

# Department of Medicine **Annual Report**



**2015**

# Introduction

Welcome to the Queen's Department of Medicine Annual Report for 2015. 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 the Department of Medicine and am amazed each year at the amount that we can accomplish together as a team. I would like to acknowledge and thank each member of the faculty and support staff who have united to achieve the level of innovation and excellence we have seen this year. Your dedication and enthusiasm are certainly key to our vibrant and growing Department.

I think you will agree that 2015 was an exciting and productive year. I look forward to your feedback!



Head, Department of Medicine  
Queen's University

# Introduction

## 3rd Department of Medicine Annual Report in iBook format:

At the initiation of 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 some beautiful and interactive morning report iBooks (open the iTunes Book App on your 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:

We would like to thank the Divisional Chairs of the Department of Medicine for their work gathering and composing the material for this year's iBook. Without your help and determination in leading your Division, and cataloguing the successes of your faculty, this book would not come to fruition.

A special thank you to Ms. Jill McCreary, Special Projects and Communications Coordinator, who worked on this year's iBook following the hard work of Ms. Joy Yen, Communications and Special Events Clerk, during the Summer of 2016. Joy's dedication to this iBook was much appreciated.

# Prior Annual Reports



# DEPARTMENT OF MEDICINE BY THE NUMBERS



Number of patients flowed  
through CTU  
**4500**

Number of Duodopa Pump  
Procedures  
**9**

Percentage of patients  
seeking home dialysis  
**25.5%**

CFI Application Funds  
**\$8M**

# Executive Reports



# Executive Summary



**Dr. Stephen Archer,**  
**Head of the Department of Medicine**

2015 has been a vibrant year for the Department of Medicine as we have met and exceeded our targeted metrics in all domains. Our focus has been on expansion of the faculty, hiring an internationally recognized, talented new cadre who will create and support programs of distinction in clinical care, research and education.

Moving forward, we will continue to strive to achieve the following goals:

- 1) Implement a new program for the education of medical residents; a Royal College Initiative championed by Dr. Reznick, entitled, Competency by Design (CBD).
- 2) Continue to expand our research portfolio by doubling the size of our research enterprise.
- 3) Create a Translational Institute of Medicine (TIME) to connect and catalyze our research enterprise and support creation of a new postgraduate, degree-granting program in medical research.
- 4) Continue to create a robust sense of citizenship amongst our faculty with a focus on enhancing well-being and physician wellness.
- 5) Invest in faculty development, ensuring we develop our talented team through programs of mentorship as well as the provision of opportunities for advanced training in leadership, medical education and public health.
- 6) Expand the quality and quantity of our clinical care with new programs of distinction that provide the ~500,000 people of the South East Local Health Integrated Network (SELHIN) with access to state-of-the-art, tertiary and quaternary care for complex diseases.
- 7) Enhance communication and advocacy with stakeholders including our clinical partners in the SELHIN, our referring doctors, patients and politicians

# Executive Summary

The success of the Department would not have been possible without the wise counsel and leadership of Dr. Stephen Vanner, Deputy Head of Medicine, and our talented administrative team led by Ms. Anita Ng (Manager of Operations). Appreciation is extended to Ms. Emily Briffett (Finance Officer) for her diligence with Departmental Finances, Ms. Jill McCreary (Executive Assistant to Dr. Archer), Mrs. Jennifer Andersen (Staffing & Administrative Coordinator), and Ms. Clarrie Lam (out-going Research & Grants Coordinator). The Department welcomes new team member Ms. Whitney Montgomery (Research & Financial Officer), who will take over for Ms. Lam as she takes on her new role as Manager of the new Queen's CardioPulmonary Unit (Q-CPU) research facility.

## I) Future Recruitment Highlights:

The Department of Medicine's 3-year HR plan was submitted to SEAMO's Strategic Priorities Committee and will see an additional 12 recruits over the next 3 years. A highlight of the 3-year plan is a major investment in growing the Division of Neurology, an initiative guided by an external consultation from Dr. Doug Zochodne, University of Alberta.

## II) Professional Development Highlights:

a) **Welcome aboard:** The Department has successfully implemented a new on-boarding process for new faculty, ensuring that they start their career with the Department of Medicine feeling supported. The Department provides new faculty members with a laptop and new office furniture, and facilitates hospital privileges along with access to the hospital Patient Care System (PCS), and other systems that may be needed within the hospital

b) **Medical Grand Rounds and Mortality and Morbidity rounds:** These rounds are well attended by the Department members and house-staff. They provide a forum for community and sharing which has made the Department of Medicine more cohesive. Remote participation continues to be popular for off-site members. In 2015 we added the ability to record

rounds and the link to access the rounds is made available to faculty and house-staff.

c) **Biannual retreats:** The Departmental retreats are led by Dr. Vanner. From these retreats emerge the ideas that eventually become Departmental strategic goals. The Retreat on Strategic Planning was a huge success and saw a tremendous turnout, and enthusiastic participation from the faculty (>90% attendance). The program was interactive with pulse point surveys to maximize engagement and obtain input from all members. The evening included panel discussions on clinical, education and research cornerstones and an anonymous faculty "happiness survey". The results of the retreat shaped and informed many of our key initiatives for 2016. The "Happiness Survey" demonstrated that a majority of the Department of Medicine are satisfied with the strategic direction, and understand the rationale for Department policy.

d) **Funding for advanced education:** Dr. Josh Lakoff (Endocrinology), Dr. Janet Lui (Hematology) and Dr. Ben Glover (Cardiology) were successful in obtaining SEAMO MEDP grants. In 2016, they will begin their chosen Masters program.

e) **Mini sabbaticals:** Mini-sabbaticals were granted to Drs. Chris Smith, Elaine Petrof, Rachel Holden and Mala Joneja. Mini-sabbaticals are awarded to individuals to further enhance their recognized success in educational, clinical and/or research domains.

f) **Faculty recognition:** The Annual Awards Ceremony was held at the Isabel Bader Centre and saw the largest turnout yet for the faculty. A guest of honour was neurologist Dr. Allison Spiller, who was presented with a Career Achievement Award for her years of service to her patients and to the Department of Medicine. Dr. Spiller died shortly after the ceremony after a long struggle with cancer. She is remembered as a hugely talented and passionate neurologist with unbounded energy.



# Executive Summary

g) **"DOM Library"**: For the annual report meetings with faculty members, Dr. Archer instituted a book give-away as a thank-you to Department members, symbolic of the importance of maintaining work-life balance.

## III) Clinical Highlights:

a) **Clinical Programs of Distinction**: The Department is pursuing clinical programs of distinction. These programs are complex and involve faculty from multiple Departments; with a requirement for highly trained faculty and specialized equipment as well as MOHLTC funding. Our nascent programs include:

- o Creation of a formally recognized Epilepsy Centre.
- o Creation of programs in neurostimulation.
- o Allogeneic transplant program.
- o Living related renal donor transplantation.
- o Expansion of our programs in structural heart disease and arrhythmia intervention.

## IV) Research Highlights:

i) **Program growth**: Research revenue for fiscal 2014-15 was \$13.2M, an increase of \$3.7M from 2013-14, and \$5.6M from fiscal 2012/2013. The five-year goal for the DOM over the period 2013-2018 remains doubling of external research support to exceed \$16M/year.

### ii) Grant highlights:

a) **Seed grants**: The Departmental Development and Innovation Fund offered \$463K in internal seed grants to leverage external funding. Clinical and basic science operating grants were awarded to Drs. Boyd, Reed, Neder,

Jin, White and Johri. An Educational grant was awarded to Dr. Viola, and ICES project grants were awarded to Drs. Lougheed and Gill.

b) **\$8 million CFI application creates the Queen's Cardio Pulmonary Unit (Q-CPU). (PI Dr. Archer)**: Q-CPU is a Molecules to Populations Translational Research Centre that seeks to develop new therapies for heart and lung disease and pulmonary hypertension. Q-CPU occupies ~8000ft on level 1 of the Biological Sciences building. The location will open, following renovation, in November 2016. Q-CPU will be a leading research platform, supporting a group of researchers in the development, preclinical testing and commercialization of new therapies for PH.

Q-CPU will build on existing institutional and CFI investments, and enhance linkages between basic and clinical investigators and the associated infrastructure at our institution. Q-CPU investigators include MD and PhD faculty in several departments (Department of Biomedical and Molecular Sciences, notably the CCR Group led by Dr. Don Maurice) and Medicine (with faculty from Respiriology, Neurology, Hematology and Cardiology).

The team includes investigators at the Universities of Alberta, Minnesota and Utah. We are an outward looking unit with established partnerships that will allow national and international collaborations. There are 4 cores to the Q-CPU: Experimental Therapeutics, Translational Research, Clinical Trials, and Population Health Sciences. Q-CPU includes a Virtual PAH Clinical Trials Network, linking PAH clinics in Kingston, Ottawa, Minneapolis, Salt Lake City, Sao Paulo and Edmonton.

c) **Foundation Award**: Dr. Archer received a CIHR grant of ~\$3.8M for his translation research on the role of disordered mitochondrial dynamics in the pathogenesis of pulmonary arterial hypertension and cancer.

iii) **Groundwork for creation of the Translational Institute of Medicine, (TIME)**: The creation of TIME comes with the goal of creating better connectivity, visibility and elevation for our existing research teams. TIME

# Executive Summary

will be based upon existing research programs in the Department of Medicine, many of which span Departments (e.g. Q-CPU, the new CFI-funded Queen's Cardiopulmonary Unit, GIDRU, the Allergy Evaluation Unit, the Resp. Research Group, the Arrhythmia Group, and the Bleeding Disorder Group).

These entities will retain their identities and names, but serve as part of TIME's matrixed organizational structure. TIME will interface with DBMS (Q-CPU and GIDRU already do this extensively), other Departments and other research groups (HMRC, Neurosciences, NCIC); however, like these groups, TIME will be a discrete entity that is complimentary to these groups. TIME will meet a number of specific strategic goals. Using a variety of streams, TIME will fund a small team of core scientists who will operate specialized core facilities dealing with: optical core imaging, cell culture and flow cytometry, small animal imaging (PET, CT and ultrasound), genomics/proteomics, and population health science (ICES). We believe TIME will attract investments such as CFIs, CRCs and other larger funding initiatives. Nationally and internationally we believe the combined expertise and resources will increase our competitiveness for funding from tri-council funding agencies, national funding agencies, pharmaceutical companies, and donors. This new organizational structure is anticipated to avoid redundancy in equipment acquisition and instability in support of scientific HQPs. TIME will also support the creation of a Post-Graduate Program in Translational Medicine.

## V) Education Highlights:

a) **Core Internal Medicine Residency Program:** After 7 successful years of growth and improving quality and trainee satisfaction, under Dr. Chris Smith's leadership, the program made a smooth transition to the able leadership of Dr. David Taylor on July 1st 2015. Prior to this, Dr. Taylor was a very successful Clerkship Director for the Core Medicine rotation. David recently completed his 2-year Masters of Medical Education at the

University of Illinois. We experienced an unprecedented 100%, first-round, match success in the 2015 CaRMS match.

b) **PGME Program growth:** The PGME program has increased in size 17% since 2011-2012. In July 2016, there will be 69 residents. We also intend to expand our PGME program through recruitment of IMGs and expansion of our GIM specialty program, directed by Dr. Laura Marcotte. New PGME programs are being considered in Dermatology and Endocrinology.

c) **iPAD Program:** With the support of Dr. Taylor, one of our residents, Dr. Sidd Srivastava, has taken the lead in exploring how to maximize the iPad program. An observational study was undertaken to identify the usefulness of iPads in Medicine for medical education and patient care domains. Overall, the Departmentally-issued mobile tablets only partially met the expectations of residents due to technical limitations in the hospital environment (internet bandwidth). Based on these results, Dr. Srivastava has been working with Kingston General Hospital on improving hospital wireless infrastructure. The residents published another iBook to add to their collection, summarizing cases discussed at Morning Report - Volume 6 is now available on iTunes Bookstore.

d) **Competency based medical education (CBME):** The Royal College's push towards CBME represents a major shift for the post-graduate programs in the Department. The most significant transformations will be incorporating training milestones into the curriculum, and developing broad-based assessment programs that reliably capture trainee performance related to these milestones. The Department of Medicine has been very active in participating in CBME workshops with 13 members participating as leaders or nascent leaders. To prepare a fertile environment for the development and implementation of CBME, we have created an overarching education committee for PGME, led by Dr. Chris Smith. This committee is comprised of all the Training Program Directors and has as its mandate the sharing and coordination of educational best

# Executive Summary

practices to ensure smooth and coordinated implementation of the new CBME program by July 2017.

It is anticipated that implementation of CBME will create better doctors and provide a rich opportunity for Medical Education scholarship. We are off to a good start in regard to the latter point, with PGME Special Purpose Grants being awarded to Dr. David Taylor (developing a resident orientation package that is aligned with the CBD curriculum), Dr. Laura Marcotte (assessing the implementation of Work-Based Practical Assessment for GIM), and Dr. Peggy DeJong (transitioning to discipline e-modules for basic coronary care, common cardiology issues, and ECGs).

## VI) **Governance and Finance Highlights:**

We have enhanced our financial transparency and implemented the many reforms developed and approved by our faculty over the past 3 years, including, but not limited to, the creation of an operating fund and development of role descriptions for Division Chairs and the Department Head,.

a) **Improved financial transparency:** The Department is on stable financial footing due to the superb accounting work of Ms. Emily Briffett, and the diligent oversight provided by the RIC, chaired by Dr. Chris Simpson. Members of the Department benefit from clear notifications of payments and remittances and more frequent reporting on individual billing penetration and other productivity metrics.

b) **Accountability framework:** Thanks to members of the ongoing Accountability Committee, chaired by Dr. Bill Paterson. The committee has assisted with the oversight of the Department of Medicine's many initiatives to enhance productivity in research and clinical care and increased the transparency of our practice plan. The Department of Medicine is exceeding all SEAMO required metrics. For example, departmental billing penetration (a measure of clinical activity) remains

high at ~78% reflecting increased clinical care delivery and increased attentiveness to billing documentation. This is a key productivity metric and exceeds the SEAMO target of 70%.

## VII) **Outreach and Advocacy Highlights:**

a) **Outreach:** The Department has successfully launched Endocrinology, Dermatology and Respiriology (sleep medicine) clinics in Napanee. Branching into the community and utilizing this clinical space has allowed our specialists to reach patients closer to home as well as increase their clinical capacity due to limited physical space at KGH/HDH.

b) **Advocacy:** In December 2015, the Department hosted Sophie Kiwala, MPP of Kingston & the Islands, on a "tour" of the Department and the hospitals, showcasing the research groups and facilities, meeting with key groups and Division Chairs representing the educational and clinical domains. The Department is committed to continuing on this trend for 2016, and will participate with a tour with Denise Cole, Assistant Deputy Minister for Health Workforce Planning and Regulatory Affairs and MP Mark Gerretsen.

c) **Enhanced Departmental Website and News, Innovations and Discoveries Blog:** We have enhanced our Web and Internet presence. Updates include professional-grade faculty portraits, bios, and contact information. Dr. Archer's blog has over 500 readers and a similar number follow Dr. Archer on Twitter.

d) **Medical Grand Rounds (MGR) App and (coming soon) Department Intranet:** Dr. Jeff Wilkinson, one of our Cardiology residents, has developed an App for iPhones, which has an interactive schedule and evaluation tool. This evaluation tool will allow faculty and residents to provide real-time feedback on presentations, increasing the rate of response for our presenters to learn from.

# Executive Summary

Coming soon will be the Departmental intranet, which will provide a central on-line resource for faculty members. The most notable 2015 development in this area is the departmentally funded creation of a financial tool for batch-upload of compensation statements for each member of faculty. This time-efficient reporting allows real-time communication of finance information to each of our members. In addition to the batch uploading capabilities, this tool also has preference settings and privacy settings that were previously unavailable. MedTech will be able to use this new feature with other Departments who will undoubtedly need this feature as well. The Department of Medicine is excited to launch this new communication tool as it will help with information sharing and be home to a variety of documents and Department-specific information that could be sensitive or confidential.

e) **Continuous Professional Development (CPD):** The 2015 2nd Annual CME Day was held on May 13th and was a great success with over 80 participants from the primary care community. The involvement of our colleagues Dr. Wolfrom and Dr. Sloan in the Department of Family Medicine was key to creating the links between our specialists and the family physicians. We also offer a highly successful Dermatology Day CME event.

f) **Philanthropy:** Dr. Archer is actively involved with the University Hospitals Kingston Foundation (UHKF) as the Chair of the Physician Advisory Capacity Committee. Presently, the main mission is to enhance transparency of the donation accountability process thereby improving trust and engagement between UHKF and physicians.

A notable gift to the Department of Medicine was made in honour of legendary Queen's Cardiologist, Dr. J.O Parker. The John O. Parker Lectureship in Cardiology Research at Queen's University was established with the support of Dean Reznick and Mr. Bill Leacy, via a generous donation from the Parker family. The Department of Medicine provided \$50,000 in matching funds in recognition to the many contributions of Dr.

Parker to clinical cardiology and research discovery in the field of cardiovascular research at Queen's University.

# Core Internal Medicine Trainees



**Clinical Skills & Scholarship PGY-1**

Pavel Antiperovitch



## **Program Team**

Dr. David Taylor, Program Director

Dr. Barry Chan, Associate Program Director

Ms. Denise Jones, Program Manager

Ms. Claudia Trost, Postgraduate Education Assistant

Ms. Rebecca Graham, Office Assistant

## **2015-2016 Chief Residents**

Scott Curran

Zijing Wu

Joseph Del Paggio

# Medical Grand Rounds



**Dr. Mala Joneja**

## **Queen's University Department of Medicine Medical Grand Rounds – a look back at the past year**

### **Mission**

Medical Grand Rounds is a traditional medical education venue for discoveries and advances to be presented to a general medical audience. Though academic medicine itself has changed over the years, Medical Grand Rounds remains a respected forum for the presentation of new discoveries, the introduction of new faculty and the discussion of controversial current issues.

### **Topics**

Topics presented at Medical Grand Rounds in the past year consisted of a variety of areas including:

#### **Medical Education:**

“What’s wrong with the clinical learning environment” presented by Dr. Tony Sanfilippo

“CBME – Aiming for the sky not the floor” presented by Dr. Chris Smith and Dr. David Taylor

“Residents as Teachers” presented by Dr. Michelle Gibson

#### **Advances and Innovations:**

“Keystone isn’t the only challenging pipeline: New antimicrobials for MDROs” presented by Dr. Gerald Evans

“Endobronchial Ultrasound: the first 97 cases” presented by Dr. Paul Heffernan

“From data fragmentation to Utopia” presented by Dr. Annette Hay

#### **Challenges in Health Care:**

“Lessons in Health Policy Advocacy” presented by Dr. Chris Simpson

# Clinical Report: Outpatients



Dr. Houlden in the Telemedicine Clinic



**Dr. Robyn Houlden**

Chair, Ambulatory Clinics  
Committee

The ambulatory care clinics have continued to be a hub of clinical activity for the Department of Medicine during the last year. Most activity occurs at the HDH clinics with the exception of nephrology clinics (KGH), geriatric clinics (SMOL), multidisciplinary neuromuscular clinics (SMOL), respiratory rehabilitation clinics (SMOL), and cancer clinics (KRCC). Efforts remain in place to improve efficiency; clinic utilization at HDH is currently running at 94 to 95%. Clinic utilization reports are regularly shared with Department Heads, Division Heads, Program Operational Directors and Program Managers.

