 pandemic. She is joined by Dr. Melissa Andrew, an associate professor of medicine at Dalhousie and geriatrician who speaks internationally about how to measure frailty. Others involved in the SOS Network include Drs. Duncan Webster, Todd Hatchette and Jason LeBlanc.

Frailty is an important factor in the prevention and outcomes of infectious diseases. This concept started with the SOS Network, which conducts surveillance and investigates the effectiveness of vaccines for influenza and pneumonia. Building on this work, frailty is now being studied in relation to other vaccine preventable infections, such as shingles.

“The SOS Network attempts to improve care locally by exposing medical and nursing students and residents to the importance of testing for influenza and promoting vaccines,” says Dr. McNeil. “Our aim is to prevent infection and hospitalization in older adults and to improve function as part of healthy aging.”

Since the CCfV launched, its collaborators have made the case that vaccines promote healthy aging.

“Now we want to influence policy,” says Dr. Andrew. **“We’re collaborating with other research and policy bodies to do this.** The ideal policy would be to promote awareness about vaccines and have more, older adults receive them as part of a formal strategy to keep Canadians healthy longer.”

The collaborating groups seek to find better tools to diagnose and manage infections. As well, they continue to look to broaden opportunities and roles for trainees such as Research in Medicine students, Department of Medicine residents (both in Halifax, N.S. and Saint John, N.B.) and trainees from the faculties of Health and Medicine.



“Our next step will be to team up with the Division of Hematology to investigate the occurrence of bronchiolitis obliterans in patients who’ve received stem cell transplants.”

DR. GEOFFREY MAKSYM

Pictured (left to right): Dr. Geoffrey Maksym, School of Biomedical Engineering; Dr. Paul Hernandez, Respiriologist

Respirology-led team looks at new ways to diagnose, monitor deadly lung disease

OSCILLOMETRY AND NUCLEAR MEDICINE SHED LIGHT ON BRONCHIOLITIS OBLITERANS

About half of all people who receive a lung transplant will develop a deadly complication known as bronchiolitis obliterans within five years of the transplant. Without a second transplant, many of these patients will die of the disease, which destroys the smallest airways of the lungs.

In an effort to learn how bronchiolitis obliterans can be detected and treated earlier, Dr. Paul Hernandez, a professor in the Division of Respirology, has joined forces with his longtime research collaborator, Dr. Geoffrey Maksym, a professor in Dalhousie's School of Biomedical Engineering. The two, who helped develop the TremoFlo portable oscillometry device for measuring lung function more than 10 years ago, have formed a new team to explore how nuclear imaging can be used to detect, understand and monitor bronchiolitis obliterans in lung transplant patients.

“Nuclear imaging using SPECT/CT is providing a new window into how ventilation is altered in lung disease and is exquisitely sensitive to detect dysfunction in the small airways, while the TremoFlo oscillometry device will shed light on how those changes are altering lung function,” notes Dr. Hernandez. “The traditional tool for measuring lung function – spirometry – only detects bronchiolitis obliterans when it is already well progressed and doesn’t tell us much about changes in the lung mechanics in this poorly understood disease.”

In addition to Drs. Hernandez and Maksym, the new research team includes Nova Scotia Health Authority’s lung transplant team, Diagnostic Imaging, Medical Physics, and the Pulmonary Function Lab.

Cyclomedica Canada, a company that produces supplies for lung imaging in nuclear medicine, is generously providing funding and support for the nuclear medicine-oscillometry study.

“We have pulled together a great team – people are very enthusiastic about this new project,” says Dr. Maksym. He adds that three of his biomedical engineering students are helping to collect data and analyze images for the project. One of them, master’s student Anas Tahir, will present early results at the American Thoracic Society meeting in Philadelphia in May 2020.

Drs. Hernandez and Maksym have studied lung mechanics using oscillometry with numerous clinical collaborators and partner organizations. They’ve discovered oscillometry to be highly effective for assessing lung function in asthma, as well as in obese patients before and after weight-loss surgery. Now they’re looking forward to advancing imaging techniques in a variety of lung diseases.

“Our next step will be to team up with the Division of Hematology to investigate the occurrence of bronchiolitis obliterans in patients who’ve received stem cell transplants,” Dr. Maksym says. “This is important, since more than a hundred patients receive this treatment for hematological malignancies in Nova Scotia each year.”

