

Department of Medicine Annual Report



2014

Introduction



Dr. Stephen Archer
Head, Department of
Medicine

Welcome to the Queen's Department of Medicine Annual Report for 2014. This report tells the stories of our faculty members, patients and Department through three categories:

Program Reports

Divisional Reports

Patient Stories

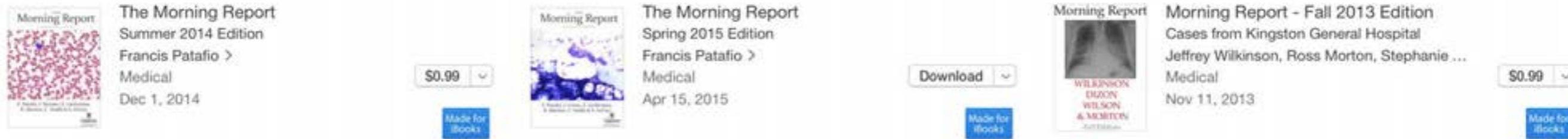
I am very proud of this Department and all that we have accomplished together, as a team. Thank you for your commitment to innovation and excellence in medicine – your dedication and enthusiasm are certainly key to our vibrant and growing Department.

I think you will agree that 2014 was an exciting and productive year. I look forward to your feedback!

A handwritten signature in black ink that reads "Stephen Archer". The signature is written in a cursive, flowing style.

Head, Department of Medicine
Queen's University

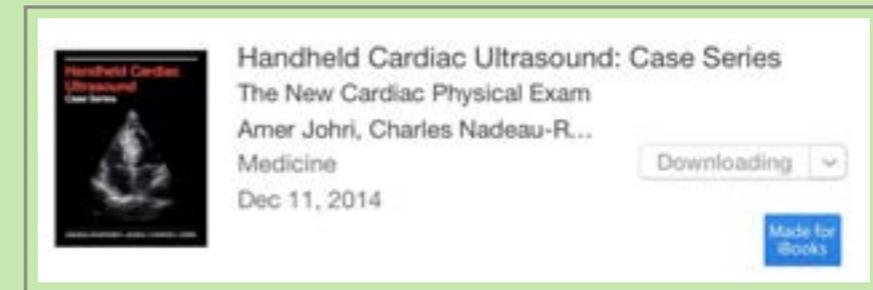
Introduction



2nd Department of Medicine Annual Report in iBook format: iPad Program



At the initiation my term as Head, we established the Resident iPad Program. This technology has been taken up by students, residents and faculty, leading to the creation of exciting new media. The Medical students have created a handbook that provides a comprehensive summary of all undergraduate medical education resources, protocols and practices. The core internal medicine Chief



Residents, under the guidance of Dr. Ross Morton, have authored three, beautiful and interactive morning report iBooks (open the iTunes Book App on you Mac and Type in "Morning Report"). Dr. Amer Johri (Cardiology) has published iBooks dealing with hand held ultrasound and congenital heart disease.

Reading this iBook

As you browse through, you'll see that this iBook is a multi-touch medium, embedded with a variety of widgets. To maximize your experience, **tap on everything you see**. Some text boxes are scrollable, some photos have pop-up dialogue boxes, some photos are interactive and some words are hyperlinked to websites (they appear in red). [Click here](#) to learn more tips and tricks for using an iBook.

Acknowledgements

Thank you to all our Division Chairs and Department members for providing excellent content to summarize all our accomplishments over the past year, and our Departmental administrative team for their contributions to the annual report. A special thank you is extended to Ms. Jill McCreary, Ms. Clarrie Lam and Ms. Anya Archer for their superb work and dedication to organizing and building the iBook, and to Ms. Anita Ng for providing general oversight to the project.

Prior Annual Reports



By The Numbers

Total research funding
\$10,137,053

Mentees who felt that their
mentors were very or
somewhat helpful
100%

iBooks published
6

Pots of coffee brewed in Dr.
Archer's office
640

Program Reports



Executive Report



2014 has been an important year for the Department of Medicine (DOM). We have grown our research funding by ~25%, recruited many new faculty, created a new Division of Dermatology, enhanced the administrative team, and improved the Professional Development program for our faculty. We have also begun to enhance links with the community. Here are some highlights of 2014 and a preview of what's to come for 2015!

I) Research in the Department

leverage external funding.

a) Increased research funding: Research revenue for fiscal 2013-2014 was at \$9.5 million, an increase of \$1.9M from fiscal 2012/2013. The five-year goal is a doubling of external research support to exceed \$16M/year. The Departmental Development and Innovation Fund offered \$463K in internal seed grants as a means to

b) Internal Grant Review Committee: We expanded our new internal grant review committee to ensure all external grants are reviewed by a committee of peers at two stages prior to submission. The initial stage is early in conceptual development of the grant and involves a 5-10 minute presentation of the hypothesis, specific aims and key preliminary data by the applicant, followed by a critique by the committee. The grant is then revised based on this feedback and reviewed by 1-2 assigned members of the committee. This requires potential grant ideas be submitted to the committee several months prior to the submission deadline. Dr. Stephen Vanner, Deputy Departmental Head and Chair of the Research Committee, chairs this committee.

c) ICES Population Health Research Program: The Department created a new population health science research program focused on enhancing the utilization of the ICES database (Institute

Education Report

[Faint handwritten notes on the left side of the chalkboard, including terms like '1-Step', 'T-Block/Cut', 'SPR', and 'SS N']

SS N

1/11 SYSTEM MU RAWR

JIP 3cm

0 edema

Pinkish ✓

Comp N.



5-6

BS+

Education Report



The Department of Medicine has major roles in undergraduate and postgraduate education, and a growing role in educational research and scholarship.

Core Internal Medicine

The Core Internal Medicine Program trains over 65 residents and continues to thrive. The subspecialty match was very successful with most of our residents

matching into their first subspecialty choice. The program welcomed our first foreign medical graduates (FMG) from Kuwait who started in July 2014.

Subspecialty Programs

In Postgraduate education, seven subspecialty program directors oversee fully accredited Royal College training programs. Each of the Program Directors is taking a national lead in the development of competency based curriculum for their programs.

Undergraduate

Members of the Department head many leadership roles for the Medical School. The Clinical Skills Term 4 Program led by Dr. Laura Milne involves over 40 members of the Department of Medicine.

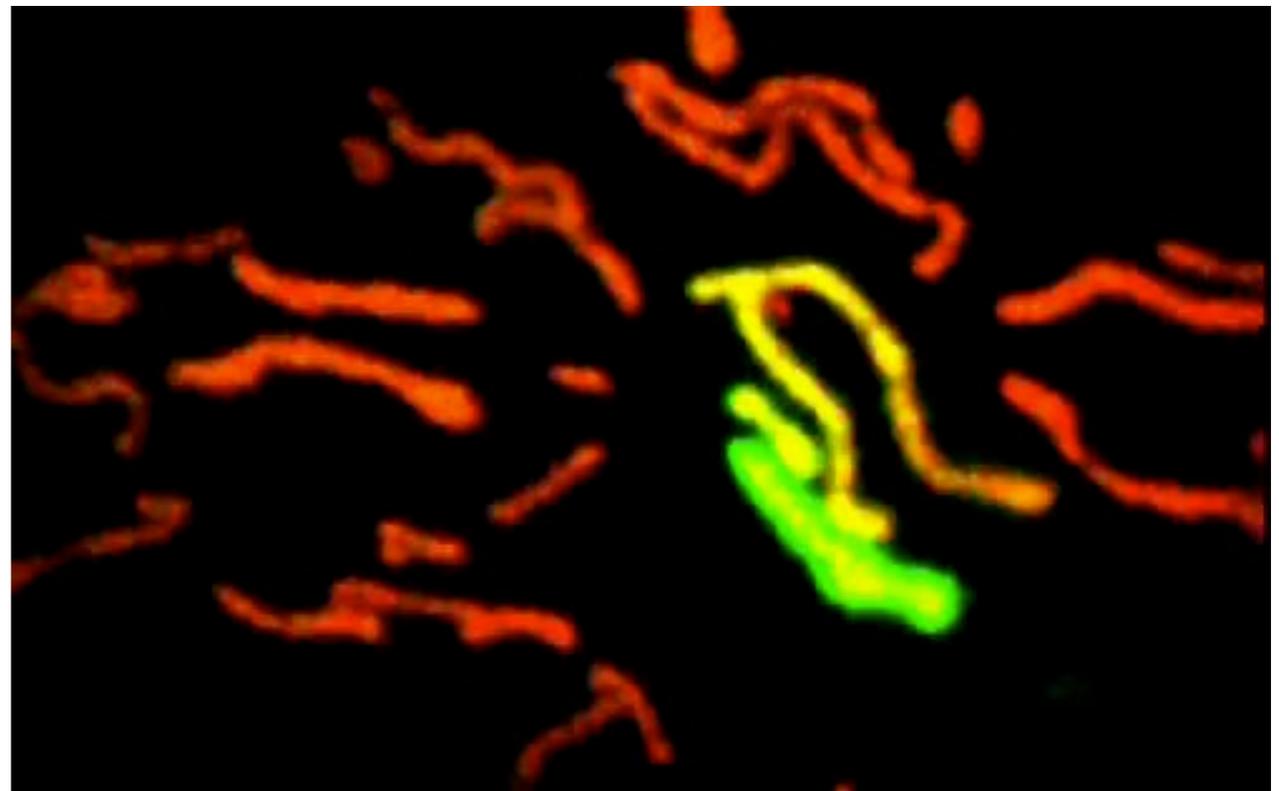
Scholarship and Innovation

The Chief Residents, with the help of Dr. Morton, have developed an iBook of clinical cases “The Morning Report” that is available on iTunes. This book provides a unique and interactive method of highlighting the variety of clinical problems presented at morning report and the clinical reasoning of the treating physicians.

Research Report

“In the light of knowledge attained, the happy achievement seems almost a matter of course, and any intelligent student can grasp it without too much trouble. But the years of anxious searching in the dark, with their intense longing, their alterations of confidence and exhaustion, and the final emergence into the light - only those who have themselves experienced it can understand that.”

Albert Einstein



Mitochondria in Motion:

Image from Dr. Archer

Research Report

The goal of the research committee includes growth of our research capacity through provision of seed grants, development of an internal peer review program and provision of protected time for research for clinician scientists.

DOM Research Funding

Our research revenue increased >25% in fiscal 2013/2014 compared to fiscal 2012/2013 (see figure 1). This increase is the outcome of a 22% increase in Tri-council funding, a 19% increase in other government funding, a 27% increase in industry funding and a 25% increase in funding from associations/societies/foundations.

DOM ICES Core

A DOM ICES core has been established in collaboration with the Department of Surgery. Our department applied for \$125,000 from the 2012/2013 SEAMO Development and Innovation Fund (DDIF) to help establish the core, and \$75,000 from the 2013-2014 DDIF was used to maintain it. Dr. Susan Brogly, a 0.5 FTE epidemiologist, was recruited for this initiative. The goal of the program is to support new ICES investigators.

- There are currently 4 ICES projects underway or in development from faculty members who have not previously used ICES.
- 5 grant proposals have also been submitted to obtain funding for new ICES projects.

Innovation Fund

This is the second year the Department of Medicine held an Innovation Fund competition, available to faculty members to enhance innovation in research

2014 Research Highlights include:

- ◆ Received over \$10M in research funding. This reflects a 25% increase in research revenue compared to 2013. We also received significant infrastructure funding from the Canada Foundation for Innovation (CFI) (see figure 1).
- ◆ Received \$5.1M in peer-reviewed funding and \$4.3M in clinical trials funding (see figures 2 and 3).
- ◆ Using DOM innovation funds the Department established a DOM ICES Core to support population health research. The program includes a partnership with the Department of Surgery and is supported by a PhD epidemiologist, Dr. Susan Brogly.
- ◆ The research committee gave out \$543K internal, peer-reviewed awards: \$223K in seed grants to build research capacity, \$240K in clinical care grants, and >\$80K in



Research Report

Research Funding by Fiscal Year



Figure 1

Research Report

Fiscal 2013/2014 Research Funding Distribution (Total \$10.1 Million)