The forms for requests for new or expanded clinics have been recently updated, and are now posted on the intranet and can be completed online. In addition, single page ambulatory treatment record sheets have been developed for each division and have been customized based on divisional input regarding their unique recording needs.

Virtually every division in Medicine has expanded its ambulatory clinic activity during the last year and it is an ongoing challenge to identify clinic space for new physician recruits or physicians seeking expansion of existing services. The Clinic Facilities Task Force is examining mechanisms whereby SEAMO physicians can expand their ambulatory clinic and procedural services footprint, recognizing the limitations of available hospital resources.

The use of telemedicine in ambulatory care has increased from 228 direct clinical events in 2014/15 to 586 events last year. A direct event is when the physician talks to the patient; an indirect event happens when two physicians discuss a patient without the patient being present. Telemedicine is also being used for educational and administrative events. The Telemedicine Working group comprised of HDH/KGH and SEAMO has expanded to a tri-hospital group with Providence Care joining. The committee is jointly planning use of the technology at each site.

Moving forward, the next step is to have Personal Computer Video Conference (PCVC) available. This initiative will allow the patient to use their computer at home and video conference with the physician at the hospital via a secure portal. The service is expected to be available by the fall and should help reduce clinic visits and wait times.

Money provided by the Ministry to HDH/KGH will fund an initiative to divert patients from the Emergency Room. The HDH clinic, if it comes to pass, will be open 7 days a week and be located beside the Urgent

# Clinical Report: CTU

The Clinical Teaching Units (CTU) provide the educational environment for teaching undifferentiated clinical medicine to our residents. Teamwork and collaboration with our allied health colleagues is emphasized in providing excellent care to our patients.

Currently the 5 CTUs (A-E) admit and discharge over 4500 patients a year. Approximately 60% of the CTU attendings are from the Division of General Internal Medicine (GIM) and the remainder are from the other Divisions in the Department of Medicine. Our reliance on locum attendings has been gradually receding and is currently <5% of attending positions. CTU H service provides care for a portion of our Alternate Level of Care (ALC) population that remain in hospital awaiting placement.

There have been no major structural changes during the calendar year although the services remain busy and the volume of admissions has led to gridlock on several occasions throughout the year.

Discussions are underway to plan for possible geographical reorganization in 2016 and we are mindful of the deleterious consequences of excessively large team sizes. There are 2 major challenges on the horizon: 2017 is the deadline for implementation of CBME at Queen's and also the year for our next accreditation visit from the Royal College. We want to ensure the CTUs remain a strength of the Program going forward.



**Dr. Chris Smith**  
Associate Professor of  
Medicine  
Head, Division of General  
Internal Medicine



# 2015 Departmental Milestones

Continuing  
Professional  
Development  
Faculty of Health Sciences



## CME Day

The Second Annual Department of Medicine CME Day was a huge success, with improved visibility of the Department and its achievements. We saw an increased number of registrants eager to take away some knowledge from our panel of expert speakers covering hot topics in medicine. The Department of Medicine held the third in May 2016 and is already planning the 4th Annual CME Day! Be sure to register!



# 2015 Departmental Milestones

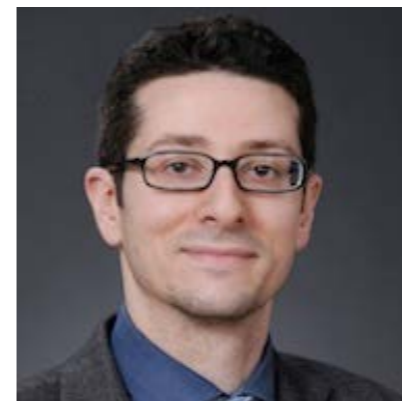
## 2015 New Faculty



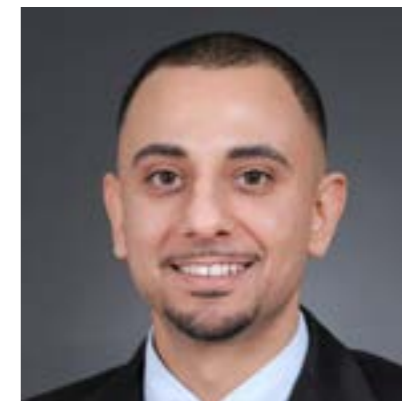
Dr. Benedict Glover  
Cardiology



Dr. Benvon Moran  
Dermatology



Dr. Joshua Lakoff  
Endocrinology



Dr. Robert Bechara  
Gastroenterology



Dr. Suzanne Bridge  
General Internal  
Medicine



Dr. Kristen Marosi  
General Internal  
Medicine



Dr. Thiwanka Wijeratne  
General Internal  
Medicine

# 2015 Departmental Milestones

## 2015 New Faculty



Dr. Sita Bhella  
Hematology



Dr. Janet Lui  
Hematology



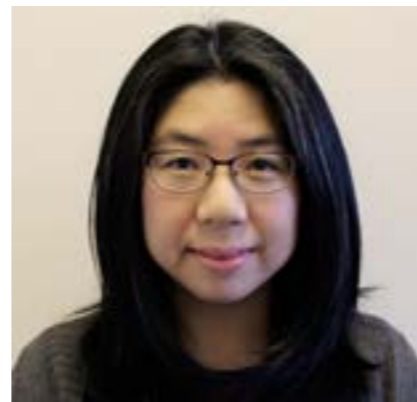
Dr. Benjamin Thomson  
Nephrology



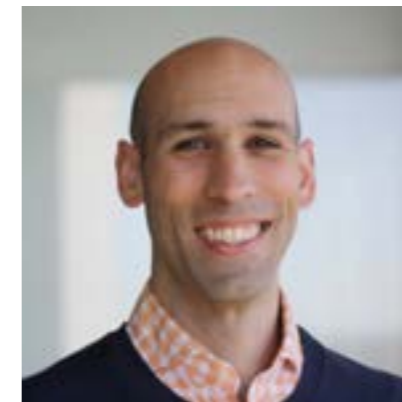
Dr. Birgit Frauscher  
Neurology



Dr. John Garvey  
Respirology



Dr. Tabitha Kung  
Rheumatology



Dr. Mark Ormiston  
Research

# Quality Report

## The Patient Safety and Quality Improvement Curriculum

Dr. Roy Ilan's career focus is on patient safety and quality improvement (PS&QI). When he joined the Department of Medicine in 2007 he started the PS Rounds until 2015, where Dr. Johanna Murphy took leadership. Dr. Ilan is passionate about his work and has been highly involved in PS research, education and improvement initiatives.

Initially, the objective of the PS rounds was to have residents understand and analyze PS incidents from a system level approach, not only finding individual fault but identifying contributing factors and potential areas for improvement in the whole hospital system. The rounds were run by senior residents, under supervision and oversight of faculty members, who developed case based rounds where residents would describe the how, why, and future prevention of safety incidents.

In 2015, in preparation for revamping the PS rounds and establishing a more complete curriculum in PS&QI, Internal Medicine residents were asked to complete a survey assessing their perceived knowledge and skill in these areas. Residents identified substantial gaps in their knowledge and skills and indicated a lack of confidence in their ability to take on patient safety and quality improvement.

This perceived gap was the springboard for the Division of General Internal Medicine to develop the new curriculum in PS&QI for the training program. Supported by funding from the SEAMO Endowed Scholarship and Education Fund, the new curriculum will begin in August 2016. This program combines resident feedback and existing programs into a new course.

This PS&QI curriculum will be managed by Dr. Roy Ilan, Dr. Johanna Murphy, and the newly hired Dr. Genevieve Digby.

The curriculum is based on materials from the Canadian Patient Safety Institute's PSEP ([Patient Safety Education Program](#)), as well as the Royal College's [ASPIRE \(Advancing Safety for Patients In Residency Education\)](#), and composes various learning strategies, including self-learning modules, redesigned PS rounds, and a QI rotation. Self learning will be based on online modules of the [Institute for Healthcare Improvement's \(IHI\) Open School](#), as well as other materials; the 10 annual PS rounds have been

# Education Report



# Education Report



**Dr. David Taylor**  
Director, Core Internal  
Medicine Program

The education programs in the Department of Medicine continue to move from strength to strength. This past year has seen numerous challenges and even more successes. Our collective move towards the implementation of competency-based medical education continues to be a primary focus. Our programs have made great strides over the year developing the resources and tools we'll need as we move towards the CBME launch date – July 1st, 2017. We have a great team of education leaders doing amazing work preparing for this titanic shift in post-graduate medical education.

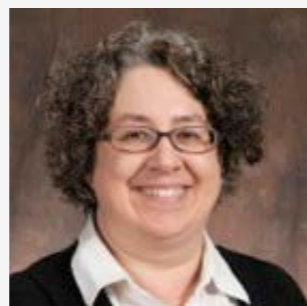
There have also been numerous awards recognizing exceptional contributions to our programs. Dr. Sidd Srivastava was awarded the PARO resident teaching award at Queen's for his amazing contributions to resident education. Dr. Thiwanka Wijeratne was likewise awarded the PARO faculty teaching award for his teaching. At the undergraduate level, the Connell award for outstanding contributions to the education of the graduating class again was awarded to Department of Medicine members, with Dr. Tony Sanfilippo, Dr. David Taylor and Dr. Sue Moffatt each receiving this honour. Beyond the awards, all of our Department members continue to provide the kind of education that keeps our programs at the forefront of medical education in Canada.



# Celebration of Teaching

The Department of Medicine has experienced a tremendous year of teaching accomplishments throughout our divisions. Our faculty takes pride in their approach to medical education and are consistently pushing for academic greatness in their curriculum content and design. We have chosen to highlight some of the achievements of our faculty within our various divisions.

## Geriatric Medicine:



Dr. Chris Frank and Dr. Michelle Gibson co-authored an accredited CME course on care of the elderly with Dr. Frank Molnar. The course is available to CMA members for review. The course focuses on clinical cases that are common when caring for elderly patients in primary care. The course provides learners with a practical approach to managing falls, multiple medications, cognitive changes and weight loss. Details [here](#).



Dr. Sudeep Gill co-authored an editorial in JAMA with Dr. Dallas Seitz. The article "Lifestyles and Cognitive Health. What Older Individuals Can Do To Optimize Cognitive Outcomes" is found in [JAMA August 25, 2015, Volume 314, Number 8](#).



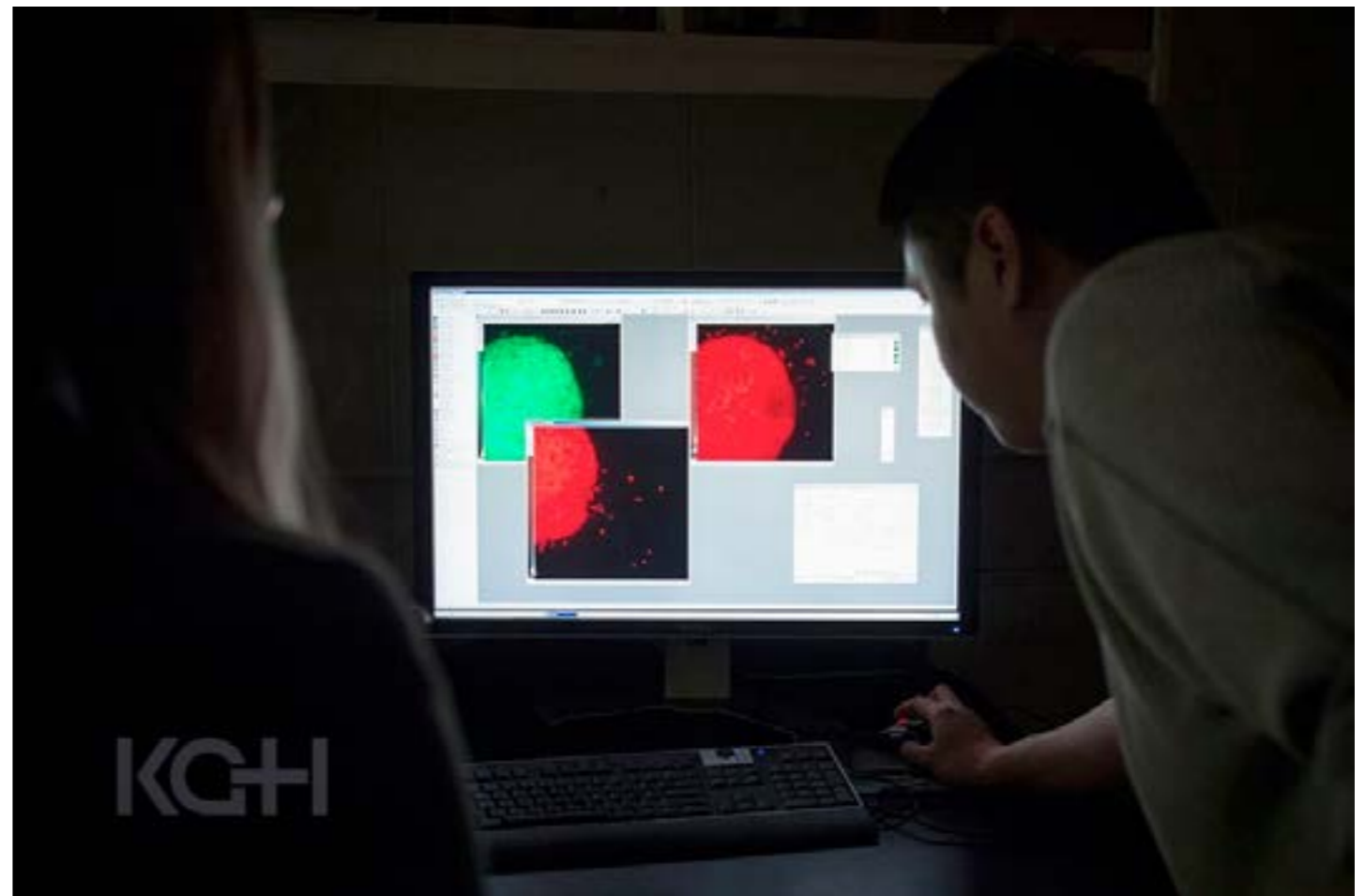
Dr. John Puxty, Chair of the Division of Geriatric Medicine, along with the Centre for Studies in Aging and Health at Providence Care received \$113,000 in funding in 2015-2016 to develop and pilot online resources to Advance Care Planning. They have received an additional \$150,000 to develop an implementation strategy for dissemination to primary care and long term care sites across Southeastern Ontario.



# Research Report

*'Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family'*

*-Kofi Annan, recipient of 2001 Nobel Peace prize*



An image of an artificial tumour embedded in artificial tissue to study how tumour cells behave, and how cancer spreads, at the Cancer Research Institute at Queen's University. (M.Manor/KGH)



# 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 clinical scientists.

## DOM Research Funding

Overall research revenue received by the Department of Medicine increased by 11% in 2015 compared to 2014 (Figure 1). Approximately \$4.7M was received from peer-reviewed funding and \$3.3M from clinical trials funding (Figures 2 and 3). Compared to 2014, there was a 21% increase in research revenue from Tri-council funding sources and a 48% increase from donations. Revenue from other government sources increased by more than 2.5 times, and revenue from miscellaneous sources increased by more than 5 times compared to 2014.

In addition to the 11% increase in research revenue for 2015, \$8.46 million in joint funding was awarded from the Canadian Foundation for Innovation and Ontario Ministry of Research and Innovation to establish the Queen's CardioPulmonary Unit (Q-CPU) and to purchase a super-resolution microscope in the Archer Lab.

## Future Funding

Notably, significant future funding was approved by the Canadian Institutes for Health Research (CIHR) - Strategy for Patient Oriented Research (SPOR). Part of a collaborative effort with researchers from across the country, this funding will support a large-scale, national study of gastrointestinal disease - the largest study its kind in Canadian history.