2018-19 Division Highlights

Fifteen clinical divisions and a campus in New Brunswick comprise the Dalhousie Department of Medicine.

Cardiology
Clinical Dermatology & Cutaneous Science
Digestive Care & Endoscopy
Endocrinology & Metabolism
General Internal Medicine
Geriatric Medicine
Hematology
Infectious Diseases
Medical Oncology
Nephrology
Neurology
Palliative Medicine
Physical Medicine & Rehabilitation
Respirology
Rheumatology
Saint John New Brunswick Campus

CLINICAL DERMATOLOGY & CUTANEOUS SCIENCE

Division head:

Dr. Peter Hull

Clinical activities:

- 7,855 outpatient clinic visits
- 208 telemedicine consults
- 299 patients seen in the phototherapy/dermatology treatment unit
- 10,450 treatments delivered

Year highlights:

Dermatosurgical clinics were among the 20 clinics held weekly at the QEII as skin cancer increased demand. Other specialty clinics included a pigment lesion clinic, a patch test clinic, cutaneous lymphoma clinic and phototherapy clinics. In addition, the division provided three pediatric clinics weekly at the IWK Health Centre.

The year marked the largest number of residents in the history of the program as the number increased to seven. They benefitted from a revised academic half-day schedule under the guidance of Dr. Kerri Purdy with a robust schedule of guest speakers, book chapter club, basic science, and morbidity and mortality rounds, as well as digital and patient rounds. The division also continued bedside clinical teaching with 19 medical students, 14 family medicine residents and six off-service residents in plastic surgery, internal medicine and pathology rotating through our clinics for electives and selectives. Teaching was also provided to undergraduate students within the MSK-DERM unit, and students receive further lectures in Med 3 on blistering diseases and neoplasms as part of internal medicine seminars. Dermatologists also provided academic half-day teaching sessions to other divisions.

The division remained engaged in both clinical research and basic research. The basic research was conducted in the Hull Lab under the supervision of Dr. Youssef Elhaji. The clinical research was a melanoma accuracy study comparing several imaging devices. Research grants awarded in 2018-19 included:

- Dalhousie Medical Research Fund – Endowed Fellowship in Melanoma Research, *Melanoma Accuracy Study*, \$500,000
- Canadian Dermatology Foundation – *Skin peeling syndromes - Is cathepsin B involved?*, \$40,000
- LEO Foundation Grant – *Replicating inherited skin diseases in 3D cultures*, \$420,000

DIGESTIVE CARE & ENDOSCOPY

Division head:

Dr. Kevork Peltekian

Clinical activities:

- 651 GI endoscopy cancer screenings
 - 7,873 outpatient clinic visits
 - 6,388 endoscopy unit visits
- (Note: Decrease in activity due to fewer clinical resources during the year.)

Year highlights:

Dr. Jennifer Jones headed a study that brought together different disciplines to improve access to treatment for patients with chronic digestive conditions. The study, called *Implementation of a Patient-Oriented, Virtual Medical Neighborhood Across Primary and Specialty Digestive Healthcare*, or VMN for short, leveraged IT to improve health-care delivery between primary health care providers and specialists. It allowed them to better collaborate and implement evidence-based practices regardless of locale. The project received a Translating Research Into Care (TRIC) grant from the QEII Foundation. [See page 20](#) for more on the VMN project.

Looking ahead:

In early 2020, the VMN team will start a community-engagement process to determine the specific VMN needs of stakeholders in their local work environment to prepare for the pilot launch. The hope is that the pilot will demonstrate reduced wait times, improved access to treatment and, ultimately, better outcomes for Nova Scotians with serious digestive conditions.

For the record:

A number of division members were recognized for their contributions in their fields:

- Dr. Geoff Williams received an Award of Merit for Excellence in Medical Education from the Canadian Association of Medical Education in October 2018
- Dr. Ian Epstein was recognized as Crohn's and Colitis Canada Physician of the Year in November 2018.
- Dr. Steven Gruchy was recognized for Young Educator of the Year from the Canadian Association of Gastroenterology in March 2019.