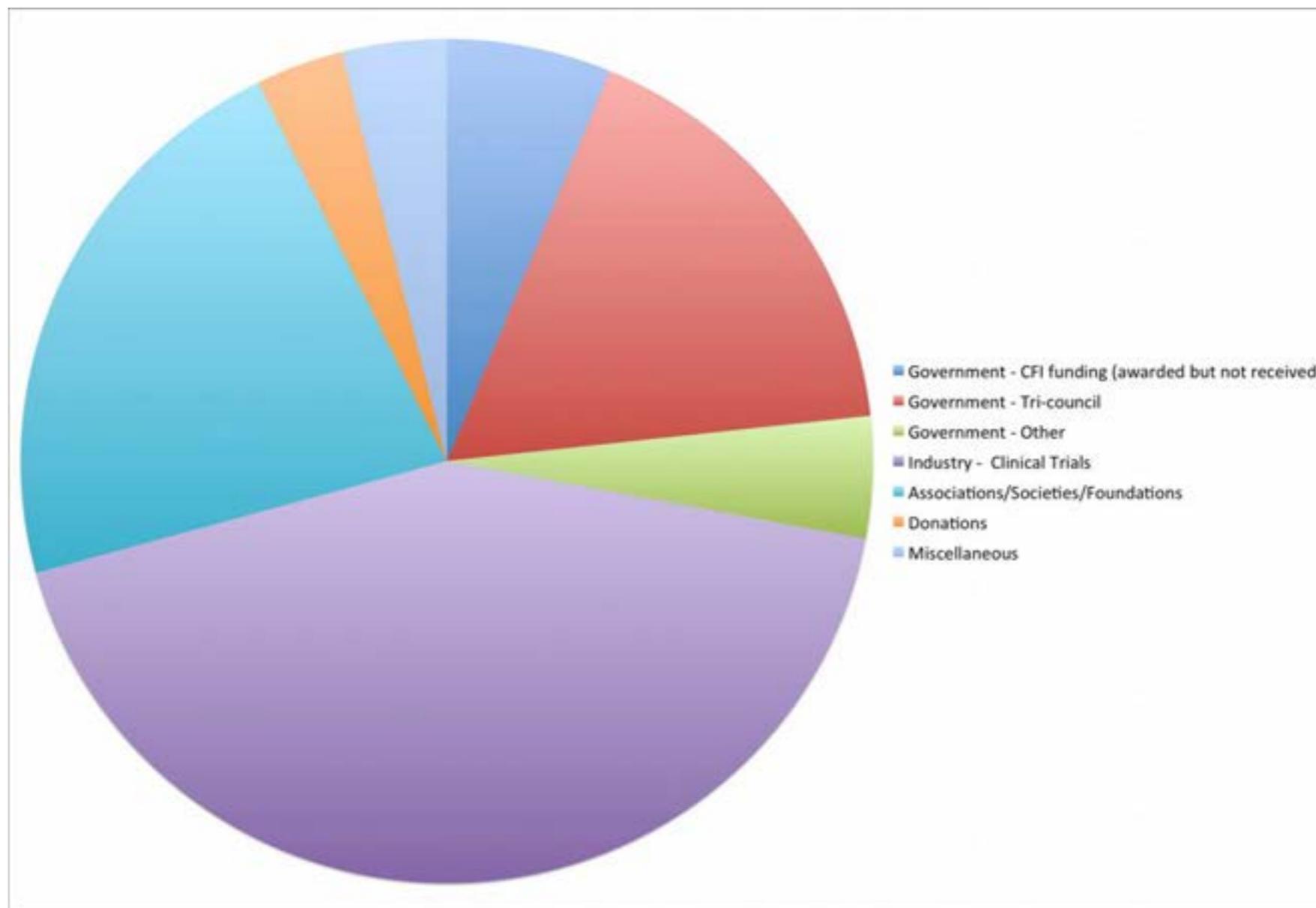


Figure 2

Research Report

Fiscal 2013/2014 Research Funding By Division

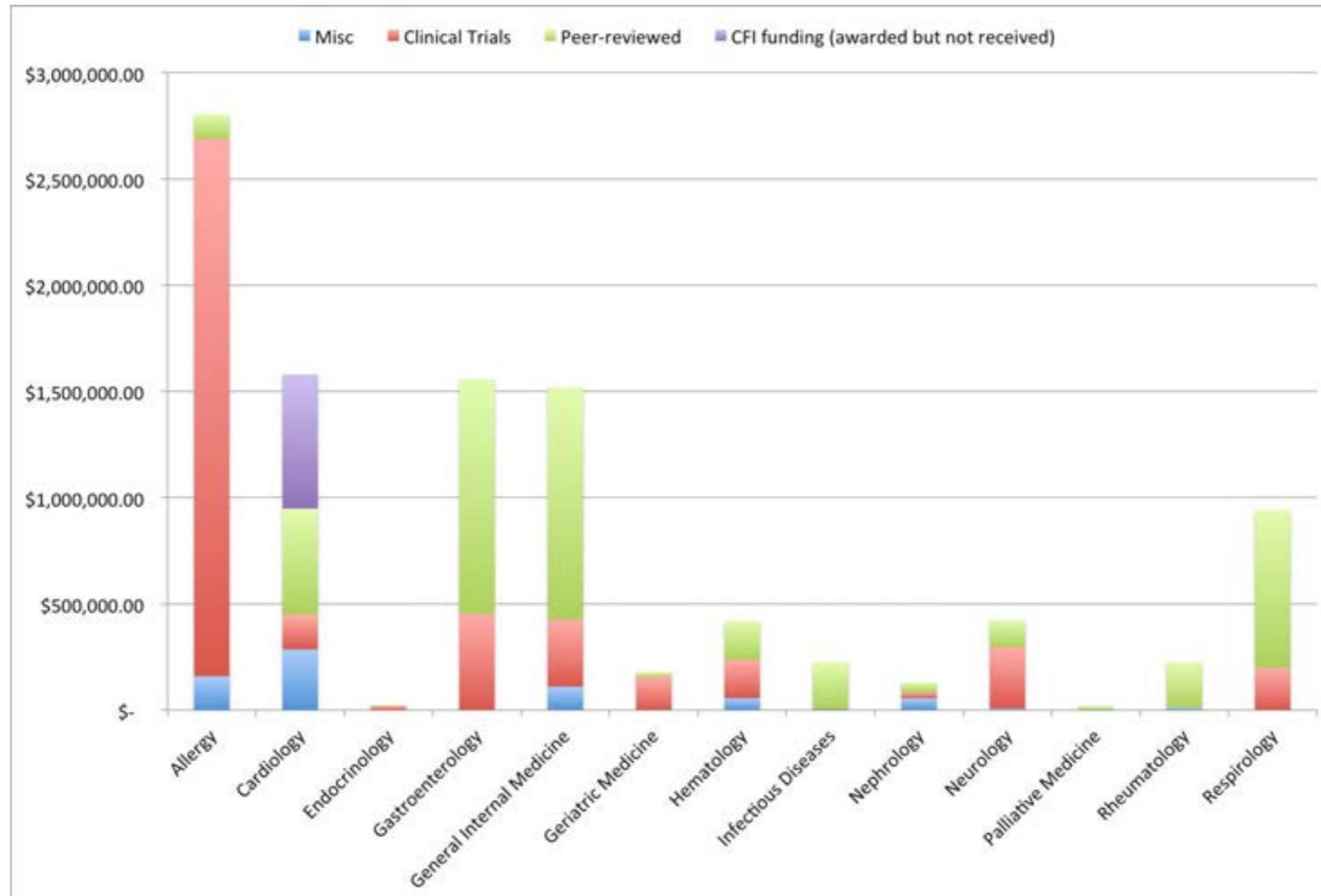


Figure 3

Research Report

Secured Future Funding

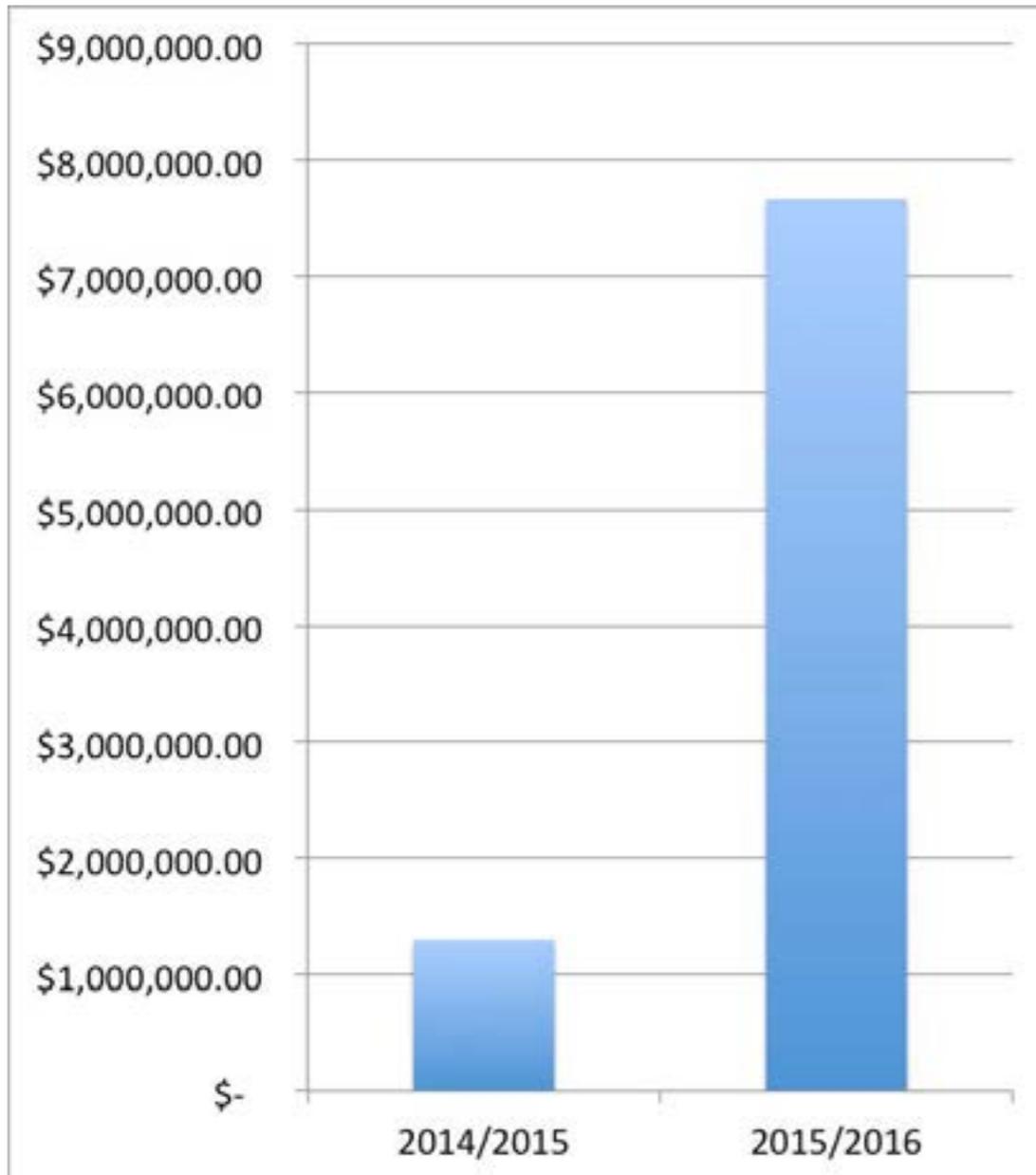


Figure 4

Number of Research Trainees in 2014

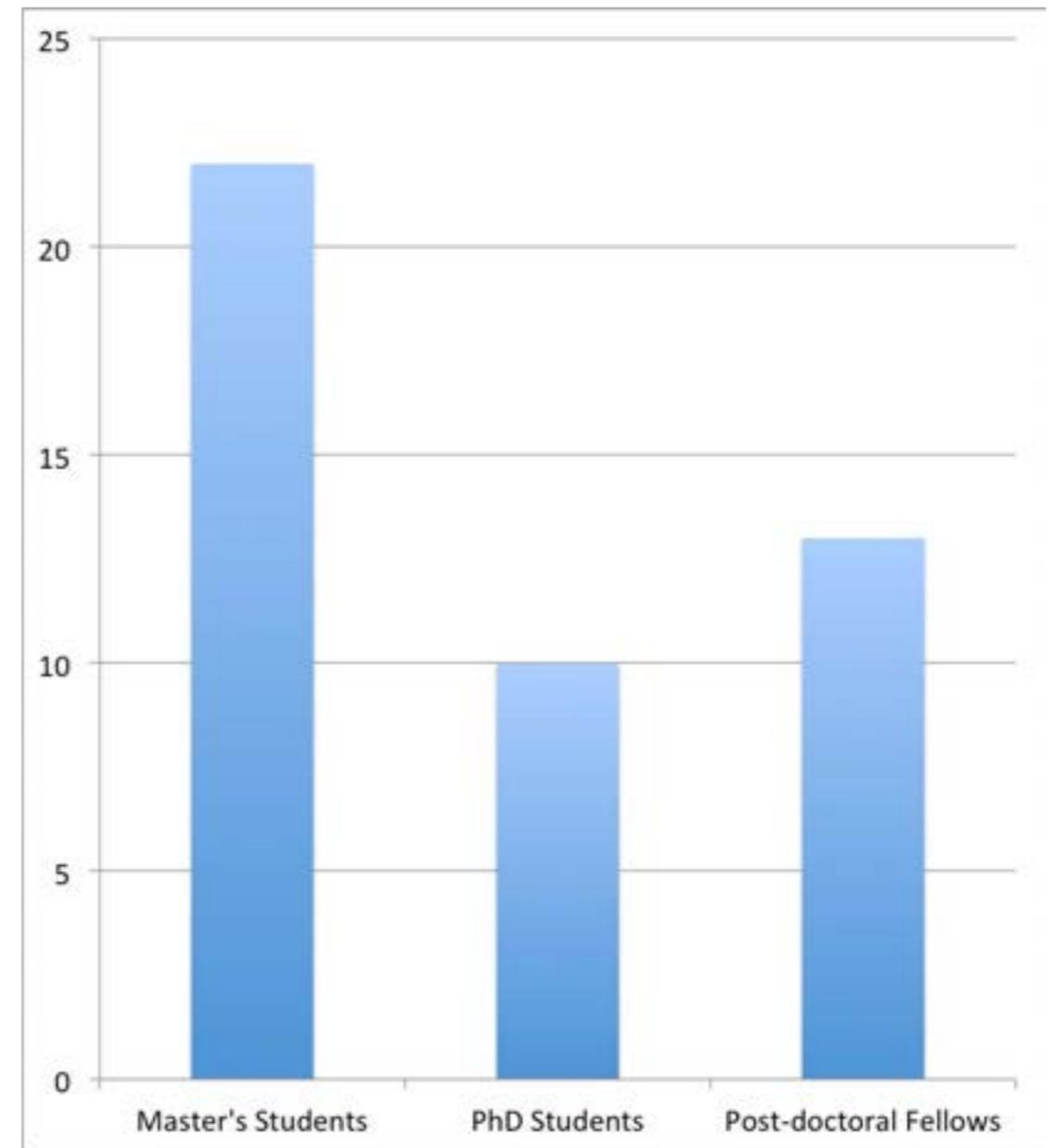


Figure 5

Medicine Program Report



Richard Jewitt

Operational Director, Medicine Program, KGH

It has been another year of achievements for the Medicine Program. There are many stories of excellent care each day. We have many opportunities to provide excellence in care within the Program, our patients demand this of us, and there are more and more patients needing this each year.

We must not forget that we have multiple responsibilities in addition to that which comes first, our patients. We are a learning organization, we conduct and support research, we are partners with many through the region and province and we are a place where many spend their entire career.

A few highlights from the year are things that you'll read about in this report. It has also been a year where we have made progress in many fundamental areas – often presumed to be 'already done'.

Communicate with HEART learning sessions started, for those that have experienced this you will have your own opinion. The sessions are aimed at establishing a framework that all that work and learn in the Program can use when interacting, some call it a customer care course, it is more than that, but you'll need to go to the learning sessions to experience that. Most of you will see this as common sense, but the challenge is to make it common practice.

Our Program Managers have been working incredibly hard to work with around 300 staff to develop Personal Development Plans. These plans are to enable staff to firstly get much wanted feedback but also to ensure that we are more often than not 'on the same page' about what we need to become even better at.

Getting Out Of Gridlock or GOOG got a lot of attention at the end of the year. It was something that also generated a lot of feedback. Getting patients to the right place for optimal care is about doing a lot of little things in a sensible and timely way. We were able to finally – after six months, get out of gridlock.

Core Internal Medicine Program Report

Building on Strengths – the Next Steps in our Core Training Program

Competency-based medical education (CBME) is a growing international movement that aims to transform how we train doctors. Our move to CBME in Canada builds on the excellence that already characterizes Canadian training programs, and aims to keep our programs at the forefront of medical education. At Queen's, under the direction of Dean Richard Reznick, CBME is coming, and coming quickly.

One key theme of competency-based education is that it emphasizes abilities and outcomes of training¹. From a practical standpoint, this means a reliable and rigorous system of assessment for our core program². Good assessment tells our trainees their strengths and weakness, it provides feedback and direction on how to improve, and it tells us when they've achieved critical benchmarks in their clinical abilities and knowledge. Good assessment is the foundation of



Core Internal Medicine Program Report



Resident Recognition Award

Dr. Siddhartha Srivastava



Program Team

Dr. Chris Smith- Program Director*
Dr. Mala Joneja- Associate Program Director
Ms. Denise Jones- Program Manager
Ms. Claudia Trost- Program Assistant

Residency Program Committee

2013-2014 Chief Residents:

Drs. Stephanie Dizon, Jeff Wilkinson, Evan Wilson

2012-2013 Chief Residents:

Drs. Catherine Barry, Pearl Behl, Genevieve Digby

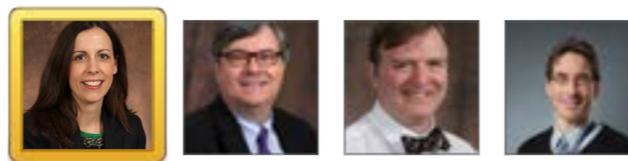
*Dr. David Taylor will be assuming the position of Program Director on July 1, 2015

Last Call Ball Awards Recipients

Selected by Housestaff and Undergraduates



Dr. Laura Milne
Clinical Teaching (Inpatient Units)



Faculty Development Report



Mentorship Program

In 2014, the program had 28 mentors and 31 mentees participating.

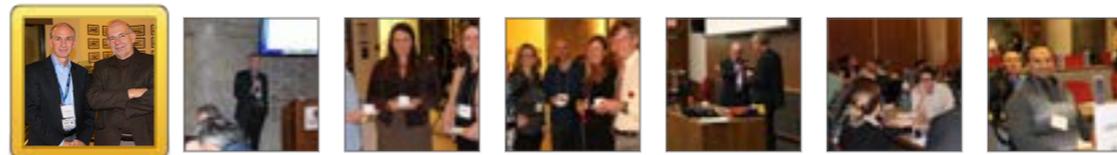
The Department of Medicine Mentorship Program continues to grow - new faculty members recruited in 2014 were enrolled in our Mentorship Program, which is designed to enhance professional development and personal career satisfaction. Please visit our website for more details on [professional development](#).



Drs. Ross Morton & Pendar Farahani

Faculty Retreats

The Department hosted very successful retreats in the spring and in the fall, which were attended by over two thirds of department members. The spring retreat opened with a review of the practice plan and mentorship program. This was followed by faculty development sessions on SEAMO electronic billing and OMA representatives-led sessions on time management and leadership. The fall retreat began with an informative session on Competency Based Education led by the Associate Dean, Dr. Ross Walker. The remainder of the retreat focused on career transitions and this portion opened with an excellent session on Promotion presented by Dr. Iain Young, Executive Vice Dean, Faculty of Health Sciences. This was followed by discussion and break out groups examining a number of topics including sabbaticals, reduced workload, merit pay, accountability metrics, and leave.



Clinical Report: Outpatients



Dr. Michael Fitzpatrick
Chair, Ambulatory Clinics
Committee

The ambulatory care clinics at Hotel Dieu Hospital have been a hub of clinical activity for the Department of Medicine during the last year. The Department of Medicine has been a leader in careful stewardship of the ambulatory clinic resource, and each division and program has made a major effort to recycle clinics within the group rather than allow clinic resources to go unused. Clinic utilization across KGH and HDH is now running at 95%, the highest that it has been historically. Virtually every division in Medicine has expanded its ambulatory clinic activity during the last year. In addition, arrangements have been made at HDH to provide expanded clinic space to facilitate a new Mohs surgery clinic, which is expected to commence in the spring of 2015, and represents an important addition to the fledgling, but very active, Division of Dermatology. The HDH/KGH Ambulatory Clinics Committee now provides detailed reports on clinic utilization, including numbers of clinic rooms used and patients seen, to department heads and program medical directors, to facilitate optimal decision making around ambulatory care activity within each program. Most departmental ambulatory clinic activity occurs at the HDH clinics except for Nephrology clinics (KGH), Geriatric clinics (St. Mary's of the Lake Hospital), Multidisciplinary Neuromuscular Clinics (St. Mary's of the Lake Hospital), Respiratory Rehabilitation Clinic (St. Mary's of the Lake Hospital) and Cancer Clinics (Kingston Regional Cancer Centre).