## DOM Innovation Fund

The Department of Medicine held its third Innovation Fund competition last year. The DOM Innovation Fund is available to faculty members to enhance innovation

## 2015 Research Highlights Include:

- Overall research revenue received by the Department of Medicine increased by 11% in 2015 compared to 2014
- The Department received approximately \$13.2M in peer-reviewed funding and \$3.3M in clinical trials funding
- \$7.7 million in joint funding was awarded from the Canadian Foundation for Innovation and Ontario Ministry of Research and Innovation to establish the Queen's CardioPulmonary Unit (Q-CPU)
- The number of Master's, PhD and Postdoctoral Fellow trainees increased to 63 in 2015 compared to 45 in 2014 (Figure 4)
- DOM Innovation Fund competition awarded \$140,766 in Operating and Education Grants

# Research Report

## Research Funding by Fiscal Year

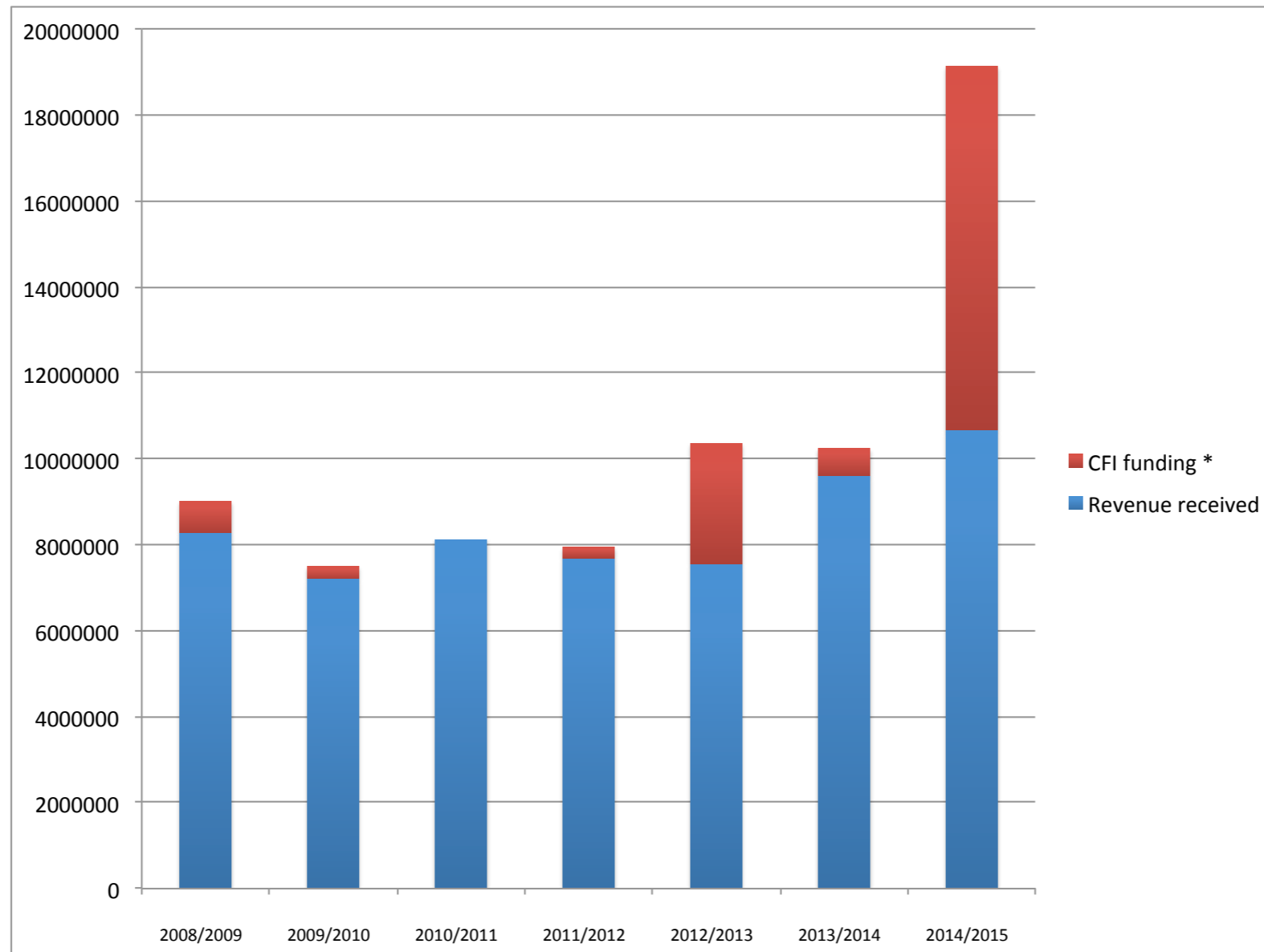


Figure 1

# Research Report

## Fiscal Research Funding Distribution (Total \$)

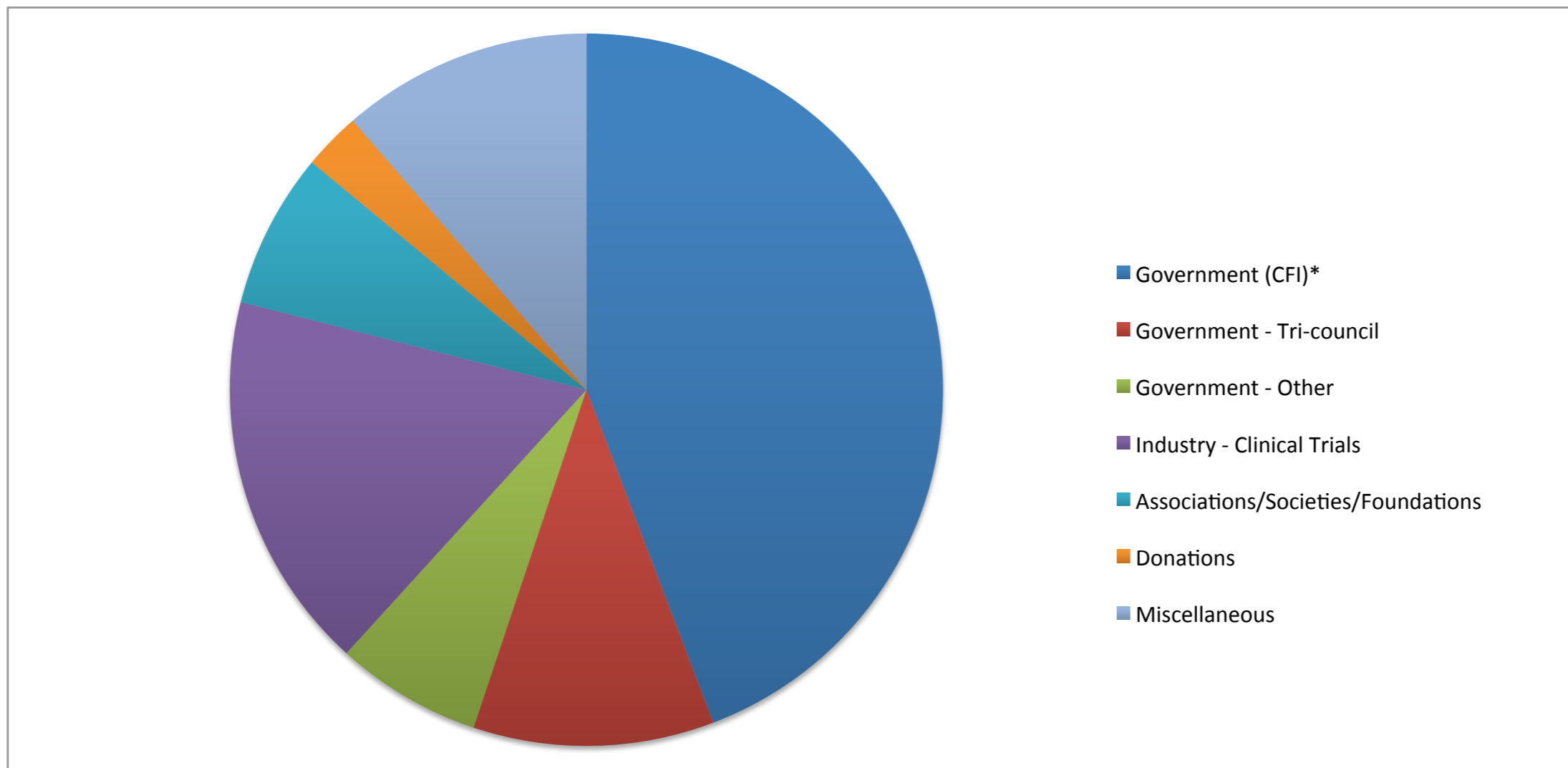


Figure 2

# Research Report

## Fiscal Research Funding By Division

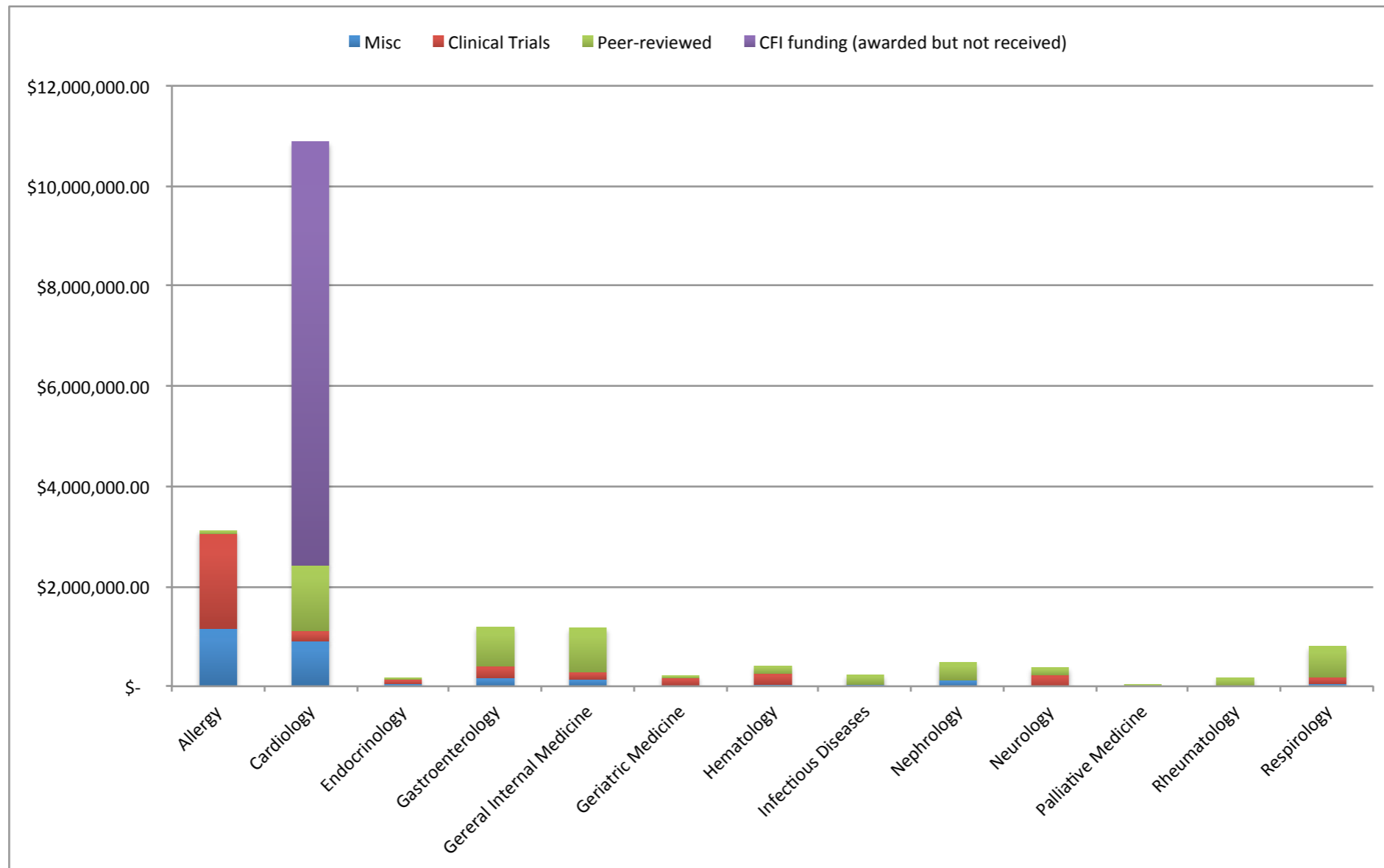


Figure 3

# Research Report

Number of Research Trainees in 2015

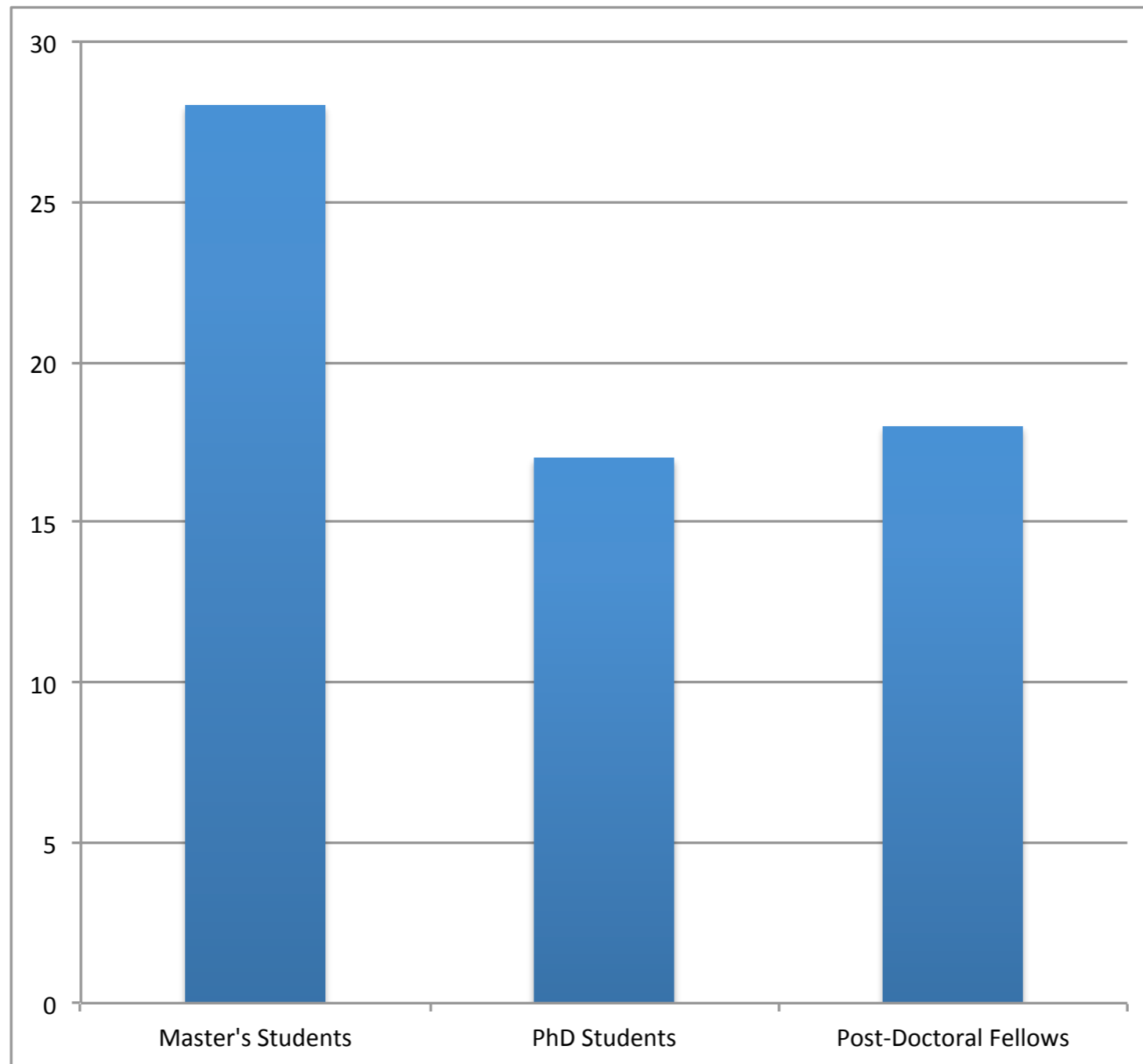


Figure 4

# Events and Awards



# CME Day 2015

The 2nd Annual Department of Medicine Day was very well received with a number of physicians in attendance. This full day educational event featured over 25 speakers. The event offered primary care professionals a comprehensive update and offered attendees the opportunity to meet new faculty. Doctors reviewed the year's most important papers and provided updates on new therapies and diagnostic tools for common medical problems, learning through interactive workshops.

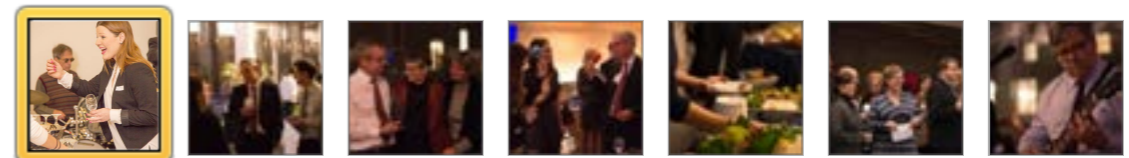
Workshops included topics such as point of care ultrasounds, common dermatologic procedures, diagnosis and therapy of anemia, and many others.



# Annual Awards 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





# Department of Medicine Awards Recipients

*Selected by the Awards Committee*



**Dr. Lysa Lomax**  
Young Clinician Award



# Regional National Collaboration

On July 11th 2015, Queen's University received more than \$16 million dollars in research funding from the Government of Ontario for projects on dark matter, renewable energy, gender in military, heart health, and many more. Dr. Stephen Archer, Head of the Department of Medicine, received \$3,830,497 of the funding for his medical research.

The announcement was presented by Kingston and the Islands MPP Sophie Kiwala who said, "I am thrilled to have this opportunity to congratulate each of the 25 researchers from Queen's University on their well-deserved recognition. Their projects...will build on the innovative leading edge research already underway throughout the province".

Stay tuned for the 2016 report with visits from local MP Mark Gerretsen, and Denise Cole, Assistant Deputy Minister, Health Human Resources Strategy Division.



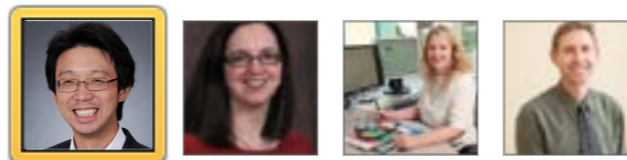
# Last Call Ball Awards Recipients

Selected by Housestaff and Undergraduates



The Last Call Ball is an evening of award presentations and celebration for graduating residents.

**Dr. Barry Chan**  
Clinical Teaching (Inpatient Units)



# 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 with a 70% research portfolio and Dr. Rozita Borici-Mazi, a Clinician Scholar with 80% clinical activity and a 10% educational commitment. Clinically, together they run 9 half day clinics per week at Hotel Dieu Hospital and provide year round in-patient consult coverage at Kingston General Hospital. In their outpatient Allergy/Immunology clinics, a full spectrum of allergic and immunologic disorders are evaluated and treated, including (but not limited to) allergic rhinitis, asthma, atopic dermatitis (eczema), urticaria, angioedema, food allergy, anaphylaxis, drug allergy, stinging insect allergy and immunodeficiency.

The research activities within the Division are tremendous, and are highlighted by the clinical trials conducted by the Allergy Research Unit, led by Dr. Ellis. The flagship of this research program is the **Environmental Exposure Unit** (EEU), an internationally recognized and validated controlled allergen challenge model of allergic rhinitis. The Division also participates 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 Principal Investigator. In recent years, Dr. Borici-Mazi has been active in the realm of angioedema research.

Dr. Ellis additionally has an interest in epigenetic modifications that predispose to atopy and develop in response to allergic challenge. New areas of expansion for research in the Division for 2015 and 2016 include clinical trials of the safety of new immunotherapies for pediatric patients with combined allergic rhinitis and asthma. Dr. Ellis and Dr. Loughheed from the Division of Respiratory are collaborating on a study of a new therapy for severe allergic asthma.

## Accomplishments in Clinical Medicine

Highlights of 2015 clinical efforts include the ongoing development of the Immunology Training Clinic, with the help of external funds. This is a nurse-led clinic under the supervision of Dr. Borici-Mazi. The Immunology Training Clinic accepts patients with immunodeficiency who require continuous immunoglobulin replacement, and 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 immunoglobulin training has been shown to reduce hospital inpatient costs related to intravenous immunoglobulin administration. The clinic accepts referrals from family doctors and other specialists in the region. Ongoing contributions to the Antimicrobial Stewardship program ensure that the results of our penicillin skin testing clinic evaluations are updated in the KGH/HDH patient care system and accurately reflect the true drug allergy status of patients seen at both hospitals. 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 the affected patients.

## Community Outreach

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 and the American Academy of Allergy, Asthma and Immunology. Locally, Dr. Ellis has been serving on an advisory council to Principal Woolf regarding campus food safety, and allergy policies following the unfortunate anaphylactic death of a first year Queen's student in September 2015.

# Division of Allergy & Immunology

## Education

The Division contributes broadly to the education of Undergraduate medical students through lectures and the facilitation of small group learning (SGL) sessions in the 1st year of training. In addition to the pre-clerkship course, as of 2014 the Division also contributes to the Licentiate of the Medical Council of Canada (LMCC) review program. The Division hosts a rotation in Allergy/Immunology combined with Endocrinology in the clerkship year and contributes to clerkship subspecialty teaching seminars as well as Undergraduate Medical Education (UGME) observerships. They contribute to Postgraduate education through participation in Academic Half Day, and Allergy/Immunology rotation, and both members (Dr. Borici-Mazi more so) contribute to teaching on the Internal Medicine CTUs.