ENDOCRINOLOGY & METABOLISM

Division head:

Dr. Stephanie Kaiser

Clinical activities:

- 3,030 registrations to physicians with diabetes diagnosis
- 7,660 general endocrine clinic visits

Year highlights:

At the fourth annual Strides for Obesity event, a full-day accredited workshop attended by health care professionals was followed the next day with a three-kilometre walk including registrants, primarily patients and their families. Participation has grown each year giving patients who struggle with obesity a voice. It has also increased awareness of the disease among health care professionals.

Looking ahead:

The division expects there will be increasing acknowledgement of the need for more resources for patients afflicted with obesity. Awareness will be achieved through the collection of outcome data (generated by the division and others) and the sharing of patients' stories.

For the record:

Obesity is an established chronic and progressive disease with multiple complications. For optimal outcomes, patients require access to multiple disciplines – endocrinology, general surgery, psychology, nutrition, physiotherapy and selected general practitioners. For more severe obesity, bariatric surgery is a valuable tool. Strong team communication is essential from well before the surgery to well after it.

The Mood and Metabolism Clinic takes a multidisciplinary approach to addressing the metabolic syndrome. The clinic, a collaborative effort involving psychiatry and endocrinology, focuses mainly on insulin resistance in the context of bipolar disorder. There is an increasing acknowledgement of the importance of altered metabolism factors, specifically on insulin resistance, that affect psychiatric illnesses. Along with treatment, the Endocrinology division is collecting outcome data. Early research findings are being published and shared at both psychiatric and endocrinology meetings. It is hoped that such an approach can be applied to patients beyond bipolar disorder. The clinic is now being modelled at other sites in North America.

GENERAL INTERNAL MEDICINE

Division head:

Dr. Stephen Workman, Interim

Clinical activities:

- 13,088 MTU/IMCU patient encounters
- 4,123 clinic visits, QEII Health Sciences Centre
- 2,374 clinic visits, Dartmouth General Hospital

Years highlights:

The Transitional Heart Failure Clinic (THFC) launched in February 2018, representing a re-envisioned version of the former General Internal Medicine Heart Failure Clinic. The THFC is an evolved clinical service that provides home-based care for frail patients with end-stage heart failure. Criteria for enrolment in the clinic include at least moderate frailty (denoted by CFS > 6 and physical inability to attend hospital-based clinic), NYHA III/IV symptomatic heart failure, and goals of care focused on symptom management and quality of life rather than life prolongation.

Co-led by Amanda Tinning, nurse practitioner, and Dr. Ashley Miller, general internist, the THFC is an example of cross-divisional collaboration, with physician support from the divisions of General Internal Medicine, Geriatric Medicine and Palliative Medicine. Cardiology also provides support more informally. The clinic exemplifies teamwork as it leverages relationships with diverse care providers, including those from VON, Continuing Care, the EHS Special Patient Program and Hospice Halifax. This team-based approach enables patients to achieve comfort and quality. A high proportion of patients successfully avoid hospitalization at end of life.

Looking ahead:

Next steps for the THFC team include exploring how best to pool resources to continue to strengthen care for complex co-morbid and frail patients as they progress through the end stages of their diseases. An informal network of palliative care providers has been brought together to share experiences with systemic barriers and enablers of this approach to care. The goal is to build capacity in the community to support improved access to home-based comfort care and ultimately death at home. The team invites all who share this vision to join the collaboration.

For the record:

Dr. Ashley Miller was co-author of a paper published in *The Lancet* journal on Canada's global leadership on health. Titled *Canada's universal health-care system: achieving its potential*, the paper was published online Feb. 23, 2018. [www.thelancet.com/pdfs/journals/lancet/PIIS01406736\(18\)30181-8.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS01406736(18)30181-8.pdf)

GERIATRIC MEDICINE

Division head:

Dr. Chris MacKnight

Clinical activities:

- 1,493 inpatient consults
- 2,968 visits to geriatric day hospital program
- 234 home visits

Year highlights:

The team at the outpatient Geriatric Ambulatory Care Clinic launched a pilot program that involved a new outreach nurse role. The outreach nurse visits patients in their home, within an approximately 30-minute drive from the Veterans' Memorial Building. The aim is to reduce emergency room visits and hospitalizations and to help patients and families manage in their community. For more on this project, [read the story on page 22](#).