Clinical Report: CTU

The clinical teaching units (CTUs) of the Department of Medicine passed another year without major organizational change. They remain the core of the Department's clinical inpatient work, and of the Internal Medicine Residency training program.

With an increased number of general internists, we have been able to fill our schedule primarily with members of the Department of Medicine. This means a much reduced reliance on locums, which benefits the Department and our learners.

There are two major challenges to continued successful operation of the CTUs. Increasing patient volumes and increased patient complexity are an ongoing challenge. The issue of ALC or "Alternate Level of Care" patients is a widespread, system-wide challenge which requires complex and thoughtful measures to address, and members of the Department have been active in LHIN-wide efforts to address this and other system challenges. Overall however, the increasing workload and efforts to improve efficiency throughout the hospital system require balancing with the educational needs of our learners. The Department employs a hospitalist who cares for 25 ALC patients, taking this non-educational clinical work away from the residents. There is also work being done to create an inpatient unit run by family medicine hospitalists, which is hoped to decrease the clinical workload of the CTUs.

The next challenge will be implementing competency-based medical education (CBME) on the CTUs. The goal of Queen's is to have all post-graduate programs embrace CBME completely by July 2017, and this new way of teaching medicine to learners, both medical students and residents, will require increased direct observation of learners. As CTU is one of the busiest clinical environments, this will require re-organization with smaller team sizes, with both fewer patients and fewer learners, to ensure high quality teaching and direct observation of competency is possible. This will be a major paradigm shift on CTU, but is an exciting opportunity to improve patient care and the competency of our learners.



Dr. Laura Marcotte
CTU Director

2014 Departmental Milestones



2014 Departmental Milestones

2014 New Faculty



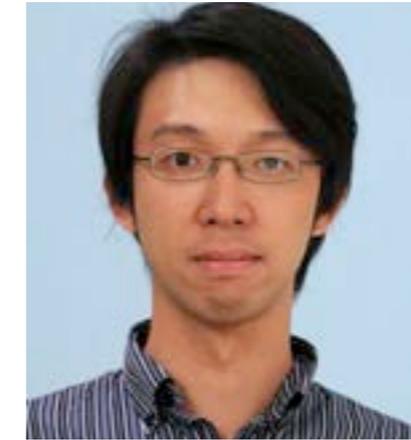
Dr. Yuka Asai
Dermatology



Dr. Mark Kirchof
Dermatology



Dr. Benvon Moran
Dermatology



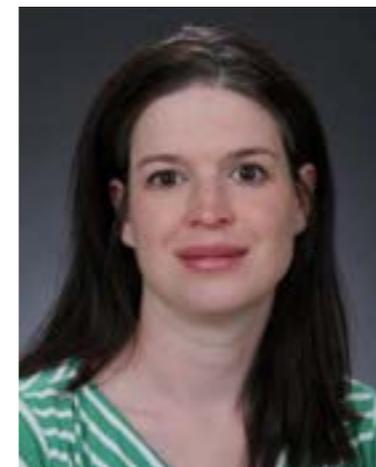
Dr. Barry Chan
General Internal Medicine



Dr. Kristen Marosi
General Internal Medicine



Dr. David Maslove
General Internal Medicine



Dr. Suzanne Bridge
General Internal Medicine



Dr. Annette Hay
Hematology/Oncology

2014 Departmental Milestones

2014 New Faculty



Dr. Amar Thakrar
Cardiology



Dr. Peggy DeJong
Cardiology



Dr. Erica Weir
Geriatric Medicine



Dr. Lysa Lomax
Neurology



Dr. David Reed
Gastroenterology



Dr. Jennifer Flemming
Gastroenterology



Dr. Joshua Lakoff
Endocrinology

We are excited to welcome several talented recruits in 2015 who will be featured in next year's annual report!

Quality Report

Quality Improvement Achievements in 2014



Focus on inter-professional integration
Quality Improvement and Patient Safety
Committee with multi-professional representation



Quality Report

Written by Dr. Roy Ilan

The Department of Medicine's Quality Improvement Committee has prioritized several targets for improvement, all pertaining to hospitalized patients. In 2014, these included the completion of medication reconciliation, timely completion of discharge summaries, reducing the rate of readmission within 30 days, sepsis management and goals of care communication.

It took us little time to realize that achieving progress with any of these targets would be challenging in the absence of appropriate resources.

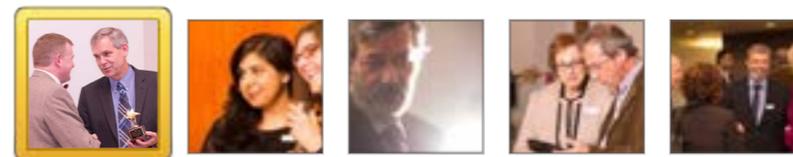
For example, in the case of discharge summary completion, although this is generally the responsibility of the attending physician, we have identified several issues with hospital-related processes. These issues make it impossible to alert physicians for outstanding summaries in a timely fashion. Furthermore, an inaccurate hospital record regarding the patient's MRP at the time of discharge is not uncommon, and this occasionally results in delays, as well as inaccurate reports. Having little influence over these issues, and no way to incorporate support systems such as alerts and reminders, we kept watching the suboptimal performance reports as they arrived monthly.

The topic of goals of care communication is the opposite example. This QI initiative, funded by the Department's Innovation Fund, is an inter-professional collaborative including our Department and the Medicine Program at KGH. Relevant and accurate performance measures are collected and shared routinely, and the multidisciplinary teams carry out improvement cycles addressing various processes. There is more work to be done before we can be satisfied with our communication with hospitalized patients regarding their goals of care. However, the infrastructure we've created allows us to continue this important work and to make progress.

Annual Award Ceremony

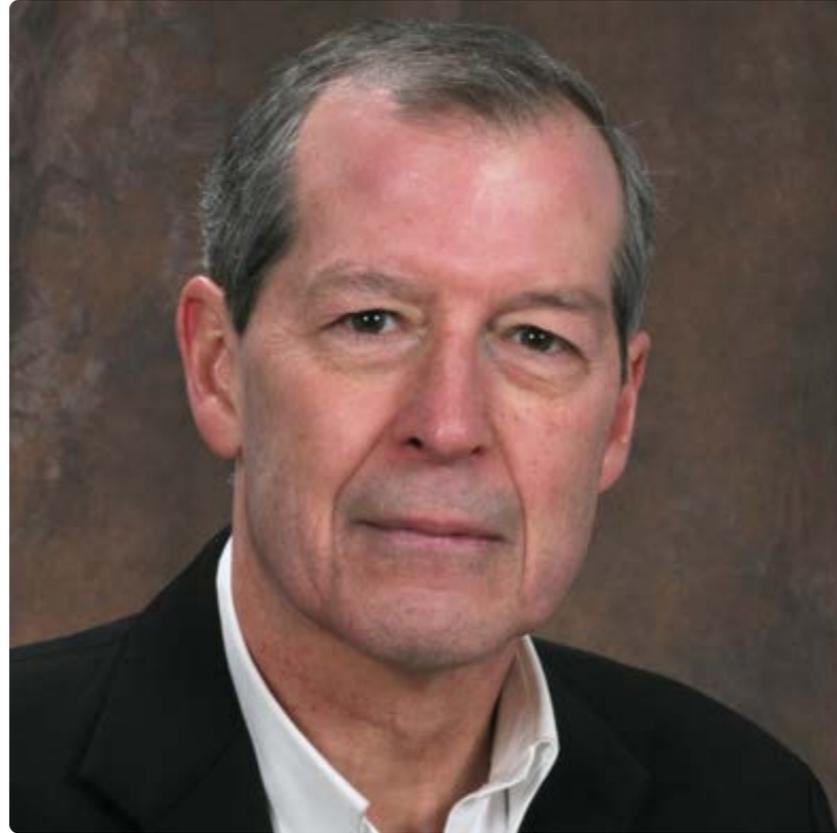
The Annual Awards Ceremony is a memorable event hosted by the Department of Medicine to celebrate the outstanding contributions our faculty members have made to the Department and to their fields. Winners in the following award categories, including those deserving a special mention, are announced at the Annual Awards Ceremony. It is a night where we all have a chance to come together as a Department and reflect on everything that we have accomplished throughout the year – it is a night that should not be missed!

- ◆ Distinguished Service
- ◆ Research Achievement
- ◆ David Ginsburg Mentorship
- ◆ Young Clinician
- ◆ Bill Depew & Ron Wigle Master Clinician



Department of Medicine Awards Recipients

Selected by the Awards Committee



Dr. William Paterson
Department of Medicine Distinguished
Service Award



Division Reports



Division of Allergy & Immunology

Mission

To expand access to patients suffering from allergic conditions and immunodeficiency in the Southeastern Ontario region while enhancing our global reputation for excellence in research into the allergic condition



Dr. Anne Ellis



Division of Allergy & Immunology

Associate Professors

Dr. Anne Ellis

Dr. Rozita Borici-Mazi

Overview



The Division of Allergy & Immunology is comprised of Dr. Anne Ellis, a Clinician Scientist and Dr. Rozita Borici-Mazi, a Clinician Scholar.

Clinically, we run 9 half-day clinics per week at Hotel Dieu Hospital and provide year round in-patient consult coverage at Kingston General Hospital. In our outpatient Allergy/Immunology clinics, a full spectrum of allergic and immunologic disorders are evaluated and treated, including: allergic rhinitis, asthma, atopic dermatitis (eczema), urticaria, angioedema, food allergy, anaphylaxis, drug allergy, stinging insect allergy and immunodeficiency.

The research activities within the Division include clinical trials conducted in the **Environmental Exposure Unit**, led by Dr. Ellis, an internationally recognized and validated controlled allergen challenge model of allergic rhinitis. We also participate in studies of direct nasal allergen challenge through the newly launched Allergic Rhinitis – Clinical Investigator Collaborative, an AllerGen NCE funded program with Dr. Ellis as PI. Dr. Borici-Mazi has been active in the realm of **angioedema** and immunodeficiency research. Dr. Ellis additionally is studying epigenetic modifications that predispose to atopy and which develop in response to allergic challenge.

New research areas include: Clinical trials of the safety of new immunotherapies for patients with combined allergic rhinitis and

Accomplishments in Clinical Medicine, Education or Community Service

Key accomplishment for the Division in 2014 included a new LMCC preparation lecture for the topic of Allergic Reactions; ongoing assistance with the refinement of a new Facilitated Small Group Learning Case of peanut allergy for the UGME program, as well as participation in several course retreats pertaining to the Mechanisms of Disease UGME course. Our Division continues to participate in Clinical Skills teaching and a highly-rated Clerkship rotation shared with Endocrinology.

Members of the Division are active within the Canadian Society of Allergy & Clinical Immunology as well as the American College of Allergy, Asthma and Immunology in addition to the American Academy of Allergy, Asthma and Immunology.

Quality Improvement

The contributions of our our drug-allergy testing clinics to the antimicrobial stewardship program at KGH continues to contribute to improved patient care.

A new Immunology Training Clinic (see above) promises to enhance the quality of life and access to care of patients with primary and secondary immunodeficiencies in our community.

Programs of Distinction

Highlights of our 2014 clinical efforts include the launch of the ***Immunology Training Clinic***. This is a nurse-directed clinic, operated under the supervision of Dr. Borici-Mazi. The Clinic accepts patients with immunodeficiency who require continuous immunoglobulin (Ig) replacement and who are good candidates for subcutaneous mode of replacement. This clinic provides initial training and longitudinal follow up ensuring adequate treatment and improvement in quality of life for patients with primary or secondary immunodeficiency. Outpatient subcutaneous-Ig training reduces hospital inpatient costs related to intravenous Ig administration. The clinic accepts regional referrals.

Our ***penicillin skin testing clinic*** evaluations are updated in the KGH/ HDH patient care system and ensure that the true drug allergy status of patients is known at both hospital. Our ongoing ability to test for and successfully desensitize patients with stinging insect allergy dramatically improves quality of life and reduces the risk of anaphylaxis in these patients.

2014 marked the conclusion of several Phase IIa investigational trials for ***novel treatments of allergic rhinitis***, with several abstracts presented at International meetings. These trials were conducted using the Environmental Exposure Unit and the Allergy Research Unit. In 2014 6 clinical trials at KGH included subjects with allergic rhinitis, asthma and chronic spontaneous urticaria.

The ***Kingston Allergy Birth Cohort*** received funding from CIHR and the ACAAI to conduct skin prick testing to document allergic outcomes in the 2- 3yr old children in the cohort, as well as to conduct home assessments for common indoor and outdoor air contaminants to

Immunology Training Clinic



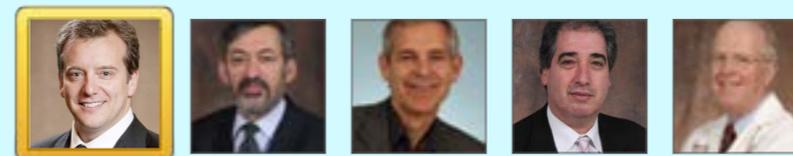
Division of Cardiology

Mission

To improve the heart health of residents in Southeastern Ontario and beyond, through a focus on timely delivery of quality care, innovation, discovery, teaching, and learning



Dr. Chris Simpson



Division of Cardiology

Introduction

2014 was a great year for the Queen's Division of Cardiology, with many important milestones and achievements. This year saw the introduction of new, cutting edge technology, new clinical innovations and significant research and education recognition. We are very proud to serve the people of Southeastern Ontario as their tertiary care cardiac team.

Hand Held Cardiac Ultrasound - Dr. Amer Johri

Dr. Amer Johri continues to grab headlines with his innovative evaluation of the use of hand-held bedside ultrasound. Interest in the press and in the scientific community is very strong. He was featured on **CTV News** and is widely recognized as a national and international leader in the field.



Professors

Dr. Chris Simpson
Dr. Hoshiar Abdollah
Dr. Stephen Archer
Dr. John McCans
Dr. Tony Sanfilippo
Dr. Michael Baird

Associate Professors

Dr. Adrian Baranchuk
Dr. Damian Redfearn
Dr. James Brennan

Assistant Professors

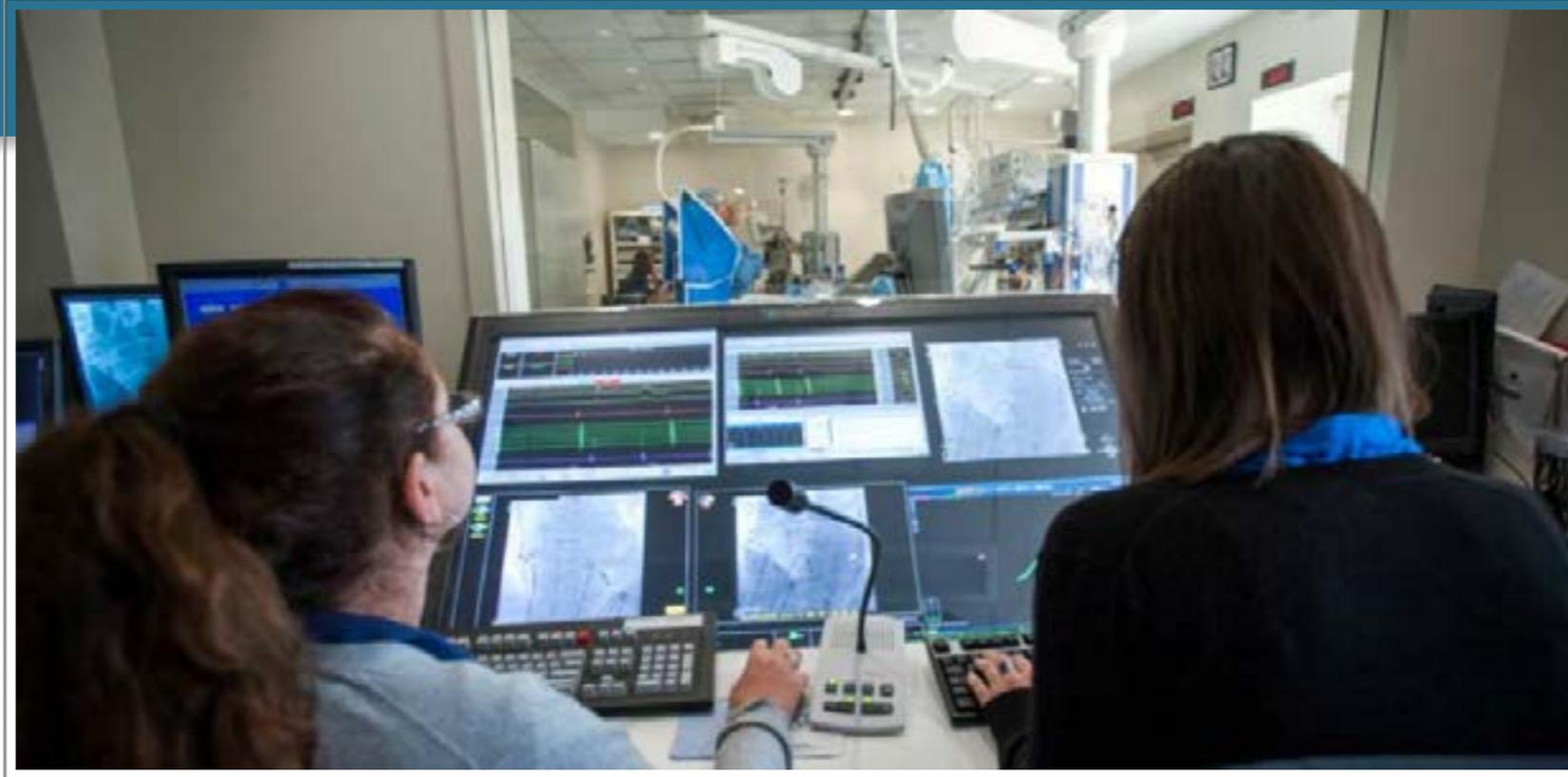
Dr. Gerald Adams
Dr. Henry Kafka
Dr. Amer Johri
Dr. Stephen LaHaye
Dr. Paul Malik
Dr. Cathy McLellan
Dr. Kevin Michael
Dr. Michael O'Reilly
Dr. Raveen Pal
Dr. Brendan Parfrey
Dr. Amar Thakrar
Dr. Peggy DeJong

Professors Emeriti

Dr. Gary Burggraf



Division of Cardiology



Subspecialty Training Program

◆ The Cardiology Training Program received full accreditation in the last Royal College Review. It includes seven residents. There is a high level of satisfaction amongst residents, who report an engaged and supportive faculty. In 2013, five postgraduate students were supervised by members of the Division.