Key accomplishments for the Division in 2015 include a new LMCC preparation lecture given by Dr. Borici-Mazi, ongoing assistance with the refinement of a new facilitated SGL case of peanut allergy for the UGME program, as well as participation in several course retreats pertaining to the Mechanisms of Disease UGME course. The Division continues to participate in clinical skills teaching and the clerkship rotation (started in 2012) shared with Endocrinology remains a subspecialty Medicine Clerkship block that has been rated highly by the students.

## Research Highlights

In 2015 the Allergy Research Unit conducted several industry funded clinical trials, self-funded studies, as well as made numerous advancements to remain on the cutting edge of clinical research.

The Environmental Exposure Unit was validated for birch pollen, which was followed up with an industry funded clinical trial with participants being



## Clinician Scientist Profile

Dr. Anne K. Ellis is the Chair of the Division of Allergy & Immunology in the Department of Medicine. In May of 2015 she was awarded the James H. Day Chair in Allergic Diseases and Allergy Research. One of the Clinician Scientists in the Department with 70% protected time for research, she focuses her research program in two main areas of strength – the conduct of clinical trials in the field of allergic disease and the maintenance and follow-up of the Kingston Allergy Birth Cohort, both of which activities are detailed below.

Dr. Ellis is the Director and Principal Investigator for the Allergy Research Unit of Kingston General Hospital, the flagship of which is the internationally recognized **Environmental Exposure Unit**, a controlled allergen challenge facility that can reliably induce symptoms of allergic rhinitis in up to 140 participants simultaneously. In addition to clinical trials utilizing this facility, however, the Allergy Research Unit is active in other studies of novel immunotherapies, allergic asthma and urticaria. One of the highlights of Dr. Ellis' clinical research activities in 2015 included the conduction of a large scale investigator initiated study (IIS), supported by a grant from Merck Canada, which represented that company's largest IIS investment in respiratory research that year. This study, which concluded in 2016 with results pending, was a large scale pilot evaluation to determine if treatment with Grastek®, a grass-specific sublingual immunotherapy product, had any impact on the symptom of birch-pollen induced allergic rhinitis symptoms, and utilized the EEU to determine the answer to this important clinical question of 'epitope spreading'. 93 birch and grass pollen allergic





participants were randomized into the trial, and the details of this study can be found on [clinicaltrials.gov](https://clinicaltrials.gov).

Dr. Ellis also has received previous funding to establish the Kingston Allergy Birth Cohort, which has recruited 400 mother-child pairs for whom cord blood has been collected at birth. Previous studies have evaluated associations between epigenetic alterations in FOXP3, a gene important in regulatory T cell differentiation, to determine if an epigenetic biomarker can be identified at birth that correlates with the later development of atopic disease. This cohort is now between 3 to 5 years of age, and Dr. Ellis continues to solicit support for the ongoing follow-up of the children.



# Patient Story: Margaret S.



Margaret S. is a 57 year old woman first referred to Dr. Ellis in 2011 for recurrent bothersome hives. At that point in time she had been suffering from recurrent, migratory, intensely itchy hives for the previous 8 months. A skin biopsy, review of helpful photos brought in by Margaret and laboratory investigations led to a diagnosis of Chronic Spontaneous Urticaria (CSU), sometimes still referred to as Chronic Idiopathic Urticaria (CIU). This condition affects approximately 1% of the population at some point in their lives, and is typically diagnosed when chronic hives do not appear to be associated with any other systemic disease process, and are not due to one of the physically induced urticarias. Research during the past decade suggests an association with autoimmunity in 35-45% of patients. When severe, it can be resistant to therapy and there is a 40% incidence of accompanying angioedema. While symptoms improved with high dose second generation antihistamines (cetirizine 20mg BID), which are the first line treatment of choice for CSU, but she still didn't have full control despite adding an H2 receptor antagonist (Ranitidine), Marg decided to enroll in a clinical trial that Dr. Ellis was conducting in the Allergy Research Unit of Kingston General Hospital. Omalizumab (Xolair), a monoclonal antibody targeting Immunoglobulin E, had recently been approved by Health Canada for the treatment of CIU, but details regarding optimal dose and duration of therapy are as of yet unknown. Hence the design of "OPTIMA", an open label trial of omalizumab for the treatment of CIU. Margaret, for the first time in 4 years, became completely hive-free during her time in the study, and now continues on this therapy on an ongoing basis, keeping her free of the hives that were significantly impacting her quality of life whilst uncontrolled.

Margaret had the following comments when we spoke to her about her involvement in the trial and the treatment itself. "The experience has been very gratifying – I've really blossomed under this treatment". When it came to the experience of being a study participant she was even more impressed "I really like this [team] ... everyone was very friendly, understanding and made it easy to be involved. They are a highly efficient team and Dan [Adams] in particular was very well organized. I was glad to be included!"

Margaret continues now as a re-instated active clinical patient of Dr. Ellis, who continues to supervise her Xolair injections on a monthly basis. Margaret has yet to have a single hive recurrence since mid-way through the study when the biologic therapy brought about full control of her CSU symptoms. She will continue her q4 weekly injections over the ensuing months, and at some point will consider a trial off the drug to determine if spontaneous remission has occurred.

# 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

## Clinical Accomplishments

Our transcatheter aortic valve implantation (TAVI) program has matured and is now well-established. A robust quality control system is in place and we offer excellent outcomes and safety for these often frail patients. We have participated in a physician-driven national report card on TAVI which will be published soon - every single patient in Canada who has had TAVI is included in these results.

A new cardio-oncology clinic was established by Dr. Raveen Pal.

Danielle Hart, NP, joined the Heart Rhythm team and is working to establish a better model of care for patients with atrial fibrillation (AF). Goals include a reduction in strokes and emergency department presentations.

Dr. Amar Thakrar has developed a partnership with Radiology to greatly increase access to nuclear cardiology testing; increasing volumes and decreasing wait times.

The Inherited Heart Rhythm Disease Clinic was re-constituted and is following over 200 patients with Long QT Syndrome, Brugada Syndrome, Catecholaminergic Polymorphic Ventricular Tachycardia, and Arrhythmogenic Right Ventricular Cardiomyopathy.

**New procedures launched:** Leadless pacemakers, injectable loop recorders.

**New procedures in development:** ASD/PFO closure devices and left atrial appendage occlusion devices.

Kingston General Hospital's cardiac team has GPS-like technology that allows doctors to see real-time, three-dimensional images of the precise location of catheters and tools inside the heart when treating heart rhythm disturbances such as atrial fibrillation or ventricular tachycardia. It is estimated more than 400 patients will be seen in the lab this year. KGH is the first hospital in Ontario to have the technology and only the second in Canada, after Montreal.

### Professors

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

### Associate Professors

Dr. Amer Johri  
Dr. Damian Redfearn  
Dr. Kevin Michael  
Dr. Adrian Baranchuk

### Assistant Professors

Dr. Gerald Adams  
Dr. Peggy DeJong  
Dr. Benedict Glover  
Dr. Henry Kafka  
Dr. Stephen LaHaye  
Dr. Paul Malik  
Dr. Cathy McLellan  
Dr. Michael O'Reilly  
Dr. Raveen Pal  
Dr. Amar Thakrar



Cardiology Team Performs TAVI Photo Credit KGH

## Education

Dr. Kevin Michael instituted a new educational program for new residents in his animal lab at Botterell Hall. The residents are trained in temporary pacing wire insertion and pericardiocentesis. This allows the trainees to become familiar with equipment and techniques in a non-emergent setting.

The Division hosts a Royal College training program in Cardiology (7 residents), a Heart Rhythm fellowship program (3 fellows) and a new Echocardiography fellowship program (1 fellow). Both fellowship programs have applied for accreditation with the Royal College of Physicians and Surgeons of Canada and it is expected they will be among the first subspecialty fellowships in Canada to be formally accredited.

Members of the Division of Cardiology supervise a total of 3 PhD students, a post-doc and 3 Master's students.

Dr. Adrian Baranchuk was designated "ECG Master" by the Iberoamerican Forum of Arrhythmias in the Internet as a recognition for excellence and international reputation in ECG education. He also serves as Director of Interamerican Society of Cardiology (IASC) Academia - responsible for the educational activities of the 40,000-member group.

Dr. Ben Glover was awarded a \$50,000 scholarship from SEAMO to pursue a Master of Education from Johns Hopkins University.

Dr. Peggy DeJong is leading the development of the Division's Competency-Based Medical Education (CBME) curriculum. We are expected to be the first cardiology training program in Canada to implement the new model.

Dr. Raveen Pal established a new CT angiography rotation for cardiology residents.

Dr. Tony Sanfilippo, a member of the Division of Cardiology, continues his exemplary work as Queen's Undergraduate Medicine Dean. He was the winner of the Queen's Faculty of Health Sciences Educational Leadership Award.



Performing pacemaker procedure. Photo Credit to KGH



Dr. Simpson talks with a patient before catheter procedure

Photo Credit. KGH



## **Advancement**

Dr. Adrian Baranchuk received a \$350,000 grant from Bayer to develop an educational platform to educate Canadian residents on the use of the new oral anticoagulant agents (NOACs).

Dr. Chris Simpson served as President of the Canadian Medical Association (CMA).

Dr. Stephen LaHaye, developer of the CabMD billing software, lead the launch of this highly intuitive internet-based OHIP billing platform across SEAMO.

## Research

Dr. Stephen Archer continues to work on the establishment of the Queen's CardioPulmonary Unit (Q-CPU) – a centre for translational research in pulmonary hypertension. Funded jointly by Canada Foundation for Innovation and the Ontario Ministry of Research and Innovation and opening in 2016, this state of the art facility will focus the talents of investigators from basic, clinical and population health sciences departments to develop, test and commercialize new PAH therapies, and enhance linkages between basic and clinical investigators at Queen's in the search for effective treatments for PAH. His additional research efforts include work funded by NIH and CIHR focusing on defining the role of mitochondrial fission/fusion and metabolism in oxygen-sensing/cell proliferation and translating this into pulmonary hypertension and cancer therapies. Dr. Archer is currently a Tier 1 Canada Research Chair in Mitochondrial Dynamics and Translational Medicine.

Dr. Damian Redfearn was awarded a CIHR operating grant (\$597,400) for 2015-2019 for his project "Optimizing Contemporary Sequential Mapping of Atrial Fibrillation Signals as a Strategy to Identify Novel Targets for Ablation".

Dr. Amer Johri was awarded the Ontario Ministry of Research and Innovation Early Researcher Award to develop vascular ultrasound

## Community Outreach

Dr. Adrian Baranchuk led the development of the "Juan Gonzalez Project", a new international educational platform to educate the community on the early recognition of cardiovascular symptoms.

Dr. Amer Johri developed and launched the POCUS Journal ([The Journal of Point of Care Ultrasound](#)).



The EP Lab. Photo Credit KGH



# Patient Story: Ted Dyke

Ted, a 71 year old patient of the Cardiology Division, is a man with an interesting life filled with many hobbies and interests, and a generosity of heart second to none. With a strong family history of coronary artery disease, and losing a father to the disease at the age of 59, Ted understands the importance of cardiac care. Today he reflects on the care he and his family have received from the Cardiology Division at KGH. He notes the atmosphere as warm and friendly, as well as the impeccable follow-up and follow-through by the staff and faculty.

In 1998, Ted knew there was something wrong when he experienced chest pain, dyspnea and exhaustion whilst climbing a hill on a hunting expedition. A trip to the emergency room resulted in testing, diagnosis and ultimately stent placement.

By 2011, Ted had a total of 6 stents and was again experiencing cardiac symptoms. Having no current cardiologist, Ted requested a referral to Dr. Archer, who was also caring for his brother. During their first visit, prompt cardiac testing resulted in an angiogram performed by Dr. Malik. The results of the angiogram led to a triple bypass surgery performed by Dr. Petsikas. The testing and procedure went off without a hitch, and Mr. Dyke's recovery was without complication.

Mr. Dyke was referred to Cardiac Rehabilitation for screening to resume exercise and activity post-surgery. Mr. Dyke's description of the Cardiac Rehabilitation team is nothing short of glowing. His experience was educational and rewarding. Ted saw immense value in the lecture series provided during rehab. They ensured that the patient understands the 'why' behind the care they are receiving, as well as the importance of activity, exercise and nutrition. Once the educational lectures were complete, Ted began the rehab portion of his program. The commitment he made to the staff (Marla, Christine and Susan) who cared for him, was spurred on by their dedication to all of their patients. Their genuine care, compassion and encouragement made him push harder and commit to his goals. Without the Cardiac Rehabilitation team teaching him how to resume activity and eat correctly, the surgery would not have resulted in such success. Mr. Dyke is thankful to all who have helped him regain his health.



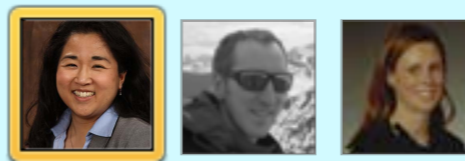
“Kingston’s hospitals provide a warm and relaxed welcome with exceptional care and follow-through”  
Patient



# Division of Dermatology



**Dr. Yuka Asai**



# Division of Dermatology

## Assistant Professors

Dr. Yuka Asai

Dr. Mark Kirchhof

Dr. Benvon Moran

## Education

The Division of Dermatology has an improved undergraduate education course with new and improved small-group learning activities that were well received. The division organized and ran our annual Dermatology CME half day that was very successful.

Dermatology Day was Friday May 29th 2015 at the Donald Gordon Center and had 58 attendees. Most were medical doctors with several nurse practitioners, registered nurses, and students. The Division continues to supervise numerous residents and students providing ongoing clinical teaching activities. Division members, Dr. Yuka Asai and Dr. Mark Kirchhof presented topics such as "Out, Damn'd Spot" Melanoma, "Psoriasis Psoriasis", "Pearls on Pearly Papules", and "Ask a Derm: panel discussion Q&A".

The Dermatology Procedural Skills day was held in the Clinical Simulation Center at Queen's University in May 2015. There were 22 attendees, composed of medical doctors and nurse practitioners. As an accredited workshop it allowed primary care providers to refine dermatological procedures. Subjects covered included topical and local anesthetics, suturing techniques using simulated pads, wound management, and biopsy.

Dermatology Procedural Skills day in Toronto was presented and facilitated by Dr. Mark Kirchhof and Dr. Kimberly Meathrel, both from Queen's University, which took place in November 2015.

Residents doing their dermatology rotation commented:

- "Fast-paced, good exposure to dermatological conditions relevant to internal medicine, as well as real life."
- "Should be a mandatory rotation for all IM residents. The in-patient consults were particularly valuable."

Within dermatology there are several academic half days where specific topics are presented. In



Participants engage in a hands-on workshop



## The Mohs Clinic

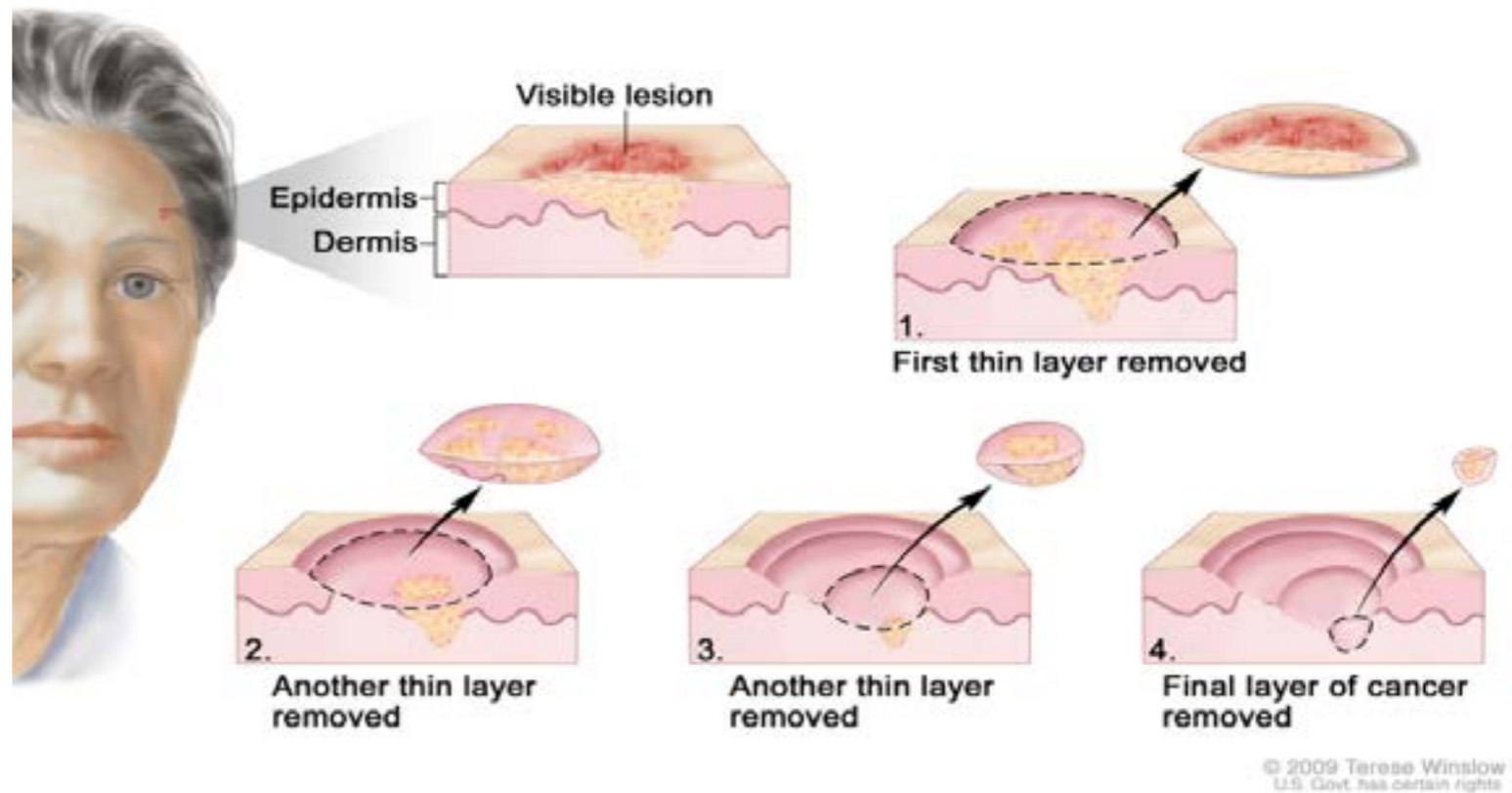
The Mohs clinic is run in Hotel Dieu Hospital and is staffed by Dr. Moran. The clinic was opened on July 27th 2015. Since opening, there have been over 400 Mohs procedures performed.

The Mohs microsurgery clinic is only one of ten in Canada. The clinical team includes one dermatologist, two medical lab technicians, a registered practical nurse, program manager, and clerical staff. The clinic contains three procedure rooms and a dedicated laboratory. The clinic can treat five skin cancers a day, three times a week.