Of the many research studies published through the year, one in particular attracted significant media attention. Lyndsay Wallace, a PhD student of Drs. Melissa Andrew and Kenneth Rockwood, published *Investigation of frailty as a moderator of the relationship between neuropathology and dementia in Alzheimer's disease: a cross-sectional analysis of data from the Rush Memory and Aging Project* in *The Lancet Neurology* journal. The study looked at the impact of frailty measurements on the relationship between neuropathological changes and the clinical symptoms of dementia.

Looking ahead:

The population is aging and the number of Nova Scotians living with frailty is increasing exponentially. The division hopes to make progress in the care of the frail elderly throughout the province – in hospitals, the community and long-term care. This will require not only an increase in the division's own human resources but also innovative models of care and growing expertise within other disciplines.

HEMATOLOGY

Division head:

Dr. Stephen Couban (until his passing in March 2019)
Dr. Sudeep Shivakumar, Interim

Clinical activities:

- 635 inpatient admissions
- 10,857 ambulatory care visits
- 1,201 inpatient consults

Year highlights:

The Canadian Institutes of Health Research awarded \$4.5 million to EPCAT III, a randomized controlled trial involving 15 sites nationally. The study looks at whether Aspirin alone can prevent blood clots after hip and knee replacement surgery. The initiative is a partnership involving clinical hematology, hematology research and orthopedic surgery. See [page 24](#) for more details on EPCAT III.

Looking ahead:

The clinical trial started for CAR-T, a therapy fast becoming the standard of care for some blood cancers and a life-saving option for patients with few other. Efforts have begun toward setting up a program in Halifax to benefit residents of Nova Scotia and other parts of Atlantic Canada.

CARDIOLOGY

Division head:

Dr. Ata Quraishi

Clinical activities:

- 2,121 patients transferred from other provincial hospitals
- 2,517 inpatient consults
- 9,061 visits to general cardiology

INFECTIOUS DISEASES

Division head:

Dr. Shelly McNeil

Clinical activities:

- 5,853 clinic visits
- 5,006 inpatient consults
- 2,239 visits to general infectious diseases clinic

Year highlights:

Collaboration within the Canadian Center for Vaccinology has enabled the division to broaden understanding of the burden of infectious diseases on Canadian and global health. It is also allowing researchers to look at vaccinology differently – for example, to explore whether vaccines can be used to promote healthy aging. To read more about the work at the vaccinology centre, [see page 26](#).

MEDICAL ONCOLOGY

Division head:

Dr. Daniel Rayson

Clinical activities:

- 2,349 new patients seen
- 13,595 visits to medical oncology clinic at QEII
- 8,845 telephone/chart check interventions
- 8.2 Inpatient length of stay (LOS) days

NEPHROLOGY

Division head:

Dr. Kenneth West

Clinical activities:

- 559 dialysis cases
- 120 new cases
- 2,520 appointments in the renal clinic

Year highlights:

A research team led by Dr. Karthik Tennankore was awarded a \$321,300 grant from the Canadian Institutes of Health Research to study the connection between frailty and the kidney transplant wait list. Specifically, the team is examining what happens to people deemed frail and are wait-listed for a kidney transplant, compared with those who are not frail. Several different tools to assess frailty will be used.

The five-year study will follow patients to track whether they are removed from the wait list or die before a transplant, as well as other outcomes such as hospital admission and changes to their quality of life. Researchers hope the study's result will lead to better allocation of transplant organs and a more objective method of evaluating eligibility for the wait list.

NEUROLOGY

Division head:

Dr. Ian Grant

Clinical activities:

- 2,331 inpatient consults
- 784 inpatient admissions

Year highlights:

A number of new initiatives continued to improve patient care:

- Endovascular treatment (EVT), a partnership with neuroradiology, provided 24/7 service for emergency care to stroke patients, improving outcomes
- First seizure clinic held at Cobequid Community Health Centre, improving patient access
- Addition of a dedicated nurse practitioner on the general neurology service, improving continuity of care

Looking ahead:

Planning for a new Movement Disorders Clinic at the Veterans' Memorial Building, QEII Health Sciences Centre.