◆ The Division has an Electrophysiology (EP) Training Program was recently recognized by the Royal College. It has three fellows. The EP training program is a distinct subspecialty within cardiology and aspires to become the first fully-accredited EP Training Program in Canada before the end of the year.

Research Highlights

◆ Dr. Kevin Michael established a comprehensive, preclinical research lab supporting the use of experimental models to study cardiac electrophysiology. This compliments our clinical research program in electrophysiology.

◆ Dr. Amer Johri secured a CFI grant and works on carotid ultrasound as a noninvasive tool to better predict coronary disease. His abstract was named Best Abstract at the American Society of Echo meeting.

◆ Division members authored 76 papers and abstracts in 2013. These appeared in high-impact journals, including *NEJM*, *Circulation*, *JASE* and *Circulation Arrhythmia*.

Division of Cardiology

New State-Of-The-Art Cardiac Electrophysiology Laboratory

In 2014, KGH proudly opened its new, state-of-the-art cardiac electrophysiology laboratory. Painstakingly built to meet demanding standards in order to ensure very high-fidelity electrical signals, the lab is equipped with top-of-the-line imaging and signal recording equipment as well as the latest in heart mapping technology. Additional features including natural light enhance the experience for both patients and the care team. In our new lab, we perform electrophysiology studies and catheter ablations for patients with supra-ventricular tachycardia (SVT), atrial fibrillation, atrial tachycardias, atrial flutter and ventricular tachycardia. In addition, we implant pacemakers, ICDs, cardiac resynchronization devices, injectable loop recorders, and, very soon, new *Nanostim*[®] pacemakers that require no incision and no pacemaker lead.



Division of Cardiology

Echocardiography Laboratory Accreditation

In 2014, the Echocardiography Laboratory at KGH became the first in Ontario to be accredited by the Cardiac Care Network under the new provincial echo lab accreditation program. The new standard, encouraged and endorsed by the MOHLTC, is intended to enhance quality and appropriateness of cardiac echo in Ontario. This is a major milestone for KGH and establishes our echo lab as *best-in-class* in the province with respect to quality, safety, education and training, and patient care.



Division of Cardiology

Clinical Contributions – By The Numbers

Selected Procedural and Clinical Volumes for 2014	
Echocardiography	
Standard Echocardiograms	10285
Transesophageal Echocardiograms	489
Stress Echocardiograms – Dob, Treadmill, Bike	1113
Interventional Procedures	
TAVI	18
Cardiac Caths	2250
Angioplasties	795
Electrophysiology Procedures	
Standard Ablations	157
Complex Ablations	163
EPS Procedures	288
Pacemakers	377
ICDs	220
Clinic Patient Encounters	
Cardiac Rhythm Device Clinic	9024
Brock 1 Clinic	10698
Cardiac Rehabilitation	
Clinic Visits and Education Sessions	1782
Diagnostic Testing	
Holter Monitors	1851
Treadmill Stress Tests	2046

Research Contributions – By the Numbers

Publications	145
Abstracts	52
Book Chapters	14
iBooks	1

Research Acknowledgement

- ◆ Dr. Amer Johri- Heart and Stroke Grant and Personnel Award
- ◆ HSF-Ontario Personnel Award – Clinician-Scientist Award (\$280,000 – \$70K per year for 4 years) – Three Dimensional (3D) Carotid Ultrasound to Assess L-carnitine Therapy in Metabolic Syndrome
- ◆ The Heart and Stroke Foundation of Canada Grant-in-Aid Award, Operating Fund (\$266,504): Effect of Carnitine Supplementation on Progression of Carotid Plaque in the Metabolic Syndrome (ECoM Study).

Education Acknowledgment

Dr. Adrian Baranchuk – **Golden Caliper Award** from the Latin American Society of Pacing and Electrophysiology for his contributions to international electrocardiography education.



Division of Cardiology

Managing Heart Rhythm Disorders in Africa

Written by Dr. Kevin Michael

South Africa has a population of over 52 million and only one full time academic electrophysiologist for the whole country! There are a handful of electrophysiologists of varying ability scattered in the private sector but this is grossly inadequate for the population. Even more alarming is that there are no electrophysiologists outside of South Africa (SA) on the African continent!

I grew up in Durban, an important commercial port on the east coast of South Africa, which has a population of around 3.2 million people. After my basic qualifications I embarked on cardiology training at the local tertiary academic unit. It was during one of those busy clinics that I encountered a turning point in my career. There were two patients practically back to back with arrhythmia-based problems.

One was a young woman in her twenties with a re-entrant supraventricular tachyarrhythmia (SVT), who was practically “straight jacketed” pharmacologically from the side effects of combined anti-arrhythmic drugs. The second was a middle-aged mechanic with paroxysmal atrial fibrillation who, during a particularly severe episode of palpitations, tried to cardiovert

I then realized that if I was going to be true to my calling as a physician and healer, I should make the effort to acquire the skills and knowledge to treat people with arrhythmias. Little did I know what sacrifice that journey would entail...

I moved to Cape Town as it was the only academic unit with a heart rhythm service and restarted cardiology residency despite having done almost a year already. Here I met a remarkable and talented but humble electrophysiologist by



The doors to the Heart Rhythm Management Centre

Division of Cardiology

His loss left a big hole in the service delivery and the teaching initiatives he started. He was also starting a training and exchange program for cardiac residents from other African countries in order to impart electrophysiology (EP) skills and training. The program was intended to sow the seed in order to address the disparities of health care as far as arrhythmia management was concerned in SA and Africa.

Needless to say, this all contributed to inspiring me to deliver on my initial promise to provide care to those two patients I encountered those years ago and to others with similar arrhythmias.

Life's journey brought me to Canada for my EP fellowship training. In fact, I was the first clinical fellow at Heart Rhythm Service at Queen's University. I then had the wonderful opportunity to join the dynamic and talented team here that have developed this unit into a world class centre in under ten years.

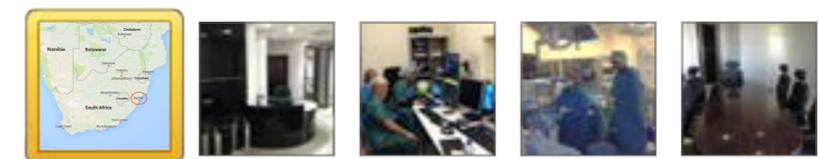
I approached my colleagues and the department of medicine with the request to see if I could establish an EP resource centre in Durban which would have a mandate to provide on the job training and also provide a conduit to provide a service to patients with arrhythmias and



Durban, South Africa

Patient VC who had an incessant PSVT that was ablated:

“In July 2011, I was admitted to Westville Hospital with my heart racing at an alarming 250 beats a minute. Thereafter, I had several more episodes with the last being on the 1st January 2015. My Cardiologist referred me to Dr. Michael. My “woes” have a happy ending. My deepest and heartfelt gratitude to...all . I applaud everyone who was instrumental in this cutting edge discipline, that allows people burdened with arrhythmia to lead normal lives.”



Patient Story: John Thomas

A letter of gratitude to the Division of Cardiology

Dec 4, 2014

To the Cardiac Team

Although it seems impossible, I want to try to express my thanks to Dr. McLellan, and everyone at Hotel Dieu and Kingston General Hospital who acted so swiftly and expertly to save my life last Wednesday. It's a little hard for me to believe it's only a week ago that I came into Hotel Dieu for a preliminary visit with the cardiologists. My memories are a little foggy but I remember the kindly Dr. McCans referring me with quiet urgency across the hall to Dr. McLellan. I remember Dr. McLellan telling me they'll do an angiogram and a stent later that afternoon and I'll be home for dinner and that's the last thing I remember, when the ground gave way and the lights went out.

Then I saw Dr. McLellan's eyes and she was calling my name from far away and I was on the floor while the room filled with many excited folks attaching things to my chest and calling 911. The team were lifting me up together to get me to the stretcher. Oxygen mask in place they took me outside into the cold and into the ambulance. We travelled through the bumpy streets and into KGH and through the halls and into the cold operating theatre.

I think it was Dr. Adams who did the stent and gave me confidence during the operation. By that time I was panicking, hyperventilating, and thinking the last thing I'd see would be those ugly ceiling tiles but he and the nurses talked me down and talked me through it.

The nurses were all kind and efficient - thank you! I remember having some laughs with Arvin in intensive care. I remember Dr. Malik reassuring me and I remember Dr.

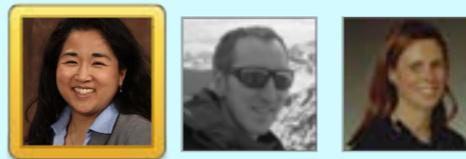


“What you all do
with such
kindness, quiet
competence and
grace is amazing”
John Thomas

Division of Dermatology



Dr. Yuka Asai



Division of Dermatology

Assistant Professors

Dr. Yuka Asai

Dr. Benvon Moran

Dr. Mark Kirchhof

The Division of Dermatology is newly created in the Department of Medicine to address the longstanding lack of academic dermatology at Queen's and the overwhelming clinical need in Kingston and its surrounding area. See the blog: [Skin in the Game](#)

Dr. Yuka Asai, recruited from McGill University, was tasked with establishing clinics and training nurses for the fledgling division at Hotel Dieu Hospital and the Cancer Centre. Dr. Asai holds a BSc from the University of Alberta, an MD from the University of Saskatchewan and pursued a post-graduate MSc in epidemiology from McGill. At McGill she received her dermatology training before joining their faculty.

Dr. Mark Kirchhof, was recruited from the University of British Columbia, followed shortly after. He holds a BSc from McMaster University and an MD/PhD from the University of Western Ontario. He has taken on the responsibility for organizing the dermatology curriculum for the undergraduate medical program.

The outpatient clinics of the two dermatologists have already logged an excess of 3620 visits at the HDH alone, with almost 2000 referrals received since September 2014. This underscores the patient need that had previously been managed by Kingston's sole community dermatologist, Dr. Ruth McSween.

Along with the patient load, members of the division are in high demand for teaching and have lectured for students, residents and at CME events in Kingston. They are already planning the next dermatology day CME with the Faculty of Health Sciences CPD. With clinics now established, the two dermatologists will begin taking trainees for clinical teaching, with the long-term goal of establishing a training program at Queen's.

The recruitment of a Mohs surgeon to the division, Dr. Benvon Moran, enhances



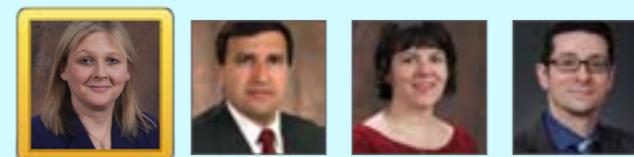
Division of Endocrinology

Mission

- ◆ To provide the best possible care for patients with endocrine disease
- ◆ To teach undergraduate students, postgraduate trainees, and healthcare providers about optimal management of endocrine disease
- ◆ To educate patients and the public about endocrine disease and advocate for the best endocrine care
- ◆ To conduct research in endocrine disease



Dr. Robyn Houlden



Division of Endocrinology

The Division of Endocrinology consists of three members, all of whom are clinician scholars.

The Division Chair, Dr. Robyn Houlden, serves as the lead in Undergraduate education in Endocrinology and Metabolism and clinical programs. She has a special interest in diabetes, diabetes and pregnancy, insulin pumps and continuous glucose monitoring, and inpatient management of diabetes.

Dr. Pendar Farahani has a special interest in thyroid disease and cancer, and pharmacologic management of type 2 diabetes. His research interests include evaluations of therapeutics from effectiveness and economic perspectives using real world data, models for diabetes care, and clinical pharmacology studies on insulin analogs in sub-groups of patients with diabetes with co-morbidities. He is interested in strengthening academia-industry partnerships to enhance and to develop pharmacotherapeutics and medical technologies/devices for diabetes care.

Dr. Kathy Kovacs has a clinical interest in all aspects of endocrine disease. She serves as the lead for supervising the education of Postgraduate trainees on the Endocrine Service.

Dr. Josh Lakoff will be joining the Division in January 2015 after completing a residency in Endocrinology at Dalhousie. His clinical interest is thyroid disease and cancer. He will develop an interest in medical education and work towards establishing a residency program in Endocrinology and Metabolism at Queen's.

Dr. Stephen Glazer, Medical Director of the Bariatric Program at Humber River Regional Hospital holds an adjunct appointment in the Division of Endocrinology and serves as a resource for the HDH Bariatric Assessment Centre.

The Division of Endocrinology works closely with a number of allied healthcare teams including the:

- ◆ HDH Diabetes Education Centre

Professors

Dr. Robyn Houlden

Assistant Professors

Dr. Pendar Farahani

Dr. Kathy Kovacs

Dr. Josh Lakoff



Research Highlights

Dr. Houlden published a study in Diabetes Technology and Therapeutics examining the long term efficacy of insulin pumps using data from her outpatient insulin pump clinic.

Dr. Houlden presented a pilot study examining the effectiveness of the glycemic optimization clinic on helping patients undergoing bariatric surgery in reaching A1C targets at the CDA/CSEM conference.

Dr. Houlden presented a study assessing a screening program for undiagnosed diabetes and dysglycemia in hospitalized patients admitted to non-critical care general medicine services.

Dr. Houlden participated in four CIHR studies: the MiTY study of the effectiveness of metformin in women with type 2 diabetes in pregnancy; the MiTY Kids study examining outcomes of the offspring of the MiTY study; the CONCEPT study examining the effectiveness of continuous glucose monitoring in women with type 1 diabetes in pregnancy; and the CD diet study examining screening and treatment of Celiac disease in asymptomatic patients with type 1 diabetes.

Dr. Farahani is involved in pharmacoepidemiological studies on statin utilization in diabetes using ICES databases; and sulfonylurea utilization in diabetes using CPCSSN (Canadian Primary Care Sentinel Surveillance Network) databases

Dr. Farahani presented resident survey on pharmacotherapy in diabetes management at the CDA/CSEM Conference.

Key Accomplishments in 2014

Recruitment of fourth endocrinologist to start in 2015. This will allow more patients with endocrine disease to be seen, and will reduce wait times significantly.

KGH Insulin Pen Conversion Project with hospital-wide transition from administering insulin using multi-dose vials and syringe to patient-specific prefilled insulin pens championed by Sarah Moore, Diabetes Consult Service and Pharmacy. The goal of the project was to reduce medication errors associated with insulin, decrease needle stick injuries, and standardize the administration and storage of insulin across the hospital. Adoption of insulin pens will also promote continuity of care from admission to discharge as the vast majority of patient in the community use insulin pens. They will now be able to learn how to use these devices during their hospitalization.