An outpatient procedure under local anesthetic, the Mohs technique is very precise. Very thin layers of cancer containing skin is sliced away and immediately examined under a microscope. The tumor is gradually scraped away

to remove all cancerous tissue, while retaining as much healthy tissue as possible. This procedure works well on the head, neck, and hands, where skin tends to be sensitive and minimal scarring is preferred. With this technique 99% of basal cell cancers and 97% of squamous cell carcinomas can be cured. This is one of the most advanced and effective treatments of removing skin cancer and reconstructing areas.

Skin cancer is the most common type of cancer with incidence of skin cancer increasing in younger patients. Many people in Kingston are at increased risk of skin cancer because the majority of Kingstonians are fair skinned. Mohs surgery was created by Dr. Frederic Mohs in 1936 and was originally very painful and could take days. With modern technology the procedure is relatively painless and can be done in one sitting.



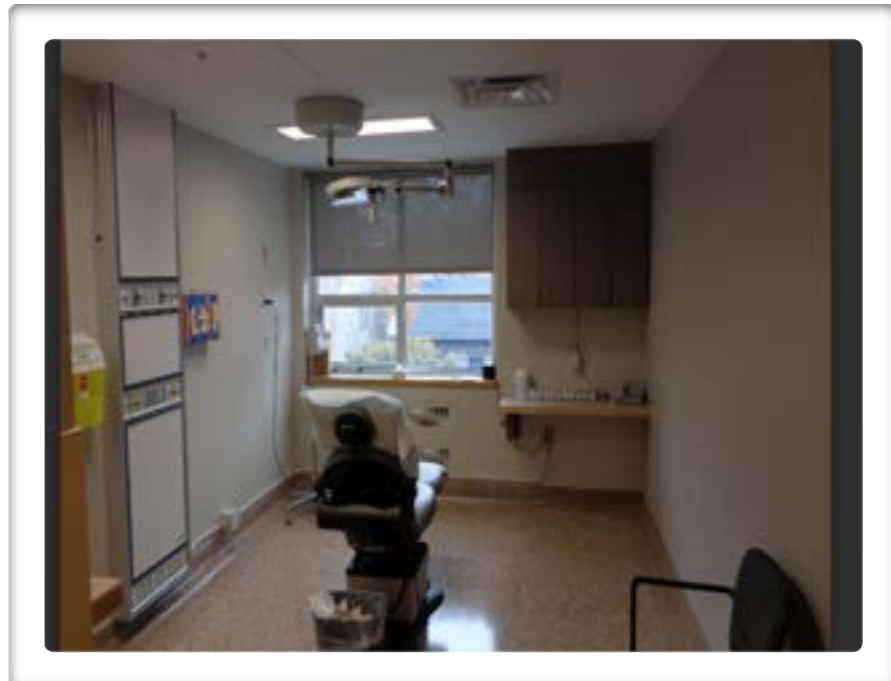
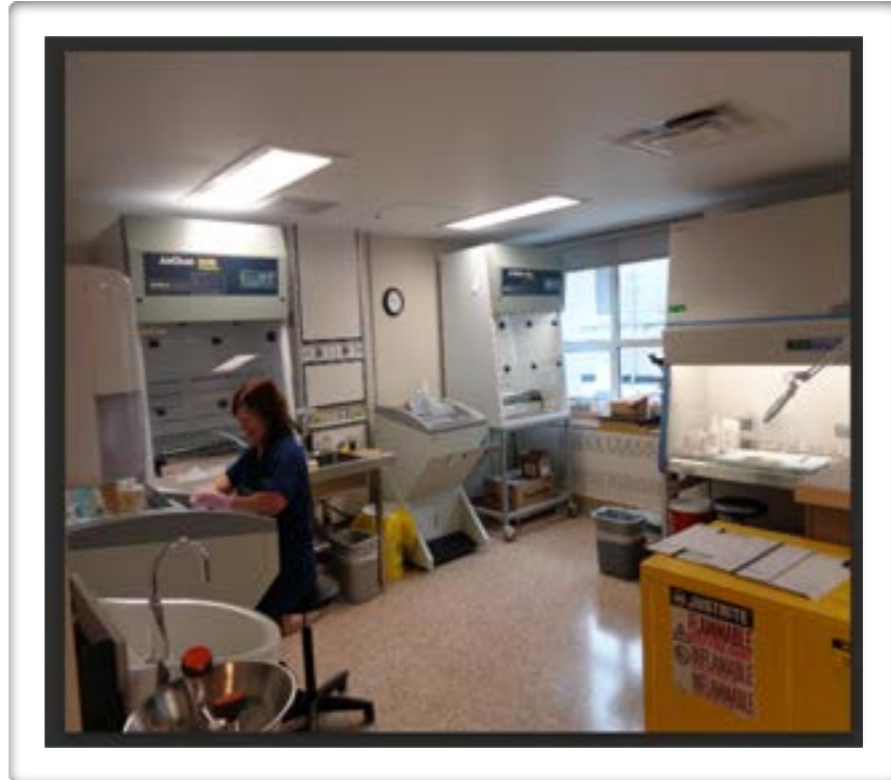
## Research

Despite their heavy clinical load, the members of the division are also hard at work establishing a research portfolio. Dr. Asai was the first author for the national clinical practice guidelines for both acne and rosacea. Dr. Asai is continuing her work on peanut allergy genetics, starting new collaborations with members of the division of Allergy at Queen's. Dr Kirchhof spoke at the Canadian Dermatology Association meeting on his work on the treatment of Stevens-Johnson Syndrome and Biofilms. He is currently working on a clinical database of hidradenitis suppurativa as well as a study on tanning bed use. The division is also embarking on skin cancer research, with the support of a Department of Medicine Innovation Fund grant awarded to Dr. Asai, and will benefit from Dr. Moran's skin cancer expertise in this endeavor. Further research plans include a clinical database for the division.

## Key Clinical Accomplishments

Dr. Asai, Dr. Moran, and Dr. Kirchhof run three clinics a week out of Kingston General Hospital. Through Hotel Dieu, in addition to the Mohs Clinic, other clinics are run with each doctor seeing between 450 and 600 patients in a year through the cancer center.

Collectively, they had over 9000 appointments in 2015. Over half of these patients were repeat patients.



# Providing gold standard treatment for skin cancer by Hotel Dieu Hospital



# Patient Story: Jim Power



“Everything went so smoothly and everyone reacted so quickly”.

- Jim

Jim Power is a 71 year old man who spends a great deal of time outdoors as an avid golfer who enjoys the sun. During his time outdoors Jim applied sunscreen regularly however he developed a cancerous tumour on his lip in 2015.

Jim first noticed a sore on his lip in October. He would often use lip balm on the sore in hopes of healing it, however it wouldn't go away and became painful. On visiting his doctor he was prescribed antibiotics that cleared up the sore somewhat but it still would not completely heal.

By spring, Jim returned to his doctor where his lip was examined again. Realizing this was more serious; Jim's family doctor was quick to refer him to the dermatology cancer clinic. Jim was in the clinic within the week where the cancer was immediately diagnosed.

The dermatologist performed a biopsy and Jim thought he would have to wait weeks for the results and possible surgery. To Jim's surprise he had an appointment within a few days. Jim recalls that the whole process moved incredibly quickly. Dr. Moran performed surgery to remove the cancer from his lip. “She sewed me up and did a lovely job...can't tell it was even cut open”.

After his surgery Jim attended follow-up appointments in the dermatology clinic where they checked his whole body and froze off some suspicious skin spots. A nurse took time to educate Jim on how to perform self-checks for skin cancer and recommended tips to reduce sun exposure.

A few weeks ago Jim saw Dr. Moran for his last check-up with the cancer clinic and he says overall he was very satisfied and impressed with his experience. “Everything went so smoothly and everyone reacted so quickly”. Jim was particularly pleased with the staff in the clinic. He remarked they were nice people doing incredibly important work, and they're doing a great job!

As of Summer 2016, Jim is back outside on the golf course. He remains active, outdoors, and cancer free.

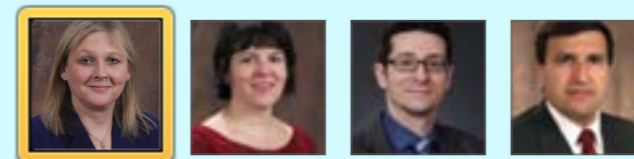
# Division of Endocrinology

## 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 3 members, all of whom are clinician scholars.

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

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.

The Division's newest addition, Dr. Josh Lakoff joined in January 2015 after completing a residency in Endocrinology at Dalhousie University. His clinical interest is thyroid disease and cancer. He has an interest in medical education and is currently enrolled in the 2-year Maastricht University Master of Health Professions Education in the Netherlands. He is also leading efforts to establish a residency program in Endocrinology and Metabolism at Queen's.

The Division is currently trying to recruit a 4th member to replace Dr. Pendar Farahani, who left the division in 2015 to pursue a career in another city.

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

- HDH Diabetes Education and Management Centre
- KGH Diabetes Consult Service with Sarah Moore, APN, CDE; and Melanie Huffman, RN, CDE

## Professors

Dr. Robyn Houlden

## Assistant Professors

Dr. Kathy Kovacs

Dr. Josh Lakoff

Dr. Pendar Farahani





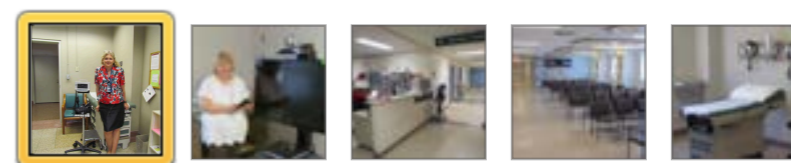
## Key Accomplishments in 2015

### **Multidisciplinary Thyroid Cancer and Thyroid Nodule Clinic:**

This new clinical program was established in 2015 and is held weekly in the Cancer Centre of Southeastern Ontario. It is a multidisciplinary endeavour that was created to enhance the flow with which patients with thyroid nodules with clinical and ultrasonographic risk factors for malignancy are seen. With rapid access to onsite ultrasound-guided fine needle aspiration biopsy, patients can be easily streamlined for surveillance or surgery. Patients with thyroid cancer also receive care in the clinic and have access to a team of providers including head and neck surgeons, endocrinologists and radiation oncologists. The clinic has been successful in achieving its goal of facilitating access to multidisciplinary thyroid cancer care.

**Endocrine Multidisciplinary Cancer Conference:** The Division participates in this committee of surgeons, pathologists, radiologists, radiation oncologists and endocrinologists that meets monthly to discuss complex patients with thyroid and adrenal endocrine tumours, and to develop standardized management protocols.

**Insulin Pumps:** The Division of Endocrinology cares for one of the largest insulin pump patient populations worldwide with over 600 adults and 100 children on insulin pumps. In 2015, the insulin pump clinics moved into the HDH Diabetes Education and Management Centre. This allows patients to be seen by a multidisciplinary team and permits easier access to the information technology needed to support pump therapy.



## Education

- Dr. Houlden was the recipient of a Queen's University Aesculapian Society Education Award
- Dr. Lakoff has taken on the role of a Career Advisor for Undergraduate Medical Education.
- Dr. Houlden contributed to a research study on use of graphic stories as a cultivator of empathy (Wang R, Yu C, Houlden RL. How do I continue to give and pour myself out when I am empty? - Graphic Stories as Cultivators of Empathy in Medical Clerkship". 2015 Canadian Conference on Medical Education , Vancouver, BC, April 25-28, 2015)

Dr. Houlden is recognized as a world expert on insulin pumps and is an international speaker on the topic, having participated in multi-centre and single site studies examining the effectiveness of insulin pumps and continuous glucose monitoring systems.

**Inpatient Management of Diabetes:** Together with an advanced practice nurse and certified diabetes nurse educator, members of the Division of Endocrinology assess, manage and educate inpatients and dialysis patients with diabetes. The Diabetes Consult Service also promotes best diabetes-related practice to nursing and medical staff, and develops related order sets and policies. Demand for services increases annually as the number of inpatients with diabetes rises and inpatient diabetes care becomes increasingly complex.

**Diabetes and Pregnancy Clinic:** This clinic provides care to women with pregnancies complicated by diabetes and other endocrine problems in a multidisciplinary clinic with the Department of Obstetrics and Gynecology. A significant portion of pregnant women serviced are from the James Bay region.



Dr. Josh Lakoff performing a fine needle aspiration biopsy in the Multidisciplinary Thyroid Cancer and Thyroid Nodule Clinic

• • •



***Dr. Lakoff and members of the 2016-2018 Maastricht University Master of Health Professions Education program***

## **Community Outreach**

Dr. Houlden has assumed the role of Chair of the 2018 Canadian Diabetes Association Clinical Practice Guidelines.

She also serves as Medical Advisor to the Lawson Foundation of Canada that provides \$2.2 million in funding to research projects related to delivery of diabetes prevention, treatment and management programs and services through innovation, translational research, knowledge mobilization and quality improvement (<http://lawson.ca/diabetes2016call>)

## **Research Highlights**

Dr. Houlden chaired the development of new national guidelines on diabetes and driving:

- Houlden RL, Berard L, Cheng A, Kenshole AB, Silverberg J, Woo VW, Yale J-F. Diabetes and Driving: 2015 Canadian Diabetes Association Updated Recommendations for Private and Commercial Drivers. *Can J Diabetes* 2015;39:347-353

She also published 2 papers related to insulin pump therapy. One represents the longest published followup of patients on insulin pump therapy.

- Orr Christine J., Hopman Wilma, Yen Joy L., and Houlden Robyn L. Long-Term Efficacy of Insulin Pump Therapy on Glycemic Control in Adults with Type 1 Diabetes Mellitus *Diabetes Technology & Therapeutics*. 2015;17:49-54
- Perkins BA, Halpern EM, Orszag A, Weisman A, Houlden RL, Bergenstal RM, Joyce C. Sensor-Augmented Pump and Multiple Daily Injection Therapy in the United States and Canada: Post-hoc Analysis of a Randomized Controlled Trial. *Canadian Journal of Diabetes* 2015;39:50-4

# Patient Story: Sherry



Sherry has lived with the challenges of type 1 diabetes since 15 years of age but she hasn't allowed diabetes to hold her back from a full life as a busy mother, personal trainer and pharmaceutical sales representative.

To best manage her diabetes, Sherry switched from multiple daily injections to an insulin pump 12 years ago. She strives to keep her blood glucose close to the range of people without diabetes to help reduce her risk for developing long-term complications of diabetes. However, one of the unfortunate potential risks is hypoglycemia or low blood glucose which results in confusion and even loss of consciousness from the brain not getting enough glucose to function. Sherry experienced one of these episodes while driving her car on the highway in March 2015. To minimize her risk of this happening again, Dr. Houlden and the diabetes nurse educators at the Hotel Dieu Hospital Diabetes Education and Management Centre have helped support Sherry with the use of continuous glucose monitoring. In addition to her insulin pump, Sherry now wears a glucose sensor in the skin of her abdomen that measures her interstitial glucose level every 5 minutes and alerts her to rapid falls or low blood glucose levels.

Sherry's increased confidence in her ability to maintain safe blood glucose levels encouraged her husband and her to try for another pregnancy last year. She was supported in the Multidisciplinary Diabetes and Pregnancy Clinic and delivered a healthy girl, Scarlett Hazel McCauley on April 18, 2016.



Sherry is a member of Team Diabetes Canada and has run half-marathons as far away as Reykjavik, Iceland and Honolulu, Hawaii to raise money for the Canadian Diabetes Association as well as her own non-profit foundation, "The Run-Sherry-Run Foundation."

# Division of Gastroenterology

## Mission

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



**Dr. William Paterson**





## Key Clinical Accomplishments

With the recruitment of Dr. Robert Bechara, the Gastrointestinal (GI) Division has greatly enhanced its profile as a centre of excellence for both therapeutic endoscopy and GI motility disorders.

For over a quarter of a century the Queen's GI Division has been recognized for its expertise in "Neurogastroenterology", which encompasses a large number of poorly understood disorders of gastrointestinal motility and sensation. In addition to major research and educational programs in this discipline, Queen's has served as a quaternary referral centre for patients with these disorders, receiving referrals from academic centres across Canada.

Dr. Bechara has now established one of only 3 programs nation-wide in Peroral Endoscopy Myotomy, ("POEM") to treat patients with achalasia and other spastic esophageal motility disorders, and is currently the only endoscopist in Canada with extensive advanced training in this novel procedure (see patient story section). Dr. Bechara is also trained in endoscopic submucosal dissection, which he uses to remove certain large colonic and gastric tumors that previously would have required open surgery.

## Professors

Dr. Jacob Louw  
Dr. Stephen Vanner  
Dr. Michael Blennerhassett  
Dr. William Paterson

## Associate Professors

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

## Assistant Professors

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

## Education

Under the leadership of Dr. Lawrence Hookey, the Division of Gastroenterology hosted two Canadian Association of Gastroenterology “Skills Enhancement in Endoscopy” courses and a “Train the Colonoscopy Trainer” course at Hotel Dieu Hospital over a three day period in April. A total of 16 physicians, surgeons and residents took part in this intense, hands on training course involving live patient endoscopy and live streaming of the examinations. Participants included community practitioners and specialists from other academic centres, with faculty from the University of Ottawa and McMaster University coming to Kingston to help out. These courses were conducted in the Endoscopy Education suite, made possible through a generous donation from the B’Nai Brith Foundation.



## Research Highlights

Dr. Vanner and Gastrointestinal Diseases Research Unit (GIDRU) members will lead the Irritable Bowel Syndrome (IBS) component of the \$25M national Canadian Institute of Health Research study on diet-microbiome studies with their counterparts at McMaster. A cohort of 2000 IBS patients will be collected from across Canada and symptoms and samples analyzed in response to interventions that alter the diet and/or the microbiome.

The GIDRU microbiome centre construction begins this year to create a state-of-the-art human chemostat facility to generate microbiome therapy from human stool. Funded by NIH, Dr. Elaine Petrof leads studies to treat *C. difficile* colitis and will collaborate with GIDRU members to explore whether these therapies may be helpful in other gastrointestinal disorders such as IBS and IBD.

GIDRU has been strengthened by the addition of a new clinician scientist, Dr. David Reed, who examines nutrient and pain signaling in the intestine. GIDRU members continue to conduct important studies that examine satiety signaling (Dr. Beyak), liver cancer (Dr. Flemming), inflammation, pain signaling, stem cells (Dr. Lomax), and inflammation/strictures (Dr. Blennerhasset, Dr. Macleod), and optimization of colon cleansing and endoscopic procedure techniques (Dr. Hookey, Dr. Bechara).

### Notable Recent Discoveries

\* Dr. Jennifer Flemming and colleagues demonstrated that there has been an increase in the incidence of both intrahepatic and extrahepatic cholangiocarcinoma in Canada over the past 20 years. However, they also found

## Outreach

Chronic Hepatitis C (HCV) is an asymptomatic chronic infection that is estimated to infect approximately 1% of the Canadian population with up to 50% of individuals infected unaware of their HCV status. Within Ontario, the highest prevalence of HCV infection is within the Kingston area. Over the past several years amazing progress has been made in the treatment of HCV with new Health Canada approved direct acting anti-viral medications (DAAs) able to cure over 90% of individuals with short courses of well-tolerated oral therapies. The ability to cure HCV is associated with significant health benefits including decreasing the risk of developing cirrhosis, hepatocellular carcinoma, requiring liver transplantation and importantly has been shown to improve overall survival.