PALLIATIVE MEDICINE

Division head:

Dr. David Dupere

Clinical activities:

- 1,095 consults
- 760 physician home visits
- 936 families supported through the bereavement program

Year highlights:

New federal funding allowed for the hiring of three registered nurses and a social worker for the Community Consult Service. This support enabled the creation of a new HOME team, which became functional in NSHA Central Zone with new physician resources. Introduction of a social worker led to an immediate change in the quality and depth of service. Funding was also secured for point-of-care ultrasound equipment to use primarily in the HOME setting; the result is safer paracentesis at home.

Virtual Care, a research project headed by Dr. Robert Horton, transformed into a viable clinical tool to use in delivery of care to the more remote parts of Central Zone.

In July 2018, Palliative Medicine's newly accredited Royal College subspecialty training program welcomed its first resident in the program. The division continues to also offer a full-time one-year Enhanced Skills Family Medicine Residency postgraduate training program in Palliative Care leading to a Certificate of Added Competence in Palliative Care, accredited by the College of Family Physicians of Canada (CFPC).

Looking ahead:

The division looks forward to a transformative period as it initiates service changes resulting from expanded nursing and physician resources. Outcomes will include better service to remote regions of Central Zone, including providing a physician presence in the Tri-Facilities through a new regional service, as well as addressing ongoing concerns about physician burnout. The strengthening of the new HOME service will address wait times and non-clinical aspects of work previously carried out by physicians.

A new Research Chair in Palliative Care will transform the division's ability to conduct research in palliative care into the future. The endowed chair was made possible by a \$3-million donation from the J & W Murphy Foundation; it was announced in February 2019 and is expected to be filled by fall 2020.

For the record:

The palliative care program is built on teamwork. A retreat in late 2018 to identify and document clinical goals and guidelines for delivery of palliative care in Central Zone involved the efforts of physicians, nurses, social workers, occupational therapists and physical therapists, as well as those who provide bereavement care and music therapy. All were invested in the final product.

**PHYSICAL MEDICINE
& REHABILITATION****Division head:**

Dr. Amra Saric, Interim

Clinical activities:

- 22,950 inpatient bed days
- 222 telehealth visits

Year highlights:

A federal-provincial agreement provided funding to improve the continuum of care for individuals with acquired brain injury (ABI) and their families. The funding enabled the ABI Program, co-led by Drs. Anita Mountain and Richard Braha, to develop the NeuroCommons at Bedford Place Mall in collaboration with the Brain Injury Association of Nova Scotia. A community-based NSHA facility, the NeuroCommons clustered existing Central Zone ABI Outreach and Day Program services with expanded services and programming.

Targeted funding was also provided to invest in the development and implementation of a Provincial Network of Care for ABI. The network will bring together administrators, physician leaders, clinicians and key stakeholders across the province to improve care for clients and their families.

An assistive technology community of practice was developed with individuals at the Nova Scotia Hearing and Speech Centres (NSHSC), IWK and NSHA, with the focus on collaborative practice in augmentative communication and assistive technology. The group helped to develop a new referral process to Augmentative Communication and Access to Technology consultative services at the Nova Scotia Rehabilitation and Arthritis Centre. It was also developing improved transition-of-care processes from pediatric to adult Augmentative Communication and Assistive Technology Services.

Looking ahead:

Division members Drs. Anita Mountain, Amra Saric and Sonia McVeigh are working with NSHA administrators and community stakeholders to explore development of a publicly funded service for concussion care.

Kim Parker, rehabilitation engineer at NSHA, is a co-investigator on a research project exploring how to enable older people aging with complex mobility needs to live with greater independence and dignity in continuing care. Funding was awarded through AGE-WELL, Canada's Technology and Aging Network, with Dr. Susan Kirkland, head of the Dalhousie Department of Community Health and Epidemiology, as principal investigator. Northwood, a continuing care organization in Halifax, is a living innovation lab using commercially available SMART technology devices from project partner Novalte. Research focuses on the feasibility, usability, sustainability and scalability of SMART technology solutions to support increased quality of life for residents and clients in continuing care.