Development of KGH as a centre of excellence for inpatient management of diabetes. Dr. Houlden and Sarah Moore continued to work closely with ISMP Canada and the Canadian Diabetes Association to promote knowledge



translation tools for inpatient management of diabetes. Dr. Houlden served as guest editor for special April 2014 issue of the Canadian Journal of Diabetes related to inpatient diabetes management, and published the first set of guidelines for management of insulin pumps during hospitalization. She presented a workshop at the 2014 CDA Conference on inpatient management of diabetes. Sarah Moore has been selected as a co-chair of CDA Special Interest Group for Inpatient management of diabetes.

Introduction of Lifestyle Counseling into the Undergraduate Medical curriculum. Physical inactivity is a major health problem in Canada. The medical literature clearly demonstrates beneficial effects of physical activity on several health outcomes, including cardiovascular disease, diabetes prevention, and all-cause mortality. However, only 15% of Canadian adults currently meet Canadian physical activity guidelines. Counseling patients on exercise is often challenging, as many patients have different perceived barriers to exercising. An individualized approach to the exercise prescription is needed to effect behavioral change. In 2014, Dr. introduced an Exercise Expo in which graduate students in Kinesiology (members of the Queen's Exercise is Medicine group) assisted with the education of medical students on how to counsel patients on the benefits and risk of exercise and write a detailed exercise prescription.

Dr. Houlden has been selected as chair of the 2018 Canadian Diabetes Association Clinical Practice Guidelines.

Patient Story: Brian Inkster

Brian Inkster was diagnosed as having type 1 diabetes at age 32. Insulin injections and blood glucose monitoring were especially difficult due to trauma-related below elbow amputations of both arms which makes finger tip blood glucose testing impossible. Things changed dramatically for Brian at age 56 when he switched to insulin pump therapy. Together with the help of his wife, Dianna, Brian was able to achieve much better control of his blood glucoses. Introduction of continuous glucose monitoring a few years ago, further enhanced his diabetes management. The continuous glucose monitoring device continually checks the interstitial glucose level in his skin every 5 minutes and sends the results to the insulin pump which alarms when the readings are too high or too low.

Unfortunately, Brian has required frequent hospitalizations for other health issues. Historically, nursing and medical housestaff have not been familiar with his diabetes medical devices and have been unable to support him with their continued usage in hospital. This situation has changed dramatically with the introduction of the Diabetes Consult Service. Now, endocrinologist and the diabetes advanced practice nurse are able to assess the suitability of patients staying on their diabetes technological devices and support patients and hospital staff on their usage. Brian and Dianna have also served as lay advisors for the development of a hospital wide insulin pump policy.



“Having the Diabetes Consult Service available has made a wonderful impact with allowing me to continue to manage my diabetes well during hospitalization”.

Brian Inkster

Division of Gastroenterology

Mission

To create a culture of excellence
in the integrated care and study
of patients with digestive
diseases



Dr. William Paterson



Division of Gastroenterology

The Division of Gastroenterology consists of 9 full time clinical faculty, three PhD researchers and two clinical cross appointees. Internationally renowned for our accomplishments in research, we also take pride in our clinical services and education. Many of our members take on leadership positions both within the Faculty of Health Sciences and on a national level. In addition to a busy inpatient ward and consultative service at Kingston General Hospital (KGH), the Division has one of the largest outpatient practices in the Faculty of Health Sciences. This entails close to 9000 outpatient clinic visits and 5000 procedures per year. Maintaining our strong academic profile in the face of unrelenting growth in clinical workload remains an ongoing challenge.

Members of the Division are active in all levels of medical education, but take particular pride in our Gastroenterology Fellowship Training Program, which continues to turn out high quality gastroenterologists, many of whom have gone on to distinguished academic careers.

The Division of Gastroenterology consists of 9 full time clinical faculty, three PhD researchers and two clinical cross appointees. Internationally renowned for our accomplishments in research, we also take pride in our clinical services and education. Many of our members take on leadership positions both within the Faculty of Health Sciences and on a national level. In addition to a busy inpatient ward and consultative service at Kingston General Hospital (KGH), the Division has one of the largest outpatient practices in the Faculty of Health Sciences. This entails close to 9000 outpatient clinic visits and 5000 procedures per year. Maintaining our strong academic profile in the face of unrelenting growth in clinical workload remains an ongoing challenge.

Members of the Division are active in all levels of medical education, but take particular pride in our Gastroenterology Fellowship Training Program, which continues to turn out high quality gastroenterologists, many of whom have gone on to distinguished academic careers.

The GI Diseases Research Unit (GIDRU) serves as the research arm of the Division. The Division has an active clinical research program with over a dozen clinical trials currently in

Professors

Dr. Bill Paterson
Dr. Jacob Louw
Dr. Stephen Vanner

Associate Professors

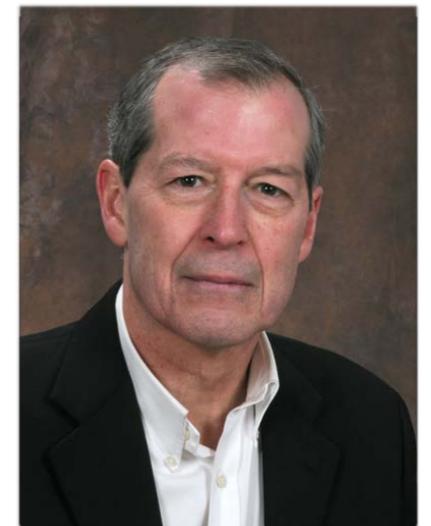
Dr. Michael Beyak
Dr. Lawrence Hookey
Dr. Mark Ropeleski
Dr. Michael Blennerhasset*
Dr. Alan Lomax*

Assistant Professors

Dr. Cathy Lowe
Dr. Jennifer Flemming
Dr. David Reed

Professors Emeriti

Dr. Larry DaCosta



Clinical Highlights

This year marked a historic time in clinical Hepatology with the approval of new direct acting antivirals (DAA) in Canada allowing patients with chronic hepatitis C (HCV) to be treated without the use of interferon and achieve cure rates over 90% with little to no side effects. Importantly, these regimens can be used even in patients with advanced liver failure and curing HCV in this population has been shown to decrease the risk of hepatocellular carcinoma, liver transplantation and overall mortality. As HCV is an asymptomatic infection, it is recommended that all individuals born in the “baby-boomer” era (1945-1965) receive one-time HCV screening in order to link individuals infected to HCV to care for consideration of anti-viral therapy.

As the Kingston area has been shown to have the highest prevalence of HCV in Ontario, Drs. Catherine Lowe and Jennifer Flemming who run the Hepatitis Clinic at Hotel Dieu Hospital have been busy treating many HCV patients with outstanding results. To date, 76 patients have received new DAA regimens in the clinic, half of whom had previously failed at least one course of interferon-based treatment, 13 having advanced decompensated cirrhosis, and several who had previously received a liver transplant. As HCV cure cannot be determined until 12 weeks after treatment completion, many of these patients are still on treatment or awaiting results. However, 29 patients have already achieved cure of their HCV with over 70 more patients awaiting treatment start.



Research Highlights

- ◆ Dr. Mike Beyak, in collaboration with Dr. Dean Tripp of the Dept of Psychology, was awarded an operating grant from the Crohn's and Colitis Foundation of Canada to study the interaction between psychological factors and chronic pain in IBD patients.
- ◆ Dr. Vanner has recently published findings that help explain how chronic stress can perpetuate gastrointestinal symptoms following an acute infectious gastroenteritis. Using an animal model his lab showed that sensitization of gut pain sensing nerves is greatly enhanced when there is associated chronic stress. This work finally provides a pathophysiological explanation for the post-infectious irritable bowel syndrome, a common debilitating illness for which we currently have no good treatment options.
- ◆ Dr. Jennifer Flemming, in collaboration with colleagues from the University of California San Francisco and the Mayo Clinic in Rochester, published a clinical risk model of the 1-year risk of hepatocellular carcinoma (HCC) in cirrhosis patients in the journal *Cancer*. This model is a useful

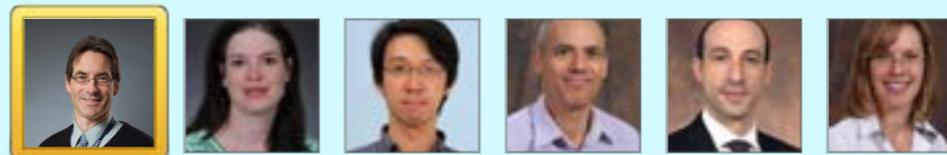
Division of General Internal Medicine

Mission

To provide excellence in patient care, research and teaching of internal medicine



Dr. Chris Smith



Division of General Internal Medicine

Overview

The Division of GIM currently consists of 8.5 FTE (7.0 GIM and x3 0.5FTE GIM/ICU). The General Internists' clinical work is focused mainly on the inpatient medicine wards (Clinical Teaching Units, CTUs), and in providing a comprehensive GIM consult service to the non-medical specialties. We also maintain several ambulatory clinics a week in general medicine as well as contributing to the stroke clinic, the bariatric clinic and a hypertension clinic. The GIM/ICU physicians are also affiliated with the ICU group in both research and clinical capacities.

Members of the division are key personnel in the running of the core training program and providing education to the medical students when they rotate through their core medicine block.

There have been a number of changes in the Division this year. Jim Boseovski left but new hires in 2014 include Barry Chan, one of our GIM trainees and David Maslove a GIM/ICU clinician scientist who trained at the University of Toronto and Stanford University. Laura Marcotte has returned from her maternity leave and now has a new son, Theo, to add to her family. David Taylor is completing his second year in the University of Illinois at Chicago Masters of Health Professions Education (MHPE) program.

Members of the Division hold several key administrative positions in the Department of Medicine. Chris Smith continues in his role as the Program Director for the internal medicine training program. David Taylor is the Core Clerkship director, Laura Marcotte is the CTU Director, Johanna Murphy is the GIM 4/5 subspecialty program director and Laura Milne is a clinical skills course director. Roy Ilan is the Chair of the Departments' QI and patient safety committee.

Research Highlights

David Maslove's research is focused on collecting and analyzing the vast quantities of data that are generated in acute care medicine. Using bioinformatics methods, David is investigating dynamic shifts in gene expression associated with critical illness. In 2014, blood samples from

Professors

Dr. Daren Heyland
Dr. Chris Smith
Dr. John Muscedere

Assistant Professors

Dr. James Boseovski
Dr. Roy Ilan
Dr. Laura Marcotte
Dr. Johanna Murphy
Dr. Laura Milne
Dr. David Taylor
Dr. David Maslove
Dr. Barry Chan
Dr. Suzanne Bridge
Dr. Kristen Marosi
Dr. Phil Wattam



5 Divisional Accomplishments

1. Excellence in Clinical Care and Clinical Teaching: several members of the Division have been recognized for their high quality teaching both at the Undergraduate and Postgraduate level. This year Laura Milne was awarded the CTU clinical teacher of the year award by the core internal medicine residents. Barry Chan received the Fellows' Teaching award during his final fellowship year. Both Laura Marcotte and David Taylor were nominated for the Department of Medicine's Young Clinician award with David receiving the award this year. Chris Smith received the DOM award for Medical Student teaching.
2. Clinical Clerkship in Medicine: under David Taylor's leadership the clerkship rotation in internal medicine continues to be one of the highest ranked clerkship rotations at Queen's. He has introduced innovative evaluation methods as well as simulation sessions in addition to didactic teaching sessions.
3. Patient Safety Curriculum: This year Johanna Murphy has taken the lead in teaching a new Royal College inspired patient safety curriculum to the residency program. Sessions are frequently multi-disciplinary and have involved nursing and pharmacy in patient safety topics.
4. Accreditation of New GIM (PGY4-5) Subspecialty Training Program: This year the GIM program at Queen's University was officially recognized by the Royal College as a fully accredited subspecialty program. Thanks go to Jim Boseovski and Johanna Murphy for preparing and implementing the changes required in the program.
5. Urgent Internal Medicine Clinic: A GIM attending and the GIM fellows staff a weekly "urgent" clinic where cases can be referred with a short waiting time. This clinic provides a rapid diagnostic service to the ER and Family Physicians and has proved to be successful. We are looking for more clinic space/time to expand this service.

QI Initiatives

Roy Ilan is leading several initiatives within the Department of Medicine:

1. On-going project addressing goals of care communication and documentation for Internal Medicine inpatients
2. He chairs the DOM QI Committee and recruited a 0.5FTE QI coordinator for the DOM (with a focus on in-patient, CTU-related issues).

New GIM Fellows



Division of Geriatric Medicine

Mission

To promote excellence in clinical service, education, research and innovation intended to improve health care outcomes for frail seniors throughout Southeastern Ontario



Dr. John Puxty



Division of Geriatric Medicine

Clinical

In 2013-14 our clinical activities included 1151 clinic visits, 1625 Day Hospital visits, and 910 consult visits in addition to supporting 30 inpatient beds at St Mary's of the Lake Hospital.

Examples of innovation and leadership in Clinical Service include:

- ◆ Expansion of the inpatient bedded service to 30 beds through creation of new 14 Restorative Rehabilitative Care beds
- ◆ Restructuring of ambulatory services to allow creation of a new Falls Prevention Clinic
- ◆ Recruitment of Dr. Erica Weir with joint appointment in Medicine and Public Health Science
- ◆ Successful application for a new Alternative Funding Plan (AFP) for Care of the Elderly (COE) physicians which provides funding support to Drs. Gibson, Szlanta and Weir

Education

We are a major site for undergraduate and resident teaching at Providence Care and supported 55 residents and 36 clerkship rotations in 2013-14. Weekly we typically offer three tutorials on common geriatric issues for clerks and residents. Other health professionals with Geriatric service are also able to attend. Copies of the sessions are available online at www.sagelink.ca.

Dr. Michelle Gibson is the outgoing Program Coordinator for the Family Medicine Enhanced Skills program in Care of the Elderly, and Dr. Agata Szlanta is stepping into this role. This program is a Category 1 accredited program through the College of Family Physicians, and provides enhanced training to family physicians in the care of frail older adults. There have been 5 residents in the last 3 years.

Professors

Dr. Angeles Garcia

Associate Professors

Dr. Chris Frank

Dr. Sudeep Gill

Dr. John Puxty

Assistant Professors

Dr. Michelle Gibson

Dr. Agata Szlanta

Dr. Erica Weir



Division of Geriatric Medicine

Education Continued

Division members contribute to the monthly LTC CPD at Providence Manor. We routinely plan an annual Geriatric Medicine Conference with the Queen's CPD Office.

Examples of innovation and leadership in Education include:

- ◆ At the Undergraduate level, the Queen's Geriatric Interest Group (QGIG) is actively supported through members offering a series of lunch and evening sessions outside the formal curriculum to engage and promote interest in aging and health. Many of the students complete clinical observerships with us.
- ◆ A new and popular 8-week core clerkship rotation has been established for University of Queensland students coming to St. Mary's of the Lake Hospital.
- ◆ Drs. Gill and Seitz organize a combined monthly Geriatric Medicine and Geriatric Psychiatry Journal Club. This journal club has been very popular with both the resident/clinical clerk house staff as well as the faculty in both divisions.
- ◆ Dr. Gibson was awarded the Canadian Association for Medical Education Award of Merit at the Canadian Conference for Medical Education in April 2014.



Leadership

Members of the Division are active in a number of Queen's, Hospital and Regional Local Health Integration Network (LHIN) initiatives. Many of our members are active in leadership both on a provincial and national level. Dr. Sudeep Gill is a member of the Ministry of Health and Long Term Care (MOHLTC) Committee to Evaluate Drugs; Drs. Gill and Garcia are members of the CIHR Health Services Evaluation & Interventions Research 2 peer review committee; Dr Gibson is Director of Student Assessment for Undergraduate Medical Education and Director of Year 1; Dr. Chris Frank is Chair of the CFPC Health Care of the Elderly Program Committee and the MAC at St Mary's of the Lake Hospital; Dr. John Puxty is Chair of the Regional Geriatric Programs of Ontario Network and Chair of Executive Committee of Seniors Health Knowledge Network.

Research

Members of the Division are active as both independent and collaborative researchers in a variety of peer-funded age-related

Patient Story: Mr. Smith

Mr. Smith, a 74 year old resident of Kingston was referred to the Geriatric Consultation service. He had initially presented to KGH with a heart attack, syncope and associated traumatic shoulder subluxation. On discharge directly home he was readmitted within 10 days with confusion, hallucinations, dehydration and multiple falls.