With the advances in HCV therapy, there has been an increase in the need to be able to provide high level, timely care to individuals with HCV. Further, given that a large burden of active HCV disease resides within marginalized populations such as current injection drug users, the tertiary care hospital setting may not be the ideal environment to care for all patients infected with HCV.

Hepatologists Dr. Jennifer Flemming and Dr. Catherine Lowe are experts in the care of patients with HCV, having treated hundreds of patients in the Kingston area with new DAA therapies over the past several years. In response to the growing demand for HCV care, they have expanded their clinical practice to the community setting with the opening of an off-site HCV treatment clinic. "Hepatology Kingston" opened in May 2016 and is located on John Counter Blvd. The clinic allows for rapid access for referring physicians to HCV treatment assessment. The clinic has an on-site FibroScanner which provides the ability to stage an individual's underlying



liver disease the same day and therefore treatment decisions can be made at the first clinic visit. Additionally, Dr. Flemming and Dr. Lowe have entered a new partnership with the Kingston Street Health facility and are providing HCV consultations to their clients on a monthly basis.



# Queen's University and Kingston General Hospital – leading the way for achalasia patients!

## **The only Canadian hospital offering the POEM procedure!**

Achalasia is thought to be an uncommon swallowing disorder that affects about 1 in every 100,000 people. However, it is becoming diagnosed more often, likely due to increased awareness of physicians and patients, rather than an increased incidence. The major symptom of achalasia is usually difficulty with swallowing. Most people are diagnosed between the ages of 25 and 60 years. Although the condition cannot be cured, the symptoms can usually be controlled with treatment. Dr. William Paterson, Chair of the Division of Gastroenterology at Queen's University, has treated hundreds in Kingston with these symptoms. Achalasia is not more prominent in one sex over another. While the condition can be misdiagnosed as various other GI disorders, this is occurring less due to increased awareness.

Patients often experience the sensation that swallowed material, both solids and liquids, gets stuck in the chest. This problem often begins slowly and progresses gradually. Many people do not seek help until symptoms are advanced. Some people compensate by eating more slowly and by using maneuvers, such as lifting the neck or throwing the shoulders back, to improve emptying of the esophagus. Other symptoms can include chest pain, regurgitation of swallowed food and liquids, heartburn, difficulty burping, a sensation of fullness or a lump in the throat, hiccups, and weight loss.

There are a number of treatments available to the patient before moving towards another medical procedure. Traditionally, achalasia has been treated by laparoscopic Heller myotomy, pneumatic dilation, and botulinum (Botox) injection. With the introduction of the POEM procedure (Peroral Endoscopic Myotomy), there is now the ability to better tailor the procedure to the patient and allow for faster recovery while offering the safety of previous endoscopic treatments.

Dr. Robert Bechara, Assistant Professor at Queen's University is the expert in the procedure in the Kingston area. The procedure was developed and first performed successfully in Japan by Dr. Haruhiro Inoue in 2008. Dr. Bechara completed a one-year formal fellowship in POEM with Dr. Inoue. Since 2008 many medical centres including Johns Hopkins in Baltimore, USA has performed successful operations using the POEMS procedure.

Patients can be referred to the GI unit in Kingston or a referral can be faxed from the referral form located on the website [www.achalasia.ca](http://www.achalasia.ca). There is currently a waiting list of about 2-3 months. The percentage of people who experience achalasia after the procedure is approximately 5%.

# Patient Story: Brian Inkster

A 50 year old man who had suffered from 20 years of daily dysphagia, chest pain and regurgitation was referred to gastroenterology for what was thought to be a stricture at the pylorus. Initial endoscopy performed by Dr. Hookey demonstrated a massive dilated esophagus which resembled the stomach body. Dr. Hookey made the diagnosis of advanced achalasia and referred the patient to Dr. Bechara for a Peroral Endoscopic Myotomy which is a new endoscopic procedure used to treat achalasia. The patient had very advanced achalasia which previously may have been referred for esophagectomy as this was one of the treatments for “end-stage achalasia” (attached X-ray).

However, POEM has allowed these patients with advanced disease to be successfully treated. Currently, physicians who perform POEM are increasing world-wide, and in Kingston, Dr. Bechara has completed formal intensive training to do these procedures. With the advanced nature of this patient’s achalasia, many POEM operators in the world would not have been comfortable with doing the procedure. The patient underwent a successful POEM without any complication here at KGH on April 4th 2016 and was discharged home April 5th 2016.

Below are his communications with Dr. Bechara over the days and weeks following the procedure (with permission).

## April 7 2016

“All is going VERY well.

My throat is doing great and not sore at all, swallowing is normal. Continuing on the meds and nothing to report there.

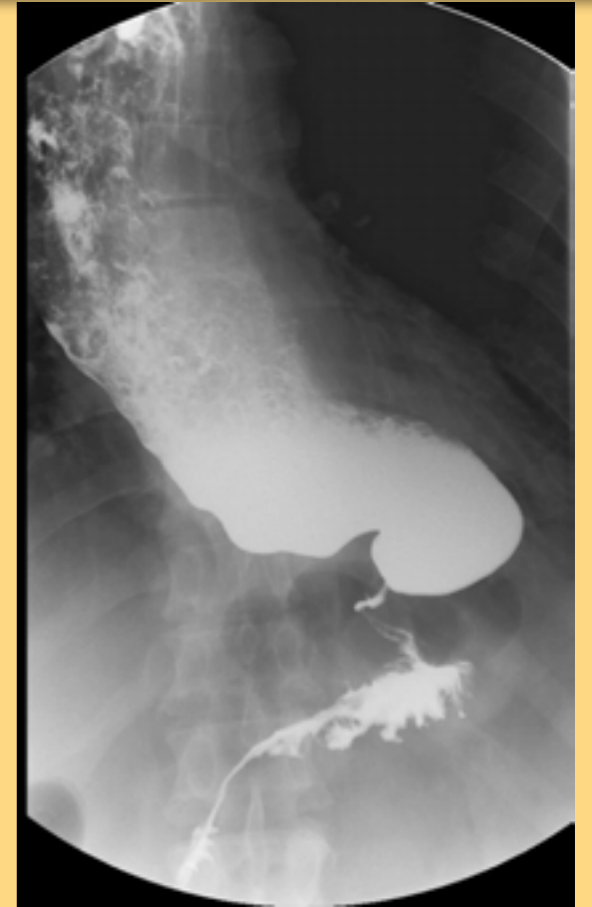
Was out with my brother today in Kingston doing shopping (note he carried things) and had no ill effects. Was no weakness or tiredness. Also absolutely no pain in the chest.

Lastly, no fever, soreness or trouble sleeping.”

## April 9 2016

“All is continuing to go well.

I am on solid food and no issues today. Had family dinner with 1/2 chicken leg, potatoes, corn and later dessert. No issues swallowing and no feelings of needing to vomit. It’s now 6:27 pm and all feeling great.”



“No hiccups, regurgitation, getting stuck, pain, nothing exciting of any nature to report. All is going well and eating is the new normal.”

- Patient

# POEMS Patient Story: Karla



People say to me,  
“You look like a different  
person. You look so happy”.

Karla suffered from achalasia for 12 years. She first got heartburn when she was 28, and she slowly got worse. She had lots of heartburn, and would constantly regurgitate her food after eating. After five years she could no longer sleep on her left side or she would start to choke and wouldn't be able to breathe. Her symptoms were worse with stress, and she underwent five balloon dilations with little success. She would feel relief for a week, a month, once six months, but the symptoms would return.

“Everyday was a struggle, but I couldn't fix it so I dealt with it”

Over these twelve years with achalasia, Karla had three children and worked as a salesperson. As a salesperson, Kara has to travel, and eat food with her clients, which was very difficult and stressful. She would try to eat, and then go to the bathroom to be sick, regurgitating several times a day. “I'd stress out if we were in a meeting, and there was food. What do you do?”

Karla was on a liquid diet for three months before her surgery. Her esophagus had formed a bend, almost like a second stomach where food was becoming stuck. What caused her to see Dr. Bechara was when the chest pain was so bad; she thought she was having a heart attack. She went to KGH where she had her esophagus cleaned out and then was referred to Dr. Bechara

“I was a little bit scared. I didn't know him and didn't know what to expect”

There was no need to worry as Karla says Dr. Bechara was professional, friendly and accessible before and after her surgery. She was able to conduct her own research by watching a video of the POEM procedure, and reading tweets on Twitter of people who'd had the same procedure in the United States. She was nervous about the procedure, but felt the time was right.

“The timing couldn't have been better, and it was in Kingston! It was easy and it was accessible and it was covered by OHIP”

When she woke up from surgery, she felt great. “I woke up from the surgery and felt nothing...I wasn't sure they did it”. She felt tightness around her torso, like a belt done too tight, but that feeling faded. Over the next few days she healed quickly, saying “by the fourth day I would have never known I was sick”.

Now Karla continues to work and eat freely. Sometimes she will feel something get stuck in her throat, but can drink

# 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 General Internal Medicine (GIM) has been steadily growing over the past few years. We currently have 12 Division members (3 shared with Critical Care) for a total of 10 FTEs in GIM.

Our newest recruit is Dr. Thiwanka Wijeratne who was one of the first graduates of our 2-year General Internal Medicine Fellowship Program. Dr. Wijeratne is an excellent clinician and educator who is dedicating 40% of his time for academic research.

The Division's clinical work is focused on the Clinical Teaching Units (CTUs), the GIM Consult service and in outpatient general, urgent, bariatric, hypertension and perioperative clinics.

Clinical volumes continue to be high on the inpatient medical teams with in excess of 4,700 patients discharged from the CTU teams alone in 2015. This is a 19% increase compared to 5 years ago and continues to rise. At times the inpatient services have been overstretched and consistently overcapacity thus plans are in place to reevaluate the hospital bedmap and to reassess the admitting / teaching services. The GIM Division currently contributes 2/3 of the attending faculty to the Clinical Teaching Unit services with the remainder coming from the subspecialty divisions.

Members of the Division hold several key administrative positions in the Department of Medicine. Dr. Chris Smith continues as the Division Chair and new CTU Director, Dr. David Taylor has assumed the role of Program Director for the Core Internal Medicine program, and Dr. Barry Chan is an Associate Program Director. Dr. Laura Marcotte has taken over as the Program Director for the General Internal Medicine subspecialty program, and Dr. Laura Milne is now the Core Clerkship Medical Director. Dr. Roy Ilan continues as the Chair of the Department's QI and Patient Safety Committee, and Dr. Phil Wattam is the Assistant Dean for Distributed Education in the School of Medicine.

## Key Clinical Accomplishments

### 1. Excellence in Clinical Care:

The GIM Division provides clinical coverage for 2/3 of the inpatient medical patients on CTU and the medical short stay unit. Even as patient volumes have increased, the length of stay has not, and the inpatient units run efficiently when our acute patients are placed on their home wards. There is a positive working environment with the allied

## Associate Professors

Dr. Roy Ilan  
Dr. Chris Smith  
Dr. David Taylor

## Assistant Professors

Dr. Laura Marcotte  
Dr. Johanna Murphy  
Dr. Laura Milne  
Dr. David Maslove  
Dr. Barry Chan  
Dr. Suzanne Bridge  
Dr. Kristen Marosi  
Dr. Phil Wattam  
Dr. Don Thiwanka Wijeratne

## Research

### Competency Based Medical Education (CBME)

As part of the CBME implementation both David Taylor and Laura Marcotte were successful in being awarded Special Purpose Grants from the Post-Graduate Office. Laura received a \$10,000 grant to study the effect of implementing work based practical assessments (WBPA) in addition to the traditional ITER method of evaluating residents. David received a \$8,750 grant to design a resident orientation package that is aligned with Competency by Design.

### Computerized Data from ICU patients

David Maslove has had a successful year with grant funding and publications related to his work with data management in ICU patients.

2015 - Physician Services Inc, The CONFOCAL Study: Cerebral oxygenation and neurological outcomes following critical illness (co-investigator) \$231,000

2015 - Southeastern Ontario Academic Medical Organization (SEAMO) SEAMO Innovation Fund - Intelligent monitoring for hospital inpatients based on continuous physiologic signals (PI) \$98,619

2015 - Faculty of Health Sciences, Queen's University Kingston General Hospital Garfield Kelly Cardiovascular Research and Development Fund - Gene expression profiling in critically ill adults at risk of septic shock (PI), \$10,000

2015 - Southeastern Ontario Academic Medical Organization (SEAMO) Departmental Development and Innovation Fund - Capture of physiologic data from bedside monitors in the Intensive Care Unit (PI), \$40,000

### Papers:



*Attending Physicians of General Internal Medicine*

## Education

Members of the GIM Division are key educators for residents and students on the Clinical Teaching Units (CTUs) which are the core of inpatient medical training.

## Awards

Several members of the Division have been recognized for their high quality teaching, both at the Undergraduate and Postgraduate levels.

- Dr. Barry Chan was selected by the medical residents as the CTU clinical teacher of the year.
- Dr. Thiwanka Wijeratne received the Fellows' Teaching award during his final year of training.
- Dr. Laura Marcotte was one of the recipients of The Department of Medicine's Young Clinician of the Year Award
- Dr. Chris Smith received the David Ginsburg Mentorship Award.



*General Internal Medicine Fellows*

## Training Programs

The Core Training Program continues to do extremely well, experiencing a full CaRMS match in 2015, resulting in an outstanding group of young physicians recruited to the Program. Many changes are forthcoming with the implementation of Competency Based Medical Education (CBME). Dr. David Taylor is recognized within the group of Core Internal Medicine Program Directors as a innovative thinker and leader in this area.

The General Internal Medicine (GIM) sub-specialty program graduated their first two residents - Dr. Jasmine Kerr and Dr. Thiwanka Wijeratne in 2015. Dr. Kerr accepted a role as a teaching Attending in Kelowna, British Columbia at a UBC affiliated training site. Dr. Wijeratne was recruited by our own Queen's GIM Division and has been a welcome addition to the faculty. Dr. Laura Marcotte is leading this program through its implementation of Competency Based training and is part of the Specialty Committee leading this change.

### **Perioperative Program General Internal Medicine**

Dr. Marosi has been developing the Perioperative Program which began in June 2015. The perioperative program receives 6 to 8 new consults per clinic. Consults are lengthy, as the cases are of a complex nature.

Clinics run a schedule of a half-day for regular patients, and an additional half day for bariatric patients. Patient flow has increased gradually, as the surgery and anesthesiology groups in Kingston learn about the success of the program.

The internal medicine perioperative services is new to Kingston. The goal of the clinic is to optimize patients with chronic medical conditions prior to surgery, address any undiagnosed conditions, and help with informed decision making by using various risk assessment tools. Care is centralized as clinics are run alongside the PSS. We attempt to coordinate patient visits with anesthesiology as much as possible. Currently the clinic identifies high-risk patients for in-patient post-operative follow up by the GIM consult service.

The General Internal Medicine Perioperative program is important, as Kingston is a big surgical referral centre for the region. Some patients can be very complex and have many pre-existing internal medicine issues which could lead to surgical risks. The program helps make surgery safer for patients by identifying problems before they happen. The perioperative program is also an important teaching opportunity for General Internal Medicine fellows and senior residents.

Dr. Marosi's plan for the future of the program is to hopefully expand to an additional clinic per week as demand for the service increases. In addition, the bariatric surgery program will soon start having the actual surgeries take place in Kingston. At that point General Internal Medicine will be closely involved in the patient's preoperative optimization and assessment. Finally, there is an enormous opportunity for research and data collection is underway .



# Resident Story: Dr. Siddhartha Srivastava



Dr. Siddhartha Srivastava has a background in bioinformatics, medicine and computer technology. Currently Dr. Srivastava works as a full-time General Internal Medicine Staff at the Kingston General Hospital. His research interests include clinical informatics, and using technology to improve physician and patient lives.

He started his core residency at Queen's University in 2011, after completing medical school in Calgary. After completing his core residency training he stayed at Queen's University for the General Internal Medicine (GIM) fellowship training program.

When he started medical school he did not have a specialization in mind. In medical school Dr. Srivastava developed an interest in diagnostic uncertainty. He described it like being a detective. First, gathering clues to arrive at the diagnosis, then treating the patient in an acute care hospital, and following up in outpatient care. These interests brought him into the GIM program.

Siddhartha considers the Queen's Internal Medicine core training program to be one of the best in Canada. When he first came to Queen's University, the program was in transition and since then has flourished and become one of the best. He enjoyed the focus on faculty-led resident teaching, the support and care provided for the residents in the program, and resident driven opportunities. Specifically Dr. Srivastava enjoyed the focus on quality improvement for patients and physicians alike, and the ample support received from Department of Medicine and attending staff.

During his fellowship, Siddhartha believed that the attending physicians were the best part of the GIM training program. He noted them as amazing teachers who always had an open door policy. He especially found them very supportive during the Royal college examination year. The GIM faculty provided excellent guidance for career planning and allowed flexibility to pursue specific interests such as informatics research.

Dr. Srivastava has had many mentors as he developed as a clinician. Dr. Murphy, Dr. Morton, Dr. Marcotte, Dr. Smith, and Dr. Taylor were pivotal in shaping his clinical career. They, not only supported and trained him in clinical medicine, but also embodied what an ideal physician should be. Ultimately, they taught him how to be both an excellent clinician and educator. It is thanks to their support, he won the PARO resident teaching award, for outstanding clinical teaching experience during his fellowship.

In research, Dr. Maslove and Dr. Wijeratne were key mentors in shaping Dr. Srivastava's interest in clinical informatics. Their guidance and advocacy helped in making research connections to build his career path. In the future, Dr. Srivastava wishes to continue providing the same guidance he received to junior faculty.

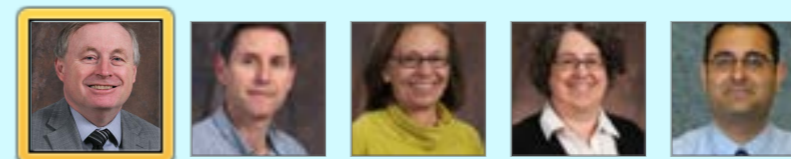
# Division of Geriatric Medicine

## 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

## Key Clinical Accomplishments

Following a recent retirement from the Division of Geriatric Medicine, there has been an extensive review and restructuring of the Memory Clinic. The division has worked towards a marked reduction in wait times for these assessments. Discussion and development meetings have been underway for a new, integrated memory disorders program which will be jointly operated by the divisions of neurology, geriatric psychiatry and geriatric medicine. It is expected this new program should commence in 2017. In anticipation, the division is actively recruiting new faculty to play a leadership role.