For the record:

The Wheelchair Research Team of NSHA and Dalhousie University consists of rehabilitation-medicine physicians, occupational therapists and an engineer. Through collaborations with physicians, therapists and scientists, as well as grant support locally, nationally and internationally, the team addresses questions about wheelchair safety and performance. Additionally, it annually provides wheelchair skills training to about 300 students at Dalhousie University and the Nova Scotia Community College in a variety of disciplines, e.g., occupational therapy, physiotherapy, recreation therapy, therapy assistants, nursing, health sciences and urban planning. Its website, www.wheelchairskillsprogram.ca, provides free educational materials; tracking indicates visitors from more than 185 countries.

RESPIROLOGY

Division head:

Dr. Paul Hernandez

Clinical activities:

- 3,448 outpatients
- 1,476 inpatient visits
- 2,600 visits to the sleep lab

Year highlights:

Dr. Paul Hernandez is site principal investigator for two national CIHR-funded research projects to assess epidemiology, diagnosis and natural history of obstructive lung diseases (i.e., COPD and asthma): *CanCOLD – Canadian Chronic Obstructive Lung Disease Study* and *UCAP – Uncovering COPD and Asthma Study*.

Dr. Hernandez has also teamed up with longtime research collaborator Dr. Geoffrey Maksym, from Dalhousie's School of Biomedical Engineering, to explore how nuclear imaging can be used to detect, understand and monitor bronchiolitis obliterans in lung transplant patients. [See page 28](#) to read more about the project.

Looking ahead:

Dr. Simon Houston, and members of the respirology training program begin preparations for moving to Competence by Design in 2020. Dr. Houston assumed the position of program director from Dr. Colm McParland, who marked 10 highly successful years in the role.

RHEUMATOLOGY

Division head:

Dr. Volodko Bakowsky

Clinical activities:

- 10,215 visits to rheumatology clinics
- 246 visits to injection clinic
- 653 inpatient consults

Year highlights:

Dr. John G. Hanly was awarded the 2018 Distinguished Investigator Award from the Canadian Rheumatology Association in July 2018. The association noted his 240 publications, of which 150 are peer-reviewed original research that helped to advance understanding of rheumatic disease. In an article about his receiving the award, Dr. Hanly said he regarded the honour “as tangible recognition of the supportive research culture provided by my division members at Dalhousie University, Halifax.”

Looking ahead:

Dr. Janet Roberts is leading a year-long project that looks at a new way of triaging patients using the expertise of physiotherapists. The initiative recognizes that not everyone on the waiting list to see a rheumatologist will need to be treated by one. Launched with the support of funding from a QEII Foundation Translating Research Into Care (TRIC) grant, the collaborative project involves physiotherapists with the aim of identifying which patients are inflammatory and which aren't, so they can be seen at the right time.

NEW BRUNSWICK CAMPUS

Site director:

Dr. Eric Grant (to Dec. 31, 2018)

Dr. Alexa Smith (as of Jan. 1, 2019)

Year highlights:

Dr. Eric Grant completed his term as Saint John Site Director, Dalhousie Core Internal Medicine Residency Training Program, on Dec. 31, 2018. In January 2019, Dr. Alexa Smith started as the Saint John Site Director. Drs. Grant and Smith ensured a smooth transition by collaborating since April 2018.

OUR MISSION

We are a diverse group of highly trained professionals dedicated to improving health through education, research and providing exemplary clinical care to our community.

VISION

To be leaders in academic medicine providing innovative, collaborative and appropriate care that is sustainable.

OUR SPECIALTIES

- Cardiology
- Clinical Dermatology & Cutaneous Science
- Digestive Care & Endoscopy
- Endocrinology & Metabolism
- General Internal Medicine
- Geriatric Medicine
- Hematology
- Infectious Diseases
- Medical Oncology
- Nephrology
- Neurology
- Palliative Medicine
- Physical Medicine & Rehabilitation
- Respirology
- Rheumatology

WE ARE

180	Subspecialty Physicians (Dal & NSHA)
267	Dalhousie Appointments (Academic)
129	Medical Residents (PGY1 – PGY6)
11	Subspecialty Fellows
115	Administrative Staff