He was transferred to the geriatric rehabilitation unit at St Mary's of the Lake Hospital. The previous label of dementia was revised to delirium complicating Mild Cognitive Impairment. The multiple antipsychotics, anxiolytics and antidepressants were successfully discontinued. The number of medication and doses needed to manage his diabetes mellitus, CHF and vascular risk factors were also successfully reduced.

His delirium resolved. He became cognitively alert and able, and relatively quickly mobilized. He became independent in his ADLs with the exception of bathing issues around his left dislocated shoulder which was not felt suitable for surgery.

He was successfully discharged home after a three week length of stay on just 5 active medications compared to the 11 on admission. He has remained at home with no further ER visits or hospitalizations.

We received this note from his daughter:

“We are very grateful to the Doctors and staff for the help they gave our Father. We especially appreciated time spent in clarifying his diagnoses and medications. His quality of life is so much better now. You are all so kind, thoughtful and caring”.



Division of Hematology

Mission

- ◆ To ensure excellence in the care of patients with blood disorders
 - ◆ To provide the highest standards of undergraduate and postgraduate Hematology education
- ◆ To advance knowledge in diseases of the blood to the benefit of patients and society



Dr. David Lee



Division of Hematology

Who We Are

In 2014, the Division of Hematology welcomed its newest full-time member, Dr. Annette Hay, in addition to the existing cadre of Drs. David Lee (Division Chair), John Matthews, and Paula James. Drs. Jill Dudebout and Janet Lui provided critical locum support in 2014. Daily operations would not be possible without our Administrative Assistants: Hayley Zomer, Shelly Cox, and Amanda Carquez.

The Division works closely with the Division of Hematopathology, Department of Pathology and Molecular Medicine, and the Cancer Program to achieve its mission. This collaborative effort includes physicians, nurses, pharmacists, scientists, research assistants, and technologists. Cross-departmental liaisons are one of the strengths of the Division.

What We Do

Clinical service

Ambulatory care for over 6,000 patients per year is provided at the Cancer Center of Southeastern Ontario, the Stem Cell Unit in Kingston General Hospital, and Hotel Dieu Hospital. In addition to clinics for general hematology and malignant hematology, specialized regional clinics include the Inherited Bleeding Disorders Clinic, Stem Cell Transplantation Clinic, and the Anticoagulation Management Service.

The 8-bed Hematology inpatient ward located on Kidd 9 at KGH is the regional acute leukemia and stem cell transplant center, providing tertiary care to patients with acute leukemias, myeloma, and lymphoma. In 2014, 33 autologous stem cell transplants were performed. An inpatient Hematology consultation service is also provided.

The Division of Hematology has three programs of distinction:

1. Inherited Bleeding Disorders Clinic
2. Stem Cell Transplant Program

Professors

Dr. John Matthews

Associate Professors

Dr. David Lee

Dr. Paula James

Assistant Professors

Dr. Cheryl Cline*

Dr. Jill Dudebout

Dr. Annette Hay

**Director, Office of Bioethics*

Quality Improvement Initiatives

1. FACT Accreditation initiative – This seeks to improve the quality of the Stem Cell Transplant program. This is a work in progress.
2. Febrile Neutropenia initiative – This seeks to improve the quality of care for patients with febrile neutropenia. Ongoing.

Division of Hematology

Education

The Division of Hematology delivers high quality education to a wide spectrum of learners, across a variety of settings including the clinic, inpatient ward, classroom, and lab.

The Blood and Coagulation course, under the directorship of Dr. James, has been widely recognized as a model course in the undergraduate medical curriculum. Consistently, it has been rated by students to be among the best undergraduate courses in Queen's Medical School. Its teachers have garnered many awards over the years. In 2014, Dr. Matthews and Dr. Lee were each awarded an Aesculapian Society Lectureship Award.

The Hematology Residency training program, under Dr. Matthews' directorship, is fully accredited, and currently has 4 residents. Residents from Internal Medicine, Pathology, Medical Oncology, Radiology, and Family Medicine also rotate through the Hematology ward, consult service and clinics.

The Division also has several graduate students: PhD 2, MSc 3, Post-doctoral fellows 3.



Highlights and Key Accomplishments Since October 2013

- ◆ Recruitment of Dr. Hay, Hematologist and Senior Investigator, NCIC Clinical Trials Group.
- ◆ Peer-reviewed papers published: 15 (mean journal impact factor 5.1; Division member is first or senior author on 8 of 15 papers).

Grants:

- a. New operating grants as PI: 3, total: \$255,000 (\$145,000 for 2014)
- b. Total active annual funding as PI for 2014: \$376,000

Research

The division of Hematology now has 2 principal foci of research:

1. Clinical and laboratory hemostasis: Dr. James has developed a highly successful internationally recognized research program that has focused on both basic and clinical aspects of von Willebrand disease (VWD). She has made significant contributions to both the understanding of the molecular basis of VWD and the development and evaluation of novel clinical bleeding assessment tools.
2. Clinical trials in hematologic malignancies: Dr. Hay is established as a Senior Investigator in the NCIC Clinical Trials Group to design, conduct, and analyze clinical trials

Division of Infectious Disease



Dr. Gerald Evans



Division of Infectious Disease

The ID division consists of 4 full-time members. One member is a clinician-scientist, the other three are clinician-teachers. The members provide a vital tertiary level clinical consultation service to patients with complex medical problems at KGH and to outpatients at the HDH. The division provides care to regional patients living with HIV in the setting of a multidisciplinary clinic at HDH. The division delivers comprehensive education in human infectious diseases at all levels of medical education including a Queen's CME Annual ID Update. Research in gut microbiology and immunology is the principal knowledge discovery activity of the division. The division has been involved in knowledge translation with one member serving as principal author on 6 national clinical practice guidelines for the management of common infectious diseases. The division makes important collaborative contributions to HIV patient-based research at a provincial and national level. The division has made major contributions to national and provincial

leadership in the specialty of Infectious Diseases with a past presidency of the national specialty society, the vice chairperson of the OMA ID section and the provincial clinical lead in Antibiotic Stewardship in Infection Prevention & Control. The division has made important contributions in collaborative research with GIDRU, Public Health Ontario laboratories and IPAC.



Professors

Dr. Gerald Evans

Associate Professors

Dr. Elaine Petrof

Dr. Wendy Wobeser

Assistant Professors

Dr. Jorge Martinez-Cajas

Top 3 Research Highlights

1. Corresponding authorship of two national guidelines to manage cases of seasonal influenza A(H3N2) infection. HG Stiver, GA Evans, FY Aoki, UD Allen, M Laverdière Can J Infect Dis Med Microbiol 2015;26: e5-e8; FY Aoki, UD Allen, HG Stiver, M Laverdière, D Skowronski, GA Evans Can J Infect Dis Med Microbiol 2015;26: e1-e4
2. Canada-Colombia Collaboration for HIV & STI research.
3. Relaunch of HIV collaborative research with Ontario HIV Treatment Network with new studies examining: Functionality and Future Services for Active Aging in Persons Living with HIV/AIDS, and Peripheral neuropathy in persons living with HIV.

Quality Improvement Initiatives

1. The Antibiotic Stewardship Program (ASP) continues to achieve its targets in reducing inappropriate antibiotic utilization at KGH with a

Division of Infectious Disease



Programs of Distinction

- ◆ Research program in gut microbiology and immunology in IBD and CDI.
- ◆ Knowledge translation in the development of national clinical practice guidelines in infectious diseases.
- ◆ Interdisciplinary research into the care of persons living with HIV.
- ◆ Health services research with ICES Queen's exploring the utilization and costs of Lyme disease management in Ontario.

Top 3 Divisional Accomplishments in 2014

1. Education-focused and high-intensity inpatient consultation service at KGH.
2. Outpatient clinics at HDH including: TB clinic collaboration with Division of Respiriology and KFLA Public Health, HIV interdisciplinary care and collaboration and 4 weekly education-focused clinics in general ID.
3. Proposal for Outpatient IV Antibiotic Program to enhance the care of patients requiring short- and long-term parenteral antimicrobial therapy to reduce hospital LOS and optimize clinical outcomes.

Division of Nephrology

Mission

The Nephrology Division in the Department of Medicine at Queen's University strives to provide:

- ◆Excellent clinical care throughout the Kidney Disease continuum.
- ◆Comprehensive training in adult nephrology to undergraduate, postgraduate, established physicians, allied health care professionals and education in preventative strategies to family practitioners and the general public.
- ◆New scientific information to the medical community in general and the nephrology community specifically.
- ◆Leadership in clinical care delivery, research and education in underserved areas recognized to be at high risk for chronic kidney disease.



Dr. Ross Morton



Division of Nephrology

Comprised of individuals with strong academic backgrounds, the Division of Nephrology's prime responsibility is the provision of exemplary medical services to the Kidney Disease population of Southeastern Ontario and the Moose Factory Zone.

The second responsibility is scholastic; both in the contribution of scholarship to current clinical problems, leadership in medical education, and furthering research within the field of Nephrology.

The wide clinical expertise of Division Members enables our group to function as outstanding role models in the practice of clinical medicine in the academic environment. This teaching role extends from lay and undergraduate programs, to the postgraduate curriculum, including CME.

Participation in such community institutions as the Kidney Foundation, and as a consultant to various public (Ministry of Health and Long Term Care via the Ontario Renal Network) and private (granting agencies, insurance companies, etc.) organizations, is an expected function of an Academic Nephrology Division.

Programs of Distinction

The Queen's University Nephrology group continues to provide Satellite Hemodialysis care to one of the largest number of Satellite Units in Ontario. This is set to expand geographically in 2015 – 2016 by the relocation of the Kingston Satellite Dialysis Clinic to a peripheral location.

KGH Hemodialysis and Satellite CQI Committee achievements:

- ◆ Sustained reduction in the rate of CVC infections
- ◆ Involvement of Diabetes Educators and the Division of Endocrinology in patient education delivered in the hemodialysis unit.
- ◆ A review of causes and sequelae of Emergency Room visits by hemodialysis patients
- ◆ A pro-active patient falls response and prevention program

Professors

Dr. Ross Morton

Associate Professors

Dr. Rachel Holden

Dr. David Holland

Dr. Eduard Ilescu

Dr. Christine White

Dr. Karen Yeates

Assistant Professors

Dr. Sarah Aloudat

Dr. Jocelyn Garland

Dr. Khaled Shamseddin





Hemodialysis Patient Emergency Department Visits Frequently Result in Admission to Hospital



Iliescu E, MacLeod F, Shamseddin MK, Morton AR

Background and Methods

The objective of this study is to measure the frequency of Regional Centre Emergency Department (ED) visits by Hemodialysis (HD) patients and to examine their diagnoses and disposition.

Retrospective cohort study of prevalent HD patients in the Region of Southeastern Ontario during a 6 months period (January 1 to June 30, 2013).

Patients were censored if they died, transferred out, recovered or were transplanted.

The primary variable was the frequency of visits to the Kingston General Hospital ED calculated as number of visits per patient-year.

The data were extracted electronically from the hospital ED database using unique patient KGH identifier.

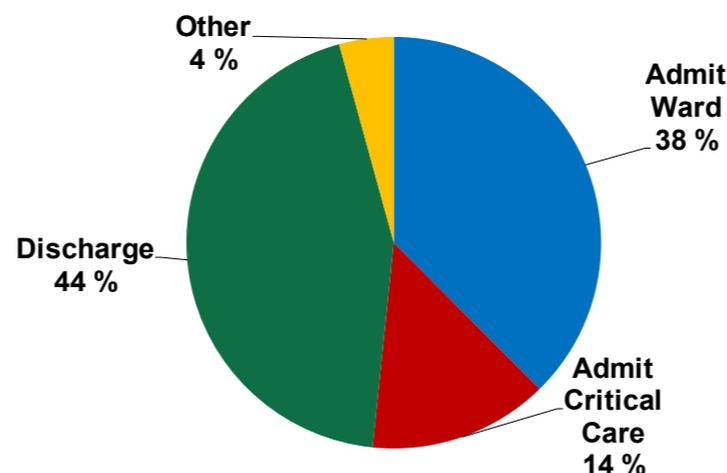
Results

There were 429 HD patients, mean (SD) age 65 (15) years, 196 (46 %) female, 298 (69 %) satellite patients for a total observation time of 189 patient-years.

There were 306 ED visits among 153 (36 %) patients (range 1 - 12 visits per patient) for a frequency of 1.62 visits per patient-year.

Figure

Disposition for the 306 ED Visits (%)



Results

Of the 306 ED visits 52 % led to hospital admission, 38 % to Ward and 14% to Critical Care areas (Figure).

The most frequent diagnoses were infection (22 %), cardiac (14 %), and bleeding unrelated to HD access (9 %).

Conclusions

The results of this study suggest the use of the regional center ED by HD patients is relatively low at 1.62 visits per patient-year, and that these visits are justified with a high proportion of them resulting in hospital admission often to critical care areas.

Research Highlights

Dr. Rachel Holden continues to pursue work in the area of vascular calcification. Funded by a five year grant from CIHR, her current research is focusing on the interactions between vitamins D and K on vascular biology.



Effect of vitamin D on rat muscular artery

She is leading the **iPACKHD** Pilot Study (also with CIHR support) investigating the ability of vitamin K to inhibit vascular calcification in hemodialysis patients.

Dr. Christine White's research program focuses on the measurement and estimation of kidney function using conventional (creatinine, inulin) and novel (Beta trace protein, cystatin C, iohexol) markers. In conjunction with Dr. Mike Adams, Department of Biomedical and Molecular Sciences, she has established a GFR measurement program at Queen's and is developing accurate protocols using iohexol to measure kidney function inexpensively across all ranges of GFR.

She is also currently investigating analytical aspects of creatinine and Beta trace protein measurement. the



Adult Nephrology Subspecialty Training Program

Dr. Khaled Shamseddin is the Program Director of the Adult Nephrology Training Program.

The Adult Nephrology Training Program at Queen's University is a two-year residency program that was fully accredited by the Royal College of Physicians and Surgeons of Canada in 2013.

The philosophy of our program is that residents are here to learn and not to provide service. Faculty members do not rely on residents for clinical work and we are able to provide an excellent education: service ratio allowing residents to have hands-on experience at any time, and preventing competition amongst trainees for procedural skills.

As a part of moving toward competency based medical education (CBME), and in order to provide our rotating medical students, residents and trainees with adequate teaching tools to enhance the delivery of Nephrology Education to evaluate Competence-Based Knowledge and Practice; a self-navigating and interactive multimedia online modular Nephrology curriculum will be launched in July 2015 at Queen's University with the objectives of:

1. Ease the learning experience and promote deep thinking of learners

Patient Story: Mr. Schomberg

Mr. Schomberg is a quiet, modest man who agreed to provide his outlook on kidney transplantation for the Divisional Annual Report.

To set the background, I first met Roy about 15 years ago as his kidneys were failing.

He had a period of time on Independent Dialysis in the form of Continuous Ambulatory Peritoneal Dialysis (CAPD). This involves performing 4 or 5 exchanges of clean fluid into the abdomen, after draining fluid which has removed the substances that the failed kidney cannot deal with. The fluid remains in the abdomen for 4 to 6 hours (over night for one exchange). Mr. Schomberg also undertook an automated form of this treatment called Continuous Cycling Peritoneal Dialysis (CCPD) where a machine performs the bulk of the dialysis overnight. Both forms of Peritoneal Dialysis are done every day.

Peritoneal Dialysis (PD) is an excellent first line treatment. It allows independence and is a bridge to transplant therapy. Some patients can spend many years on PD, but as occurs from time to time, there were, in Mr. Schomberg's case, eventualities which limit the duration of this therapy.

Undaunted, Roy switched to hemodialysis in the Satellite Dialysis Unit in Kingston General Hospital. He learned the principles of setting up his own dialysis machine and programming it to provide adequate clearances of poisons.

Mr Schomberg now enjoys the independence of a functioning kidney transplant which he received in December 2008. It took him a while to warm to the idea of kidney transplant in the first place, but when asked what he thinks about his time



We had the honour and pleasure of having Roy officially open the Out-Patient Kidney Clinic facility at Kingston General Hospital on July 28th, 2014.

Division of Neurology



Dr. Donald Brunet



New and Notable

Epilepsy care is a significant part of the clinical activity of the Division. Dr. Lysa Lomax has joined the Division after an epilepsy fellowship in Melbourne Australia and additional training in sleep medicine locally. Her appointment adds further depth in genetic aspects of epilepsy. She is also skilled in EEG, video-EEG and continuous EEG, which form important laboratory aspects of epilepsy. Also, she is certified to report sleep studies, one of only a few neurologists in Ontario.