The division has been exploring possibilities for collaboration with the recently established Geriatric Assessment and Intervention Network (GAIN) team at Brockville General Hospital (BGH). The Southeastern Ontario LHIN funded this innovative new program effective April 2016. The team includes a nurse practitioner, physiotherapist, occupational therapist, social worker and pharmacy team. This group are devoted to urgent ambulatory assessments of high-risk, frail, complex elderly patients who are referred from the Emergency Room, hospital or primary care physicians. It is anticipated this will result in improved patient outcomes and reduced ER and hospital use. Members of the Division of Geriatrics will provide support to the team through tele-consultations, team conferences, and some on site clinics. The new GAIN team model will be evaluated and potentially developed at other sites in the region.

The Seniors Day Rehabilitation (SDR) Program at Providence Care is an outpatient rehabilitation program for older adults with complex needs. In the past year, the program has changed its model of care and streamlined the intake process, resulting in a significant improvement in wait times. The number of visits has doubled, with a significant

### 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

Dr. Christine Ann Miller



## Education

The Division of Geriatric Medicine is a major site for undergraduate and resident teaching at Providence Care, and supported 48 residents and 25 clerkship rotations in 2015-16. Weekly, the division typically offers three tutorials on common geriatric issues for clerks and residents. Other health professionals within the Geriatric Service are also able to attend these tutorials. A highlight of some of the divisional educational activities are:

1) Several divisional members have been actively developing a number of online educational resources which are used in undergraduate, resident, and continuing education activities. Some examples of this are:

- Recent Care of Elderly Resident, Dr. Ekaterina Dolganova, authored an award winning online **module on Death Certification**.
- Drs. Frank, Gibson and Molnar jointly authored an accredited online course on "**Care of the Elderly**" for the CMA.
- Dr. John Puxty received 2 years of funding from the Southeastern Ontario LHIN to develop, evaluate and disseminate online education resources on Advance Care Planning
- Dr. Michelle Gibson, Dr. Dallas Seitz and Dr. Eve Purdy developed an online module on **Delirium** for use in undergraduate and resident education at Queen's University

2) Dr. Michelle Gibson was recently awarded the **Alumni Association's Alumni Award for Excellence** in Teaching for 2016. The award was established in 1975 to recognize the primary importance of teaching excellence at Queen's University.



## Leadership

South East Ontario has the highest proportion of older adults in the province. Falls among this population can have a significant impact on older adults, their families, and the health care system. In South East Ontario the rates of emergency department visits, and hospitalizations related to falls, are higher than the provincial average. As this population continues to grow, a comprehensive and integrated strategy, with an emphasis on fall prevention and management, is imperative to improve quality of life for older adults and to lessen the burden of falls in this region.

Dr. John Puxty has been working with the South East Ontario LHIN and colleagues from Public Health, Community Care Access Center, Victorian Order of Nurses, and others in collaboration with the Ontario Neurotrauma Foundation (ONF) to create a Regional Integrated Falls Prevention and Maintenance Strategy. Activities to date have included an extensive stakeholder consultation, development of a Steering Committee, and community needs assessment. The strategy, and a 3 year work plan, is currently being refined utilizing external expertise in Implementation Science provided through the ONF.



## Research

Members of the division are active as both independent and collaborative researchers. Below highlights some of the divisional publications and presentations.

1) "You can live to be a hundred if you give up all the things that make you want to live to be a hundred." is a quote from Woody Allen.

**Life expectancy in Canada** is now one of the highest in the World. For example males and females can expect to live more than 2 years longer, than colleagues south of the border. Those extra years should be quality years, so the advice in an editorial by Drs. Sudeep Gill and Dallas Seitz from the August 2015 JAMA is particularly relevant.

This editorial highlighted results from 2 major studies (the LIFE and AREDS2 trials), that evaluated the influence of lifestyle interventions on cognitive

outcomes in older persons. It discussed results from these trials in the context of other recent studies that have investigated exercise and diet interventions to prevent cognitive decline and dementia. The editorial emphasizes a multifaceted approach that includes a healthy diet, regular exercise, cognitive training, and vascular risk monitoring, which has shown success in optimizing cognitive outcomes in older adults. This editorial was featured in the lay press and several media interviews.

*"Lifestyles and Cognitive Health: What Older Individuals Can Do to Optimize Cognitive Outcomes"*

Gill SS, Seitz DP. *Journal of the American Medical Association (JAMA)*. August 25 2015, Volume 314 (issue 8): pages 774-775.

2) Shakespeare, in his comments on several ages of man paints a grim picture of old age ... "Sans teeth, sans eyes, sans taste, sans everything". Fortunately frailty, while common in high users of healthcare, is actually only seen in less than 10% of those over 65 years old. However, that small group accounts for some 60% of health care expenditure.

Dr. Frank's recent review article in *Canadian Family Physician* reviews the various models of primary care available to meet the needs of the truly frail elderly. In seeking to suggest optimal models they also stressed the importance of organizational and remunerative supports, as well as communication between sectors and sites. One of their recommendations was the creation of a repository of best practice models by the College of Family Physicians of Canada.

*"Models of primary care for frail patients" Christopher Frank and C Ruth Wilson Can Fam Physician. 2015 July; 61(7): 601-606.*



Dr. Weir and Dr. Miller in a physical therapy room at St. Mary's On The Lake



## Dr. Erica Weir: Strategic plan and involvement in the Master of Public Health Program

In 2015, Dr. Erica Weir strengthened interdepartmental connections to the foundation of Epidemiology by developing and delivering, along with colleagues Brenda Melles and Duncan Hunter, a strategic plan for the Master of Public Health program. The plan focuses on the theme of “evidence informed action for public health” and enhances professional development through strategies such as using an e-portfolio tool. To further this direction, Dr. Weir developed, and delivered, Master of Public Health Program courses in the fall and winter terms. EPID827, Public Health Leadership and Administration, explored leadership competencies through a cumulative assignment that required students to present evidence informed ideas to a mock Board of Health for funding approval. EPID835, Environmental Health, required students to work with external consultants to assess community health risk and address concerns in a simulated town hall meeting. Moving forward Erica plans to rekindle her links as an editor with CMAJ and enhance the critical appraisal and manuscript preparation skills of students in the Faculty.



Students from EPID835 after competing an Emergency Planning Workshop hosted by KFLA Public Health and Public Health Ontario.

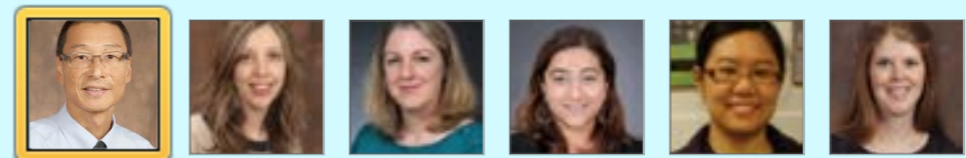
# Division of Hematology

## 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 2015, the Division of Hematology welcomed two new members, Dr. Sita Bhella and Dr. Janet Lui, in addition to the existing cadre of Drs. David Lee (Division Chair), John Matthews, Paula James, and Annette Hay. Daily operations would not be possible without the Administrative Assistants: Shelly Cox, Amanda Carquez, Michelle LeDrew, and Sam Biesick.

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

## Key Clinical Accomplishments

With the addition of Dr. Sita Bhella and Dr. Janet Lui, in combination with the 2014 recruitment of Dr. Annette Hay, the division is experiencing a new and exciting expansion of clinical and academic activity and opportunity.

The Malignant Hematology Disease Site Group (MHDSG) was established in 2015. This is an interdepartmental collaboration between the Divisions of Medical Oncology and Hematology to improve access and delivery of care to patients in our region with hematological malignancies.

Hematology Rapid Diagnosis Clinic began in 2015, as a product of the MHDSG initiative, to improve timely access to care. This clinic has reduced the wait time and backlog of non-urgent outpatient referrals.

### Stem cell transplant program

Dr. Sita Bhella took over as Director of the transplant program in 2015.

### Autologous stem cell transplant program

The stem cell transplant program is growing. With the acquisition of a second apheresis instrument for stem cell collection, 46 autologous stem cell transplants were performed at KGH in 2015 (increased from 33 in 2014). This is the

### Professors

Dr. John Matthews  
Dr. Paula James

### Associate Professors

Dr. David Lee

### Assistant Professors

Dr. Jill Dudebout  
Dr. Annette Hay  
Dr. Sita Bhella  
Dr. Janet Lui

## Education

### Undergraduate Education

The Division of Hematology has had another successful year in undergraduate education. The Blood and Coagulation course, Meds 125, under the leadership of Dr. Paula James, continues its long run as one of the flagship courses in the School of Medicine. Its course ratings remain among the highest in the undergraduate curriculum. Additionally, in 2015, Dr. Lee was awarded another Aesculapian Lectureship Award and Dr. James was nominated for the Faculty of Health Sciences Education Award in 2016, for her accomplishments as course director for the past 11 years.

### Postgraduate Education

The Hematology Residency Training program currently has 5 residents, the most in the history of the program. Under the directorship of Dr. Jill Dudebout (transitioning to Dr. Lui), and supported by the irreplaceable Ms. Shelley Cox, the Program underwent a very positive Internal Review in 2015. Together, with the Masters in Health Professional Education that will be undertaken by Dr. Lui in 2016-2018, the Program is well positioned to enter the era of Competency Based Medical Education. In 2015, Dr. Hay was recognized for her excellence in teaching, as she was awarded the Internal Medicine Subspecialty Teaching Award. Dr. Lui was awarded a SEAMO Medical Education Grant.

The Division is also strengthened by several graduate students in the hemostasis research program, under the supervision of Dr. James.

### Nursing Education

In 2015, the Division and MHDSG launched two new series of lectures on Hematology for the nursing staff in the Cancer Center, and on the inpatient Hematology ward on K9.

Hematology contributed to the Department of Medicine CME event in 2015 (Dr. James and Dr. Matthews).

## Research

The two dominant research foci in the Division are 1. hemostasis (Dr. James), and 2. malignant hematology (Drs. Hay and Bhella)

### 1. Hemostasis research (Dr. James)

Dr. James' internationally recognized research program continues to investigate the biological and clinical aspects of von Willebrand disease (VWD).

### 2. Hematologic Malignancies

a. Clinical Trials (Dr. Hay): As a Senior Investigator in the Canadian Cancer Trials Group (CCTG), Dr. Hay's responsibilities include the development and conduct of



clinical trials, economic evaluations of cancer interventions, and improving opportunities for adolescents and young adults with cancer to participate in clinical research. Interests also include exploration of more efficient means to conduct clinical trials, while upholding patient privacy and safety.

b. Dr. Sita Bhella, having recently been recruited to Queen's in 2015, has presented multiple abstracts on malignant hematology and stem cell transplantation. For her prolific work, she was awarded the American Society of Hematology Abstract Achievement Award in 2015.

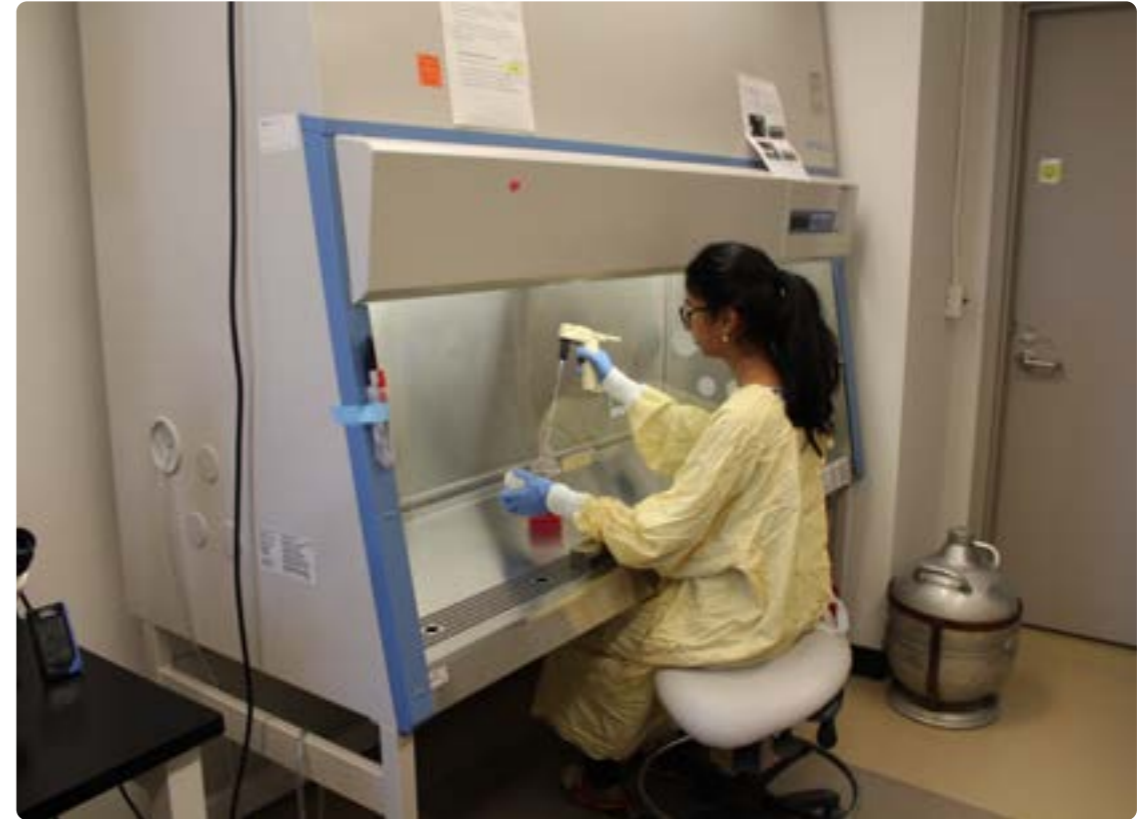
**Papers published since 2015: 18**

**Research funding (current):**

- As PI: \$316,273
- As Co-PI: \$3,241,894

**Awards, nominations, and promotions:**

In 2015, Dr. Bhella received the American Society of Hematology Abstract Achievement Award, and the Society of Hematology and Oncology Young Investigator Award. Dr. James was nominated for the Wallace H. Coulter Distinguished Lecture; International Society for Laboratory Hematology in 2015. The Division celebrated Dr. James' promotion to Professor in 2015.



Phd student Soundaarya Sellam prepares cultures in the hematology lab



## Community Outreach

1. Dr. Paula James was featured on the “[Canadian Health & Family](#)” broadcast on CTV on Saturday, May 14, 2016, where she spread awareness of von Willebrand disease. [Video Source](#)
2. Dr. James launched the [The Let’s Talk Period](#) website (to increase public awareness of bleeding disorders).
3. Dr. Matthews and Dr. Hay were keynote speakers at "Myeloma Canada - Making Myeloma Matter" (April 23, 2016), an educational forum for patients and their families. (figure 2)

Video by UP Creative Group, featured by Canadian Health & Family

# Patient Story: Erica Thomas

This patient story was written by patient Erica Thomas:

In September of 2015, I was diagnosed with Hairy Cell Leukemia (HCL), at the age of 35, and while in my first trimester of pregnancy. I was quite shocked since my symptoms were fatigue, shortness of breath on exertion, loss of appetite and nausea, which I thought were just due to pregnancy.

I was referred to Dr. Annette Hay and she informed me that HCL was rare and usually seen in elderly men, and she had never treated it in pregnancy before. My options for treatment were chemotherapy, splenectomy, or interferon. Since my spleen was enlarged, I chose to undergo a laparoscopic splenectomy in November of 2015, while 18 weeks pregnant. The surgery improved my blood work and gave me a partial recovery.

In February, 2016, I began interferon injections due to low platelets and neutrophils. I had to stop after 2 months due to an allergic reaction (rash, hives), and increased liver enzymes. Dr. Hay liaised closely with my Obstetrician and the plan was to induce labour if platelets and neutrophils didn't improve. Luckily, my baby girl decided to make an early entrance into the world, and I delivered her naturally, without the need for blood or platelets at 38 weeks.

My baby Alyssa is healthy and thriving, I am feeling fantastic, and my blood work continues to improve post delivery! We are putting chemotherapy on hold at the moment since things are trending in the right direction, and to also allow me to breastfeed. In the meantime, I continue with alternative treatments such as altering my diet, exercise, and lifestyle, as well as maintaining a positive attitude.

Dr. Hay is an excellent Hematologist. She really listens to her patients, respects their wishes, and is very caring. She did the best job she could and acquired a great outcome given the circumstance. She looked out for the best interests of both myself and my baby. The nurses and administrative staff made my cancer journey comfortable. They were very friendly and helped answer all of my questions. I cannot express my gratitude enough to the cancer team at Kingston General Hospital. They are wonderful, and I know that with them by my side I will beat this cancer! I hope that my story will help Hematologists manage future patients that are pregnant with HCL since the combination is so rare.



My baby Alyssa is healthy and thriving, I am feeling fantastic!  
- Erica

# Division of Infectious Disease



**Dr. Gerald Evans**



# Division of Infectious Disease

The Division of Infectious Disease provides vital and important contributions to tertiary clinical care of patients across Southeastern Ontario through inpatient and outpatient care at Kingston General Hospital and Hotel Dieu Hospital. The division makes significant contributions to medical education at all levels, from undergraduate through postgraduate, and continuing medical education at Queen's University. The division contributes to the operation of Infection Prevention & Control at Kingston General Hospital, Hotel Dieu Hospital, Providence Care, and Lennox & Addington County General Hospital. It is responsible for, and provides leadership in, Antibiotic Stewardship at KGH, and the Southeast Ontario Local Health Integration Network (LHIN).

Active research areas in the Division includes: the role of the gut microbiome in health and disease, HIV clinical care with involvement in clinical trials, the epidemiology of aging and cardiovascular health in people living with HIV, Lyme disease, and the microbiology of well waters.

- Recruitment of Dr. Gavin Barlow (expected arrival Summer 2016) to enhance Antibiotic Stewardship Program activities, and establish a program to manage bone & joint infections, in particular prosthetic joint infections.
- Refinement of an ongoing fecal microbiome transplant program to manage patients with recurrent *C. difficile* infection.
- Collaboration in providing critical support to an anticipated allogeneic stem cell transplant program at KGH.