WE PROVIDE CARE*

37	Multidisciplinary inpatient & outpatient services
95.3%	Occupancy
65,756	Inpatients seen on unit
20,477	Inpatients seen based on consult requests (consult service)
3,826	Inpatient claims by senior internists
12,416	IMCU/CCU patients seen (Critical Care billings)
52,666	Other (procedures and discharge fee codes)
158,310	Clinic visits
14,001	Patient chart checks
21,388	Care provided by phone
1,030	Home registrations
484	Telemedicine visits

**Data based on academic funding plan deliverables and Nephrology reporting.*

WE TEACH

140	Postgraduate residents & fellows
17	External learners in Core Internal Medicine Residency Training program
91	Undergraduate medical students doing Core rotations (totalling 1,046 weeks)
168	Undergraduate electives (totalling 400 weeks)
597	Undergraduate tutors for Dalhousie Medical School (totalling 4,048 hours)
545	Invited lectures/visiting professorships

WE RESEARCH

\$16,880,596	Total research funding (up \$518K)
294	Peer-reviewed publications (403 Department of Medicine authors)
64	Non peer-reviewed publications (by 70 Department of Medicine authors)
386	Abstracts and research presentations
4	Endowed chairs

WE ADMINISTER

16	Heads/Service Chiefs
10	Department leadership positions
15	Department standing committees and a countless number of local, national and international positions related to Medicine

RESEARCH FUNDING – DIVISION TOTALS

(Funds received by NSHA and Dalhousie, fiscal 2018-19)

Cardiology	\$3,536,285
Clinical Dermatology & Cutaneous Science	\$ 24,366
Digestive Care & Endoscopy	\$ 445,578
Endocrinology & Metabolism	\$ 824,938
General Internal Medicine	\$ 134,212
Geriatric Medicine	\$ 931,616
Hematology	\$4,416,766
Infectious Diseases	\$1,698,570
Medical Oncology	\$1,553,159
Nephrology	\$1,424,618
Neurology	\$1,136,170
Physical Medicine & Rehabilitation	\$ 8,000
Research, General	\$ 117,609
Respirology	\$ 390,375
Rheumatology	\$ 238,332

VISION

TO BE LEADERS
IN ACADEMIC MEDICINE
PROVIDING INNOVATIVE,
COLLABORATIVE
AND APPROPRIATE CARE
THAT IS SUSTAINABLE.

MISSION

WE ARE A
DIVERSE GROUP
OF HIGHLY TRAINED
PROFESSIONALS DEDICATED
TO IMPROVING HEALTH
THROUGH EDUCATION,
RESEARCH AND
PROVIDING EXEMPLARY
CLINICAL CARE
TO OUR COMMUNITY.



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 N OF MEDICAL ONCOLOGY ACQUIRED BRAIN INJ (REHAB 7RC) CLINICAL ASSOCIATES
 DIVISION OF GERIATRIC MEDICINE NOVA SCOTIA HEALTH AUTHORITY DIVISION OF PALLIATIVE MEDICINE
 DIVISION OF GERIATRIC MEDICINE CLINICS COLLEGE OF PHYSICIANS & SURGEONS OF NOVA SCOTIA
 DIVISION OF CARDIOLOGY X-RAY DIRECTORS RESIDENT RESEARCH COMMITTEE
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 E SERVICE (HI 7.4) LIVER TRANSPLANT (VG 6B) STRATEGIC PLAN HEALING RE
 NICS PGY6 DEPARTMENT OF MEDICINE HEMATOLOGY (VG 8A)
 SCIENCE MEDICAL STUDENTS DIVISION OF PALLIATIVE MEDICINE ER CLINICAL CLE
 (REHAB 8RC) INPATIENT PGY2 DIVISION HEAD X-RAY DIVISION
 Y (HI 7.4) PGY1 SWIMMING DIVISION OF DIGESTIVE CARE & ENDOSCOPY MUSCULO/TRAUMA (REHAB 8RC) PGY3 RISK AND REWARDS

DoM

Department of Medicine | Nova Scotia Health Authority & Dalhousie University
 QEII Health Sciences Centre, VG Site, Suite 442, Bethune Building, 1276 South Park Street, Halifax, NS, CAN B3H 2Y9
 P: 902.473.2379 | F: 902.473.4067 | W: medicine.dal.ca/dom