Dr. Henry Dinsdale retired from clinical duties on June 30 after some 53 years of service to Queen's University and neurological patients. He treated literally thousands of patients in the 17 years he worked as an outpatient general neurologist after his "retirement" as Head of the Department of Medicine. His service was recognized in June 2014 with the inaugural Dinsdale Grand Rounds lecture given by former faculty member Dr. Donald Weaver and a bench dedication ceremony. Dr. Dinsdale is a nationally and internationally recognized physician with an Order of Canada for his work as well as past presidency of the Royal College of Physicians and Surgeon of Canada. As an emeritus professor, he continues on Queen's academic staff and has begun research to write a history of the Queen's Department of Medicine.

Dr. Michel Melanson has been given the "Master Clinician" award for 2014 from the Department of Medicine. Congratulations are in order to Dr. Melanson but of course his colleagues have known about these abilities for many years.

During the year, planning for expansion of space for neurology at KGH has taken place. Besides new offices in the "old clinic area" on Connell 7, we will have a new EEG recording room and improved space for Dr. Taylor's autonomic testing laboratory. Also a well-equipped teaching room is planned. Occupancy is slated for February 2015.

Professors

Dr. Donald Brunet
Dr. Charles Bolton

Associate Professors

Dr. Michel Melanson

Assistant Professors

Dr. Gordon Boyd
Dr. Albert Jin
Dr. Giovanna Pari
Dr. Stuart Reid
Dr. Allison Spiller
Dr. Sean Taylor
Dr. Lysa Lomax

Professors Emeriti

Dr. Henry Dinsdale



Dr. Allison Spiller MD PhD

Toward the end of 2014, our colleague Dr. Allison Spiller was forced by serious health issues to retire from her neurology practice at Queen's. Dr. Spiller is a superb and caring epilepsy specialist and general neurologist. She played an important role in education as Neurology program director and developed excellent neurology teaching modules for our undergraduate medical class. She was devoted to the over 1200 patients with epilepsy to whom she provided ongoing care, taking phone calls and giving advice whenever needed.



Stroke Service

During the year it was realized that the workload for in-patient neurology was greater than one service could accommodate. This developed partly as a result of a decision that Neurology should admit all stroke patients rather than just those patients receiving thrombolysis therapy. In collaboration with our program director it was decided to establish a Stroke Service, providing a full range of consultation in this important area of internal medicine. This change has been a great success under the medical leadership of Dr. Albert Jin.

A weekly stroke conference is held to review patient management and this serves as an important quality assurance function as well as teaching concepts of stroke care to undergraduate and post-graduate students.

The care of stroke patients is a multi-disciplinary activity. Our continuing success in the timely administration of rTPA to stroke patient depends on a complex interaction with the Paramedic service, ER staff, diagnostic imaging and the stroke service. In the inpatient side, many health professionals are involved and each plays an important role in the successful treatment of stroke.

During the year, Accreditation Canada reviewed our Stroke Program and a second Stroke Distinction Award was awarded. We met 98.7% of the standards for acute stroke care and had 11 of 11 stroke care protocols in place. KGH remains 1 of only 3 hospitals in Canada to achieve this award. The surveyors particularly noted the teamwork in place at KGH and the patient and family focus of care.

At the end of this year, several studies suggested that endovascular therapy for acute stroke significantly supplements rTPA for acute stroke treatment. This will be a significant challenge for the Stroke service and KGH to meet as an emerging standard of care. This may involve more recruitment in this area in associated discipline such as Neurosurgery and Neuroradiology.

In recognition of the importance of stroke care and its local success, Queen's University and the teaching hospitals have approved the recruitment of a second stroke neurologist.

Clinical Trials in Multiple Sclerosis and Another Success Story

Almost all members of the Division participate in complex trials of new treatments for MS. This activity employs a full-time nurse coordinator. Some 6 trials are running at the present time. These studies do give access to new drugs for MS that otherwise would not be available to patients.

An example is a young man with a 10-year history of MS, employed with a family. He has tried all the standard drugs for relapsing MS without convincing benefit. His relapses continued despite injections of various compounds and disability increased steadily as a result of these relapses. Three years ago he received the then experimental drug alemtuzumab IV in hospital for 5 days followed by 3 more days a year later. All signs of MS inflammatory activity stopped, his MRI scans have stabilized and he has improved in gait and balance. This drug is now approved in Canada for use in these circumstances.

The MS Clinic has 1200 registered patients. We appreciate their willingness to volunteer themselves for clinical studies. We have a focus on progressive MS at this time.

The funding for MS Care is in jeopardy at this time as the MS Society of Canada has found that it can no longer provide funding to the 7 University-based clinics in Ontario, including our local clinic. We have 32 years of funding from the MS Society and hope that alternative support can be found to enhance the multidisciplinary service now in place.

Epilepsy and EEG

Dr. Lomax has established a First Seizure assessment clinic. Patients with this problem are seen urgently and an appropriate management plan developed. This has been very successful and will add considerably to patient satisfaction and safety in this common problem.

The EEG department continues to see an increase in activity and now serves as the only regional EEG testing laboratory. New programs include monitoring ICU patients for seizures and enhanced evoked potential testing using new equipment that also is shared with the EMG laboratory. The ICU testing has had a particularly noticeable impact on EEG technologist and neurologist workload. Full statistics concerning the growth of EEG services are available on request. Additional technical staff is clearly needed to allow us to accomplish the tasks we are given and ongoing discussions about staffing are being held with our administrative staff.

Specialized EEG/video monitoring of patients with epilepsy continues with the division requesting MOHLTC recognition as a district epilepsy centre. Our long-term goal is to re-activate

our epilepsy surgery program, one that KGH has previously approved.

Movement disorders

Studies of multiple new drugs for Parkinson's disease are also continuing in the Division. Dr. Pari and Dr. Reid provide consultations in this area of Neurology. Predictions by Health Canada suggest a significant increase in the prevalence of these disorders as the number of aged Canadians increases over the next decade. Many of these patients also have various types of dementias. Recruitment of a cognitive/behavioral neurologist has been approved, in principle, by Queen's to help manage these important disorders.

This year the Movement Disorder Clinic launched a new program for Parkinson's disease patients. The technology involves jejunal delivery of levodopa via a Peg-J tube particularly for patients with severe motor fluctuations. The results of this new treatment are sometimes remarkable, rivaling the effect of deep brain stimulation surgery. The program required an inter-facility partnership with the Gastroenterologists in Belleville. They have enthusiastically agreed to insert the peg-J tubes. This service is currently unavailable at KGH. We look forward to extending this service to a sizeable cohort of patients in our LHIN.

Headache

Dr. Stuart Reid obtained United Council for Neurological Subspecialties certification in the subspecialty of Headache Medicine. This formalizes the expertise available at KGH-HDH/Queen's University in the field of headache.

Dr. Reid also provides leadership in the organization of undergrad medical teaching in the neurosciences and has deservedly been given another teaching award. This is another example of the multi-tasking expects of the small number of faculty in neurology.

Neuromuscular Disease

With the recruitment of Dr. Sean Taylor, the Division has 3 active consultants in neuromuscular diseases (Bolton, Melanson and Taylor). This is mostly an outpatient subspecialty with EMG/Nerve conductions being an important aspect of patient evaluation. The diagnosis and management of ALS in collaboration with Respiriology and Physiatry is also an important activity that continues to grow. Several clinical trials in acute and chronic neuropathies are ongoing.

Dr. Sean Taylor is developing an autonomic disorders research laboratory with defined space on Connell 7, having trained in this area at the Mayo Clinic. He is also collaborating with the Division of Cardiology in this effort. This will likely develop into a normal clinical service in time and with support, being only one of two dedicated laboratories in Ontario.

General Neurology in the Outpatient Centre

All of the neurologists treat patients at Hotel Dieu Hospital with undifferentiated neurological symptoms such as headache, loss of consciousness and altered mentation. Of particular importance are the urgent clinics provided by Dr. Dinsdale and Dr. Bolton. With the retirement of Dr. Dinsdale, Dr. Richard Riopelle has taken on a larger role as an adjunct-visiting neurologist. Dr. Riopelle, a former faculty member, has recently retired as Head of the Department of Neurology and Neurosurgery at McGill University and we appreciate his willingness to support patient care in Kingston. His work is supplemented by Dr. Azad Bonni, visiting adjunct professor at Queen's and now Head of the Department of Neuroscience at Washington University in St. Louis.

Statistics and Wait-times

The outpatient wait-times vary considerably. The best is Dr. Jin's stroke prevention clinic where patients are generally seen within one week if urgent and within 4 weeks for more routine assessments. Similar figures are seen for urgent general neurology although these are recently lengthened after Dr. Dinsdale's retirement.

For subspecialty clinics all urgent new patients are promptly assessed but less urgent new patients may wait longer – MS 12 months, movement disorders 12-18 months, neuromuscular 6-9 months, epilepsy 12 months, first seizure closed due to Dr. Spiller's retirement. We are aware that

most patients and their families consider all problems urgent and disapprove of our wait times. We are attempting to improve clinic flow and reduce cancellations by working with HDH administration. An urgent clinic at KGH would take the pressure off the ER but so far this has not been approved.

Our length of stay for inpatient stroke has improved since we implemented an acute stroke service and is now approaching provincial guidelines. We still face some delays in transfers of patients for acute inpatient stroke rehabilitation at SMOL. Again these issues are being studied and we hope to see further improvement.

Our length of stay of the non-stroke inpatients is longer than we would like. Many of these patients have a complex disorder, having been referred from community hospitals and these patients take some time to work-up and treat. Again splitting the service and having a focused attending and house staff team should ultimately help with this item. Like other medical services we do have many ALC patients and only a system change will help reduce this inappropriate utilization of an acute bed.

Centre for Neuroscience Studies

Dr. Douglas Munoz and Dr. Stephen Scott are cross-appointed to our Division with primary appointments in the basic science department and Centre for Neuroscience Studies. (<http://www.queensu.ca/neuroscience/index.html>). They have recently opened a new clinical research facility at

Hotel Dieu Hospital. Active collaborations are in place for these studies with Drs. Pari, Jin and Taylor.

Royal College Program in Neurology

Dr. Henry Dinsdale established a Royal College approved program at Queen's in Neurology to train new specialists in 1976. This very successful program continues to this day under the present leadership of Dr. Sean Taylor. The program has successfully undergone an internal review during the year. We expect to have 10 residents in the program starting on July 1. The educational background of these residents continues to impress!

Improvements in physical space including seminar rooms are planned. A more private program office for the program manager, Ms. Tracey Cain, is part of the move-in to the former clinic space on Connell 7.

Our entire faculty remains very committed to teaching our specialty and guiding our residents to a successful career in Neurology. During their 5 years with us, the resident provide important services to regional patients as well.

Summary

The Division of Neurology has had a successful year delivering patient care educational and academic pursuits. The clear support of our new department head in recruitment of more neurologists to develop our programs is much appreciated. The long waits for clinic assessments must be

solved through a combination of clinic restructuring and appointment of additional neurologists.

Our thoughts are constantly with our colleague Dr. Allison Spiller.

Patient Story: Lou Belleville

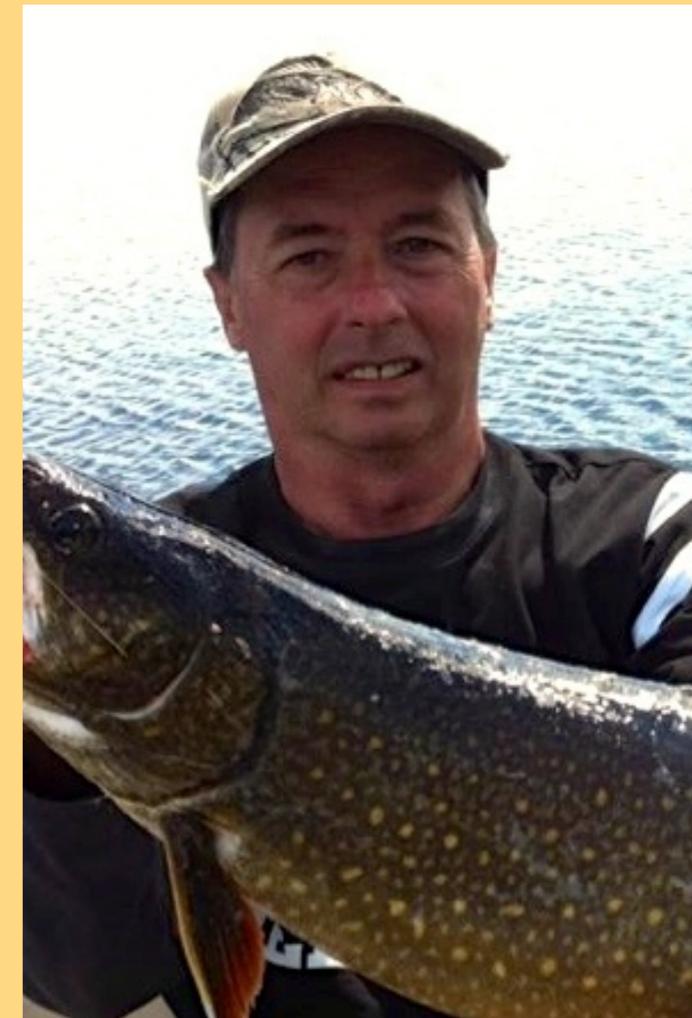
A Patient Success Story – Neurocritical Care

While not all patients with serious neurological disease can experience a complete reversal of symptoms, the following is an account of one such individual, reproduced with the kind permission of the patient and his spouse. Dr. Gordon Boyd provided this synopsis:

Lou Belleville was admitted to Kingston General Hospital in the summer of 2013 with severe back pain and progressive leg weakness. Within hours of arriving at the KGH emergency department, he required intubation, mechanical ventilation, and transfer to the intensive care unit. He was ultimately diagnosed with Guillain-Barre Syndrome (GBS), an inflammatory neuropathy that typically affects the myelin sheath of peripheral nerves. In Lou's case however, his variant of GBS affected the axons - a more rare and serious subtype of GBS with a worse prognosis. At his worst, Lou lost all movement, including his cranial nerve reflexes, and otherwise would have met the criteria for brain death! In the following photo you can see him in ICU with EEG electrodes attached to assess his level of consciousness, which was found to be normal despite his inability to move any part of his body.



After months of weaning from mechanical ventilation, Lou was transferred back to his home hospital in September of 2013 for ongoing rehabilitation. After a total of 8 months and 3 weeks, Lou was discharged home in the winter of 2014. Lou's wife Laura had this to share regarding her experience at Kingston General Hospital, "We can not thank the team at KGH enough for all that was done for him. You all made our journey there, comforting and bearable, especially in the first few weeks. I personally cannot express my gratitude enough. Because of you, and your team, and all the ICU nurses, we have our life back." The following photo shows the impact of his recovery on the local fish population.



"We can not thank the team at KGH enough for all that was done for him. You all made our journey there, comforting and bearable, especially in the first few weeks. I personally cannot express my gratitude enough. Because of you, and your team, and all the ICU nurses, we have our life back."

Lou Belleville

Division of Palliative Medicine

Mission

We are dedicated to the development and provision of a regional Palliative Care Network that will provide an integrated programmatic approach of accessible, quality palliative care to all persons in the region. The Palliative Care group has a mandate to develop patient care systems throughout the region, to educate undergraduates, postgraduates and practicing physicians, and to conduct research.



Dr. Deborah Dudgeon



Division of Palliative Medicine

The Palliative Care Medicine Program of Queen's University is structured to reflect the interdisciplinary nature of palliative care with the Departments of Medicine, Oncology, and Family Medicine all responsible for the program. Four members of the Palliative Care Medicine group are primarily appointed to the Department of Medicine; one primarily to the Department of Oncology and four to the Department of Family Medicine. Many of our members have cross-appointments to the other responsible departments.



Professors

Dr. Deb Dudgeon

Associate Professors

Dr. Raymond Viola

Assistant Professors

Dr. Ingrid Harle

Dr. Craig Goldie

The Palliative Care Medicine Program provides: consultations to inpatients at Kingston General Hospital; outpatient clinics in the Cancer Center and an Advanced Dyspnea clinic at Hotel Dieu Hospital; primary care for 13 beds at St. Mary's of the Lake Hospital; and primary care and consultation to patients in the community.

Programs of Distinction – Education Family Physicians in Palliative Care

In 1993, Drs. Griffiths, Stewart and MacGregor, with funding from the Ministry of Health, developed a 4-day CME Program for Family Medicine practitioners in Southeastern Ontario. The Division of Palliative Medicine continues to host this program twice a year for approximately 10 family physicians from our region. The curriculum includes presentations and small group discussions on: pain and other symptom management; family issues; grief and bereavement; ethics and law; role of visualization; spirituality; community resources; principles of chemotherapy; management of emergencies and meaning, value and quality of life. Faculty include: members of the Division of Palliative Medicine;

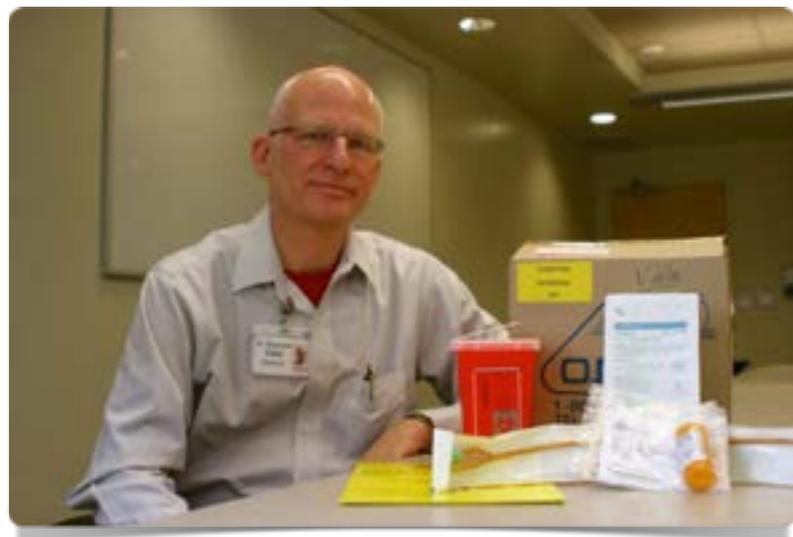
Subspecialty Training Program

Palliative Medicine is currently a one-year of added competence accredited by the College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada. The Palliative Medicine Program at Queen's University received approval status from the two Colleges when reviewed in 2011.

At the exit interview the reviewers commented that the Palliative Medicine Training Program at Queen's was "a model for palliative care residency training nationally".

In November 2013, the Royal College of Physicians and Surgeons of Canada approved Palliative Medicine as a subspecialty of the Royal College. Drs. D Dudgeon and C

Division of Palliative Medicine



Research Highlights

Evaluation of Community Palliative Care Initiatives to Reduce Hospital Utilization in Southeastern Ontario

This ongoing project evaluates two initiatives introduced in the homes of terminally ill patients in southeastern Ontario. The research team is accessing administrative databases at ICES to link with data from the South East CCAC to examine the impact on hospital use of the yellow folder (containing information to help plan for a home death) and the Symptom Response Kit (containing medications and supplies for urgent use when the

Key Accomplishments in 2014

Dr. Harle was successful in obtaining SEAMO Medical Education Development Program (MEDP) funding to attend a course at Harvard Macy Institute in Boston entitled “Program for Educators in Health Professions”.

Dr. Viola has facilitated the “Difficult Conversations” sessions in Term 4 of the second year medical curriculum for several years. The team of standardized patients, the staff at the Clinical Education Centre of the School of Medicine and the Clinical Skills tutors form the extremely effective, educational core for the sessions. This year, Dr. Viola started to explore enhancing the educational resource tools to support these sessions. He is interested in creating an interactive, web-based resource in MedTech to help students prepare for the session and new videos

Notable Presentations

Dr. Harle was an invited speaker at the VII Latin American Congress of Palliative Care in Medellin, Colombia. Presentations included 2 plenaries: “Integrating palliative Care into the Management of COPD” and “Navigating Chronic Heart Failure Through the Lens of Palliative Care”; and a workshop entitled “What do we have to offer to patients with chronic unstable angina?”

Dr Harle was a keynote speaker at the 27th Annual Urological Excellence Conference “Merging into a New Frontier”. The presentation was entitled “Palliative Care and Urology: The Journey of Shared Care”.

Viola R, Knott C, Groome P, Peng P, Ouellette-Kuntz H, Logan D, Webber C. Evaluation of community palliative care initiatives to reduce hospital utilization in southeastern Ontario. Poster presented at the 20th International Congress on Palliative Care, Montreal, Quebec.

Patient Story by Hope Knox

When you are already dealing with the emotional stress of a loved one who is at end of life, what can you do to grant their last wish to die at home? This is our story.

My mother, Jane, was diagnosed with terminal lung cancer. Her new reality meant that her condition would deteriorate over time and her ability to live alone would not be possible. The idea of leaving her home and spending her last months in a hospital made this terrible news even more devastating for her. So, as a family, Jane, my sister Jean and I decided that we were going to do our best to have my mother's remaining time in the comfort of her home. We made this decision without any understanding of how we could make this happen but we were determined to make it happen.

As my mother's health declined she was deemed palliative and a host of health care services became available to us. And we needed each and every one of them. Services such as nursing, occupational therapy, health care aid assistance, social work and palliative physician care, all provided in the comfort and serenity of her home. Along with these services she was provided equipment such as a wheel chair, hospital bed, oxygen and many safety and support devices for the bathroom. Having this kind of patient centric experience and having the services come to her home, made her feel that she was being cared for and that she was special. The people providing these services from the CCAC and KGH Palliative Care team were remarkable people who treated my mother like a friend visiting her home, not a patient. And for some small periods of time distracting enough to forget the situation at hand. This kind of experience would have been impossible to achieve in an institutional setting.

This experience was both challenging and very rewarding but more importantly, we could honour my mom's wishes to pass in the most comfortable way, that being in her home.

Hope Knox



“A photo of my mother with my sister and I. We valued the opportunity to care for her as her life was drawing to an end, as she cared for us when she was full of life.”

Hope Knox

Division of Respiriology

Mission

- ◆ To provide excellence in the care of patients with respiratory illness in our community
- ◆ To continuously improve the treatment and prevention of respiratory illnesses by conducting and supporting high quality clinical research, and by educating students and caregivers in state of the art clinical practice of respiratory medicine



Dr. Michael Fitzpatrick



Division of Respiriology

Introduction

The Division of Respiriology at Queen's University is the major provider of specialist respiriology clinical services for southeast Ontario and also the major regional provider of research and educational services in respiriology. Of the ten active clinical faculty members in the division, three (Drs. D'Arsigny, Heffernan and Parker) have a 50% intensive care commitment, and three (Drs. Fitzpatrick, Moran & Moffat) have attending commitments on the internal medicine clinical teaching units. The major clinical programs operated by the division include:

Asthma: Dr. Diane Lougheed

COPD: Drs. Denis O'Donnell & Alberto Neder

Cystic fibrosis (adults): Dr. Diane Lougheed

General respiriology: Dr. Sue Moffatt with assistance from all other clinical faculty

Interstitial lung disease: Dr. Onofre Moran-Mendoza

Lung cancer: Drs. Lutz Forkert, Paul Heffernan & Chris Parker

Neuromuscular disease (adults): Dr. Mike Fitzpatrick (in collaboration with the multidisciplinary neuromuscular team led by Dr. Karen Smith, Providence Care)

Key accomplishments in 2014

Endobronchial ultrasound (EBUS): Under the leadership of Drs. Chris Parker, Paul Heffernan and Christine D'Arsigny, and with the support of the division, the EBUS program has been established. The first case was completed by Dr. Parker in August 2014. More than 20 cases have been successfully completed to date, and the demand for this service continues to increase. EBUS facilitates accurate diagnosis of mediastinal lymph node enlargement and lung lesions, under sedation and local anesthetic, without the need to resort to thoracic surgery and

Professors

Dr. Michael Fitzpatrick
Dr. Diane Lougheed
Dr. Alberto Neder
Dr. Denis O'Donnell

Associate Professors

Dr. Christine D'Arsigny
Dr. Lutz Forkert
Dr. Susan Moffatt
Dr. Onofre Moran-Mendoza
Dr. Christopher Parker

Assistant Professors

Dr. Paul Heffernan
Dr. Helen Driver*

Professors Emeritus

Dr. Ronald Wigle

**Coordinator, Sleep Disorders Laboratory*

Subspecialty Training Program

The Division of Respiriology continues to support a very successful subspecialty training program, directed by Dr. Chris Parker, which is fully accredited by the Royal College of Physicians and Surgeons of Canada. Remarkably, no weaknesses were identified during the last (2011) Royal College accreditation assessment.

Each year, two PGY4 positions are offered. Currently, there are six

Division of Respirology

New developments in some of our programs of distinction

Comprehensive COPD Program: The recruitment of Dr. Neder has facilitated expansion of the COPD program, which is directed by Drs. O'Donnell and Neder and includes (i) a comprehensive clinical assessment, review of inhaler technique and COPD action plan by a Nurse Practitioner (Elizabeth Hill R.N.), (ii) pulmonary function, exercise and imaging assessment, (iii) a detailed clinical assessment and management plan by Dr. O'Donnell or Dr. Neder, (iv) pulmonary rehabilitation and, for patients with very severe disease, (v) the Advanced Dyspnea Management Clinic, which specializes in providing symptom relief and improved quality of life for patients with severe disease. The COPD program offers patients the opportunity to participate in respiratory research, including clinical trials of new treatments for COPD.

Lung cancer diagnosis and staging program: Dr. Lutz Forkert directs the Lung Cancer clinic for the division and, in collaboration with Dr. Ken Reid, Division of Thoracic Surgery, has developed an efficient algorithm for triage, diagnosis and staging of patients with suspected lung cancer. The addition of endobronchial ultrasound (see above) has greatly enhanced the diagnostic and staging ability of the service, and will facilitate more accurate and less invasive staging of patients with the disease.

Research highlights

Clinical researchers in the Respiratory Division had a productive year, with 33 new papers by the group already listed in Pubmed 2014. Many of these publications are in highly ranked clinical and physiological journals. Research innovations by our researchers included: the development and validation of a new work-related asthma screening questionnaire; the discovery that extensive pulmonary microvascular injury can occur in smokers with only mild airway obstruction, and the first demonstration of reduced cerebral blood flow during exercise in patients with combined heart and lung diseases. Collectively, the group gave in excess of 35 scientific presentations at American and European International Meetings. Dr Daniel Langer, a research trainee with Dr. O'Donnell, was awarded Best Poster presentation by the Canadian Thoracic Society for his work on new respiratory muscle training techniques for patients with advanced lung disease. The Queens Respiratory group was chosen to lead a newly formed multi-center Physiology Platform for the Canadian Respiratory Research Network and received a \$500,000 federal grant for this purpose.



Patient Story: AB

46 year old AB started to experience shortness of breath when running. He visited his family physician with an expectation that he would be told that he was simply unfit. However, a chest x-ray revealed something considerably more concerning – swollen lymph glands on both sides of his central chest, and multiple lung nodules. He was referred for evaluation to the Lung Diagnostic Assessment Program. Based on the CT scan appearances, there were multiple diagnostic possibilities, including advanced lung malignancy, lymphoma, and sarcoidosis. The usual management plan in this circumstance would have been to bring the patient to the operating room and, under general anaesthetic, perform a mediastinoscopy. Mediastinoscopy is a procedure whereby a cut is made in skin just above the sternum and a scope is passed into the central part of the chest to biopsy the swollen glands. However, the recent availability and expertise in endobronchial ultrasound (EBUS) within the Division of Respiriology, permitted consideration of this less invasive diagnostic pathway - AB was felt to be a good candidate for EBUS diagnosis, a relatively short, out-patient-based, and relatively non-invasive procedure that would obviate the need for a general anesthetic and mediastinoscopy scar, but could provide a similar diagnostic yield to mediastinoscopy. The patient underwent EBUS as a day procedure several days after being assessed in clinic. The EBUS node biopsy specimens showed non-caseating granulomas, consistent with sarcoidosis. This finding was a tremendous relief for the patient, who commented about his EBUS day procedure “I don’t remember a thing. It was great.”



Division of Rheumatology

Mission

To Provide:

- ◆ Care that is excellent and compassionate for patients with rheumatic diseases in our region
- ◆ Education, at all levels of medical education including undergraduate, postgraduate and continuing education
- ◆ Research that is cutting edge and translational in areas including:
 - Conditions of bone and cartilage
 - The epidemiology of osteoporosis
 - The patient experience



Dr. Mala Joneja



Division of Rheumatology

The Division of Rheumatology has five academic members. Dr. Mala Joneja (Acting Division Chair) who is also the Associate Program Director for Core Internal Medicine and the Director of Diversity at the School of Medicine. Dr. Tassos Anastassiades is a Clinician-Scientist working on basic research in cartilage and bone. He is also the Director of the Canadian Multicentre Osteoporosis Study (CaMos) for the Kingston site. Dr. Tanveer Towheed has a research focus on the epidemiology of osteoporosis and supervises a number of resident research projects. Dr. Marie Clements-Baker is the program director for the subspecialty training program in Rheumatology. She has a clinical interest in vasculitis and complicated connective tissue disease. Dr. Inka Brockhausen is a basic scientist in the field of glycobiology.

Our division serves the entire Southeastern Ontario region for referrals in the breadth of rheumatic diseases. Our clinics are held at Hotel Dieu Hospital in a new patient-friendly environment. Clinics are busy however we continue to provide patient-centred, multidisciplinary care. Division members are active in teaching clinical skills to medical students as well as

Key Accomplishments in 2014

- ◆ Change of leadership: Dr. Anastassiades stepped down as Division Chair after many years of successfully guiding the division; Dr. Joneja is Acting Chair
- ◆ Dr. Marie Clements-Baker is Program Director for the Rheumatology training program and leading the division in the transition to competency-based education
- ◆ Contributions to significant advances in the epidemiology of osteoporosis leading to multiple publications by CaMos
- ◆ Collaboration with Dr. Dean Tripp, Department of Psychology to investigate the role of pain and other factors in the outcomes of patients with Rheumatoid Arthritis
- ◆ Dr. Joneja completed her second years as a fellow of the Associated Medical Services Phoenix Project

Professors

Dr. Tanveer Towheed

Associate Professors

Dr. Mala Joneja

Dr. Inka Brockhausen*

Assistant Professors

Dr. Marie Clements-Baker

Professors Emeriti

Dr. Tassos Anastassiades

**Research faculty member*



Division of Rheumatology

Research Highlights

Hyaluronan, also known as hyaluronic acid, is a very long carbohydrate polymer which serves, in its intact form, as a structural component of many tissues including the joints, bones and skin. It has important biomechanical functions and is generally thought to be protective in tissues. However, as hyaluronan starts to break down in smaller fragments, it tends to induce inflammation in the very tissues it was protecting. In a paper recently published in the Journal of Biological Chemistry, investigators from Dr. Anastassiades's lab at Queen's University have studied these "two faces of hyaluronan" in order to try to understand the mechanism of this paradox.

These researchers demonstrated that the critical chemical moieties responsible for the inflammation are the acetyl groups, covalently attached to the amino sugar glucosamine, a repeating carbohydrate unit within the hyaluronan molecule. However, if these acetyl groups are chemically substituted by other groups, which resemble the acetyl group, the inflammatory properties of the smaller hyaluronans are altered. One substitution in particular, by a butyryl group, blocks the pro-inflammatory properties of the smaller molecular weight hyaluronan. This

Programs of Distinction

- ◆ Basic research discovery on pathogenesis and treatment of inflammatory joint disease
- ◆ Subspecialty clinic for osteoporosis
- ◆ Canadian Multicentre Osteoporosis Study
- ◆ Connective Tissue Disease and Vasculitis clinic run by Dr. Marie Clements-Baker

Subspecialty Training Program

The Rheumatology training program is a fully accredited Royal College program that offers vast clinical exposure to rheumatological diseases and a strong academic curriculum. The Division of Rheumatology has a strong connection with the Kingdom of Saudi Arabia, with many trainees coming to learn with faculty here and maintaining ongoing professional relationships.



Patient Story: Tiffany L.

I was fortunate enough to become Dr. Joneja's patient soon after I was diagnosed with RA, and we have had an easy relationship for 10+ years now.

There have been good times and bad times in my health, and through every episode of bad, Dr. Joneja was always fully present in every conversation we had, and never made me feel rushed. She made sure I was included in my own care, was informed properly about medications and treatments, and that I understood which path we were taking. She has been supportive in my decisions about medication, and continuing to work, but when I required a short period off, we discussed at length my options, and she was consistent in follow up to ensure I was coping, and improving.

I have always known that if I need medication, advice, or change in treatment, that she is available to me through phone or email, she is always willing to give you her precious time. She is an extremely kind, compassionate, knowledgeable and caring Dr. and I consider myself very fortunate to be in her care. When I talk, she listens. When I cry, she hugs me. She respects me, and she has made an impression on my life I will never forget.

Tiffany L.



“She is an extremely kind, compassionate, knowledgeable and caring Dr. and I consider myself very fortunate to be in her care. When I talk, she listens. When I cry, she hugs me. She respects me, and she has made an impression on my life I will never forget.”

Tiffany L.

Photos Courtesy of Queen's University and Dr. Stephen Archer