## Professors

Dr. Gerald Evans

## Associate Professors

Dr. Elaine Petrof

Dr. Wendy Wobeser

## Assistant Professors

Dr. Jorge Martinez-Cajas



## Research Highlights

### Dr. Petrof

1. Receipt of NIH Grant: Microbes that Matter: defining optimal formulations for Microbial Ecosystem Therapeutics - US \$275,000 renewable to max. of US \$1,200,000 Role: Co-PI

### Selected Publications

1. Administration of defined microbiota is protective in a murine Salmonella infection model. Martz SL, McDonald JA, Sun J, Zhang YG, Gloor GB, Noordhof C, He SM, Gerbaba TK, Blennerhassett M, Hurlbut DJ, Allen-Vercoe E, Claud EC, Petrof EO. *Sci Rep.* 2015 Nov 4;5:16094. doi: 10.1038/srep16094
2. Frozen vs Fresh Fecal Microbiota Transplantation and Clinical Resolution of Diarrhea in Patients With Recurrent Clostridium difficile Infection: A Randomized Clinical Trial. Lee CH, Steiner T, Petrof EO, Smieja M, Roscoe D, Nematallah A, Weese JS, Collins S, Moayyedi P, Crowther M, Ropeleski MJ, Jayaratne P, Higgins D, Li Y, Rau NV, Kim PT. *JAMA.* 2016 Jan 12;315(2):142-9
3. Recurrent Clostridium difficile infection and the microbiome. Almeida R, Gerbaba T, Petrof EO. *J Gastroenterol.* 2016 Jan;51(1):1-10

### Dr. Wobeser

1. HCV in Ontario Prisons study Role: Co-I
2. Submission of CIHR Project Scheme grant to examine recurrent TB in Canada using Whole Genome sequencing Role: Co-PI

### Selected Publications

1. Burchell AN, Gardner S, Light L, Ellis BM, Antoniou T, Bacon J, Benoit A, Cooper C, Kendall C, Loutfy M, McGee F, Raboud J, Rachlis A, Wobeser W, Rourke SB. Implementation and Operational Research: Engagement in HIV Care Among

Persons Enrolled in a Clinical HIV Cohort in Ontario, Canada, 2001-2011. *J Acquir Immune Defic Syndr.* 2015 Sep 1;70(1):e10-e19

2. Burchell AN, Gardner S, Mazzulli T, Manno M, Raboud J, Allen V, Bayoumi A, Kaul R, McGee F, Millson P, Remis R, Wobeser W, Cooper C, and Rourke S Hepatitis C virus seroconversion among HIV-positive men who have sex with men with no history of injection drug use: Results from a clinical HIV cohort. *Can J Infect Dis Med Microbiol.* 2015 Jan-Feb;26(1):17-22

### Dr. Evans

1. Receipt of CFID grant entitled: Metagenomic analysis of drinking well water for rural and marginalized populations in regional Ontario—implications for testing, including human, public and environmental health - \$15,726 Role: Co-I
2. Submission of CIHR Project Scheme grant entitled: Addressing the Health and Economic Burden of Lyme disease Role: Co-PI
3. Submission of CIHR Project Scheme grant entitled: Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): A Randomized Controlled Clinical Trial Role: Co-I

### Selected Publications

1. Update on influenza antiviral drug treatment and prophylaxis for the 2015-2016 influenza season HG Stiver, FY Aoki, UD Allen, GA Evans, M Laverdière, DM Skowronski *J Assoc Med Micro ID* 2016;1:5-7
2. Choosing Wisely Canada - top five list in infectious diseases: An official position statement of the Association of Medical Microbiology and Infectious Disease (AMMI) Canada J Leis, GA Evans, W Ciccotelli, G Garber, D Gregson, TC Lee, N Le Saux, DR MacFadden, L Saxinger, S Shafran, WL Gold  
*J Assoc Med Micro ID* 2016;1:8-12
3. Lyme disease: How reliable are serologic results? Gregson D, Evans G, Patrick D, Bowie W, *CMAJ* 2015;187:1193-4



## Education

- Approval has been obtained to apply for a postgraduate RCPSC fellowship program in Infectious Diseases at Queen's to commence in 2018.
- Dr. Evans was awarded the Queen's University Department of Medicine 2015 Wigle-Depew Master Clinician Award

## Community Outreach

- Collaboration with KFLA Public Health in developing a comprehensive program to deal with Lyme disease in Southeast Ontario.
- Established capacity to deal with HCV referrals to ID clinics to address increasing community demand.

## Queen's CME contributions

- Annual Infectious Disease Update - November 18, 2015 (Dr. Gerald Evans, Dr. Jorge Martinez-Cajas, Dr. Wendy Wobeser)
- Therapeutics Update - February 12, 2016 (Dr. Gerald Evans)
- Annual Department of Medicine Day - May 11, 2016 (Dr. Gerald Evans)



Photo Credit: KGH

# Resident Story: Dr. Evan Wilson



Dr. Evan Wilson started his residency at Queen's University in 2011. He started in internal medicine, studying for three years before specializing in infectious disease training in Calgary.

Dr. Wilson credits the members of the Infectious Disease division with helping support his goal of becoming an ID specialist. In particular, he acknowledges Dr. Gerald Evans as his clinical and academic mentor. Dr. Evans is a well-known infectious disease specialist, and had many clinical pearls of wisdom to pass on, including the infamous list of "Evans' Based Medicine". Dr. Wilson acknowledges the impact Dr. Evans had in helping him make connections to pursue work across Canada, in Calgary and now in Victoria.

In October 2015, Dr. Wilson returned to Kingston General Hospital to spend a month in a senior infectious disease role under Dr. Evans, who gave him independence, and allowed him to make important consultation decisions. Dr. Wilson's clinical plan was supported, and helped him gain experience and confidence to work as an infectious disease consultant in a busy academic hospital.

Dr. Wilson plans to start his own practice in November 2016, where he will be working in Victoria, BC as an infectious disease consultant with Island Health.

At the Last Call Ball, a graduating party for third year residents, Dr. Evans gave a friendly 'roast' of Dr. Wilson

# 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 the 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.

## CONTINUING QUALITY IMPROVEMENT (QI) HIGHLIGHTS

Chair: Dr Ed Iliescu

Despite a growth to over 450 prevalent Hemodialysis patients there has been ongoing, outstanding, performance in the area of Vascular Access and Infection Control. The prevalent dialysis catheter rate is stable at 46 percent, despite the surge in patients, and ranks highly in the Province. The central venous catheter related bacteremia rates have been maintained at a low-level for several years, at a rate of about 0.05 - 0.10 infections per patient-year, equivalent to one infection per ten to twenty years of CVC use.

In December 2015 the QI program detected a drop in serum albumin levels across the board. Working with divisional partners in the Laboratory, it was discovered this was due to an issue with new instrumentation and the abnormality was addressed. This also led to the discovery that ranges for other analytes needed similar correction.

The change in frequency of blood work (from every 4 weeks to every 6 weeks) has led to rationalization of tests in the patient population. Analysis of the CQI data demonstrated no worsening of outcomes in terms of anemia, mineral metabolism and other parameters. The analysis showed a reduction in the number of blood tests, particularly in stable satellite patients, with a more modest reduction in the in-centre population of sicker and more unstable patients in need of frequent testing. Expected consequences are less phlebotomy, less need for iron and EPO, and

### Professors

Dr. Ross Morton

### Associate Professors

Dr. Rachel Holden

Dr. David Holland

Dr. Eduard Iliescu

Dr. Christine White

Dr. Karen Yeates

### Assistant Professors

Dr. Sarah Aloudat

Dr. Jocelyn Garland

Dr. Khaled Shamseddin

Dr. Ben Thomson

# Facilitating an informative plan of action for Primary Care Practitioners and CKD

Dr. Eduard Iliescu, Associate Professor and Regional Medical Lead for the Ontario Renal Network of South-East LHIN, is working to increase the promotion of the “Ontario Renal Network (ORN) KidneyWise Toolkit” to primary care practitioners.

*“The package is really useful. I will refer to it very often. I really felt like the teaching was helpful.” -Primary Care Practitioner*

*“I sometimes feel like kidney disease is difficult to manage, difficult to know when to investigate further, and even refer. This talk made it seem quite easy to understand.” -Primary Care Practitioner*



Dr. Eduard Iliescu and Mr. Richard Jewitt

The comments from the Primary Care physicians (above) are indicative of the perception that many Primary Care Physicians held just a few years ago, when working with kidney disease. Dr. Iliescu saw the need for education, and reached out to begin the active promotion of the toolkit.

The “KidneyWise Clinical Toolkit” was designed to assist Primary Care practitioners in the identification, detection, management, and referral of patients with chronic kidney disease (CKD). The tool is available as an app on the Apple and Google Play store.

Dr. Eduard Iliescu has been working with the Primary Care Lead, Dr. Andrew Everett, via teleconference and email, along with Richard Jewitt, (Program Operational Director, Kingston General Hospital) and Lori Van Manen (Health System Planner) to formulate a high-level plan for integration, focusing on the KidneyWise Tool Kit.



This toolkit includes an evidence-based clinical algorithm that provides a step-by-step approach on how to diagnose and manage patients with CKD. It also includes a summary on the evidence and guidelines on which the algorithm was based. Finally, the toolkit contains a provincial-wide standardized referral form, which reinforces the recommended reasons for referral that can be incorporated into Electronic Medical Record (EMR) systems

Dr. Iliescu presented the toolkit at the local Primary Health Care Council, receiving excellent feedback. CKD and the KidneyWise toolkit have been presented to the Queen's School of Family Medicine twice yearly to capture both resident cohorts receiving excellent feedback.

A longitudinal clinic experience has been developed for Family Medicine trainees to attend nephrology clinics. The objectives of these clinics are to learn about detection, management, and instruction on how to refer CKD patients. The program also familiarizes them with ORN and KidneyWise.

Arrangements have been made for Dr. Allan Grill to present during the Grand Rounds at Queen's Department of Family Medicine. The Department of Medicine is also working on a central referral process on the Department of Medicine website to include the KidneyWise Toolkit.

Outreach to primary care practitioners about the availability of the toolkit has brought forth positive feedback.

*"I am planning to disseminate this to all Nurse Practitioners in the region."*

*"Appropriately oriented to Family Medicine learners"*

*"Very applicable to our practice..."*

*"Great handouts and algorithm on how to manage CKD and when to refer..."*

Click on the hyperlink to learn more about the [Kidneywise Toolkit](#).

## Algorithm Description



**This app, created by the Ontario Renal Network,** follows a new evidence-based clinical algorithm that is designed to help primary care providers with identification, detection and management of chronic kidney disease (CKD) and guide on which patients may benefit from referral to nephrology.

**New Patient:  
Evaluate Risk of CKD**



## ADULT NEPHROLOGY TRAINING PROGRAM

Program Director: Dr. Khaled Shamseddin

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 training program also offers a two-year Nephrology Clinical Fellowship for International Medical Graduates (IMGs) with external funding.

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

As part of moving toward competency based medical education (CBME), Queen's University and the Nephrology Training Program are leading the country in implementing the new CBME curriculum in July 2017. The CBME model will allow the Nephrology trainees to achieve their academic and training milestones and will enhance their performance as competent Nephrologists serving their societies.

The nephrology training program has expanded significantly under the current Program Director, Dr. Khaled Shamseddin. This expansion is a result of excellent teaching attracting new trainees, especially with current and past residents advocating for the program. There are currently two Canadian Nephrology residents, in addition to two clinical fellows, from Saudi Arabia. Four more trainees (two residents and two fellows) will join the program in July 2016. Dr. Dorothy Thomas and Dr. Komal Hussain will be joining the group as PGY-4 residents in July 2016 through the CaRMS match. Dr. Sultan Aldalhbi and Dr. Abdullah Alarayni will also start their training as PGY-4 clinical fellows in July 2016.

Completing training this year is Dr. Muhammad Bukhari and Dr. Faisal Al Homayani, clinical fellows from Saudi Arabia, who will start their Kidney Transplantation Fellowship at McMaster and Western Universities in July and November 2016.

## THE MORNING REPORT IBOOKS

Supervisor: Dr Ross Morton

Dr. Ross Morton continued with supervision of the Chief Medical Residents in the preparation of interesting cases from Morning Reports.

The presenting trainees outlined cases with images and interactive material, as appropriate. Chief Residents then collated these, adding further educational material and forwarded them to one of the Department Members with expertise in that area. The faculty member then provided a discussion based on the information provided. These case collections continue to be published on a regular basis in the Morning Report iBooks.

The Department of Medicine is proud of the iBook program and the Morning Report iBooks. The faculty and residents are utilizing innovative and interactive media formats to enhance education, and it is well-received by learners and faculty alike.

Patafio F, Skinner J, Leiderman Z, Morton R, Smith S, Archer S. The Morning Report Spring 2015

## Research Highlights

### 1. iPACK-HD

The iPACK-HD research program is led by Dr. Rachel Holden, who received CIHR funding for this study in July 2015.

The study is a multi-center, randomized, placebo-controlled clinical trial, that seeks to determine whether treatment with vitamin K prevents the progression of coronary artery calcification in patients with end stage kidney disease.

Vitamin K is a group of fat-soluble vitamins that function as a co-factor for the enzyme  $\gamma$ -glutamyl carboxylase, which activates a number of vitamin K-dependent proteins that are involved in the inhibition of vascular calcification and maintenance of bone mass. Matrix Gla protein (MGP) is an important local inhibitor of vascular calcification, and becomes up-regulated adjacent to sites of calcification. MGP requires vitamin K-dependent  $\gamma$ -carboxylation of its Gla residues in order to acquire calcium binding activity. There is animal model evidence, and newly emerging clinical data, to support a role for vitamin K in the prevention of vascular calcification in the setting of CKD.

In the iPACK-HD clinical trial, patients are randomized to receive 10 mg of phylloquinone or matching placebo to be administered orally following a dialysis treatment three times per week. The total treatment duration of the trial is 12 months. The primary outcome will be the progression of coronary artery calcium score at 12 months. The secondary outcome is the incidence of vertebral fracture. There are no national guidelines that address an optimal intake of vitamin K outside of hemodialysis patients receiving prolonged antibiotic therapy. A simple nutrient strategy that modifies arterial calcification and bone health could reduce morbidity and save lives. The results of this study will serve to answer some fundamental questions and will inform current practice.

### 2. ORAL PHOSPHATE TOLERANCE TESTING

Dr. Rachel Holden and Dr. Christine White received a SEAMO innovation fund grant to develop a test that could be used clinically to diagnose phosphate intolerance. Phosphate is an emerging cardiovascular risk factor, and a key signaling molecule, in the development and progression of vascular calcification. The oral phosphate tolerance test evaluates the excretion of phosphate into the urine after an oral challenge and will determine the expected response in healthy humans across the spectrum of age and sex.



# Nurse's Perspective: Home Dialysis

***"Home is where the heart is..."***

They say that home is where the heart is, and that is very true for many people in Kingston undergoing home dialysis therapies. More patients (25.5%) are seeking home dialysis to enable them to enjoy the freedom to plan their own dialysis at their convenience. This is in line with the Ministry of Health and Long-Term Care's goal to strengthen care in the home and community sector. One of Ontario's fastest growing home dialysis programs is here in Kingston, under leadership of Dr. Ben Thomson and his team of skilled nurses.

Meet Andrea Knapp and Teresa Sager. Dr. Ben Thomson describes them as world class nurses in their area, fantastic advocates for patients, and exceptional spokespeople for the home therapies programs. With over 40 years of nursing experience between them, they offer a unique perspective on home dialysis and its positive impacts on patient quality of life.

Teresa is a home hemodialysis trainer, who has spent four years as a trainer, and 15 years in hemodialysis. Over her years in patient care she noticed a large change in the number of dedicated nursing staff, physicians, and space available for dialysis.

As a nurse, Teresa has found that home dialysis has assisted her in caring for a larger volume of patients, (up to 20) without sacrificing quality of care.

Patients are also able to undergo dialysis whenever they like. Patient-forward care means they can undergo dialysis at their convenience, take less medication, experience fewer crashes, and have far more energy and independence. Twenty-four hour technical support is available to patients who undergo home dialysis, and many patients choose to undergo dialysis overnight so they can spend their days as they wish. Many patients "feel more independent and in control of their life".

***"If patients are not fully supported at home, they will not stay home."***

As a nurse, Teresa finds the most important thing to help patients transition to home dialysis is support during training, at the home, and keeping in contact. "If patients are not fully supported at home, they will not stay home." Teresa stays in contact with her patients through home visits, clinical visits, and



Dr. Ben Thomson with a home dialysis machine

# Division of Neurology



**Dr. Donald Brunet**



## Duodopa Pump

A turning point was announced for Parkinson's patients, and their treatment, here in Kingston by Dr. Stuart Reid and Dr. Giovanna Pari. Both physicians of the Neurology Division had incredible success with a new procedure designed to improve the quality of life for Parkinson's patients.

The new procedure has been only in Canada since January 2015. Nine operations have been completed in Kingston/Belleville, more than anywhere else in Ontario. The procedure includes the placement of a tube into the part of the intestines where the medication, Duodopa (levodopa in a gel form), can be absorbed directly into the bloodstream. There is an external pump allowing a finely tuned, continuous delivery of Duodopa, thereby avoiding peaks and troughs in levels of dopamine. Patients no longer need to take pills every few hours to maintain their mobility. They also no longer have the so-called "off" time where they have poor mobility and severe tremor. The Duodopa pump truly translates into much improved motor control for patients with Parkinson's disease. Patients are extremely pleased with the results. Speaking to one patient, he reports the following about his new treatment: "It has changed my whole life! My walking is great and I shake very seldom. I can go shopping when I want. I can get up on my own and no longer use a lift chair. I don't need to watch the clock to plan my day. My life is so much better!"



This procedure is done for patients referred to the Movement Disorder Clinic, in collaboration with the Division of Gastroenterology, where the procedure is performed. Our team also includes a dedicated nurse who provides information and support to the patient as they learn about, and undergo the procedure. In addition, patients have the benefit of having access to a physiotherapist, a nurse practitioner, and social worker who are all part of the team in the Movement Disorder Clinic.

## Professors

Dr. Donald Brunet

## Associate Professors

Dr. Michel Melanson

Dr. Albert Jin

Dr. Brigit Frauscher

## Assistant Professors

Dr. Gordon Boyd

Dr. Giovanna Pari

Dr. Stuart Reid

Dr. Sean Taylor

Dr. Lysa Boisse Lomax

### **Newest Divisional Recruits: Dr. Birgit Frauscher and Dr. Lysa Lomax**

The Division of Neurology is thrilled to welcome two new recruits, Dr. Birgit Frauscher and Dr. Lysa Lomax. Both are excellent additions to the epilepsy clinic and were newly hired in 2014 and 2015.

Dr. Birgit Frauscher attended Medical School at the Innsbruck Medical University in Innsbruck Austria in 2001. She then completed the neurological residency program at the Medical University of Innsbruck, including a year of training in neurology and epilepsy from 2002 to 2008.

After completing her residency, Dr. Frauscher was the senior neurologist, and Deputy Head of the sleep center at Innsbruck, working with 6 PSG beds. Supervising interns, residents, and fellows, she worked with patients with the full spectrum of sleep disorders. At this time she was also Head of the neurology ward (20 beds), with a specialization in epilepsy, working in the epilepsy outpatient clinic and working with patients experiencing first seizures, difficult-to-treat epilepsy, and epilepsy surgical treatment.

Before coming to Queen's University, Dr. Frauscher was a visiting professor at the EEG laboratory, Montreal Neurological Institute and Hospital at McGill University.

Dr. Frauscher is a high-ranking author of over 94 peer-reviewed papers and remains involved in current research projects in epilepsy. She receives competitive research grants, scholarships, and prizes from international sources such as the European Sleep Research Society, Austrian Neurological Society, and the Austrian Science Fund. She maintains supervision of MD and PHD students in epilepsy and is experienced in presenting lecture activities.

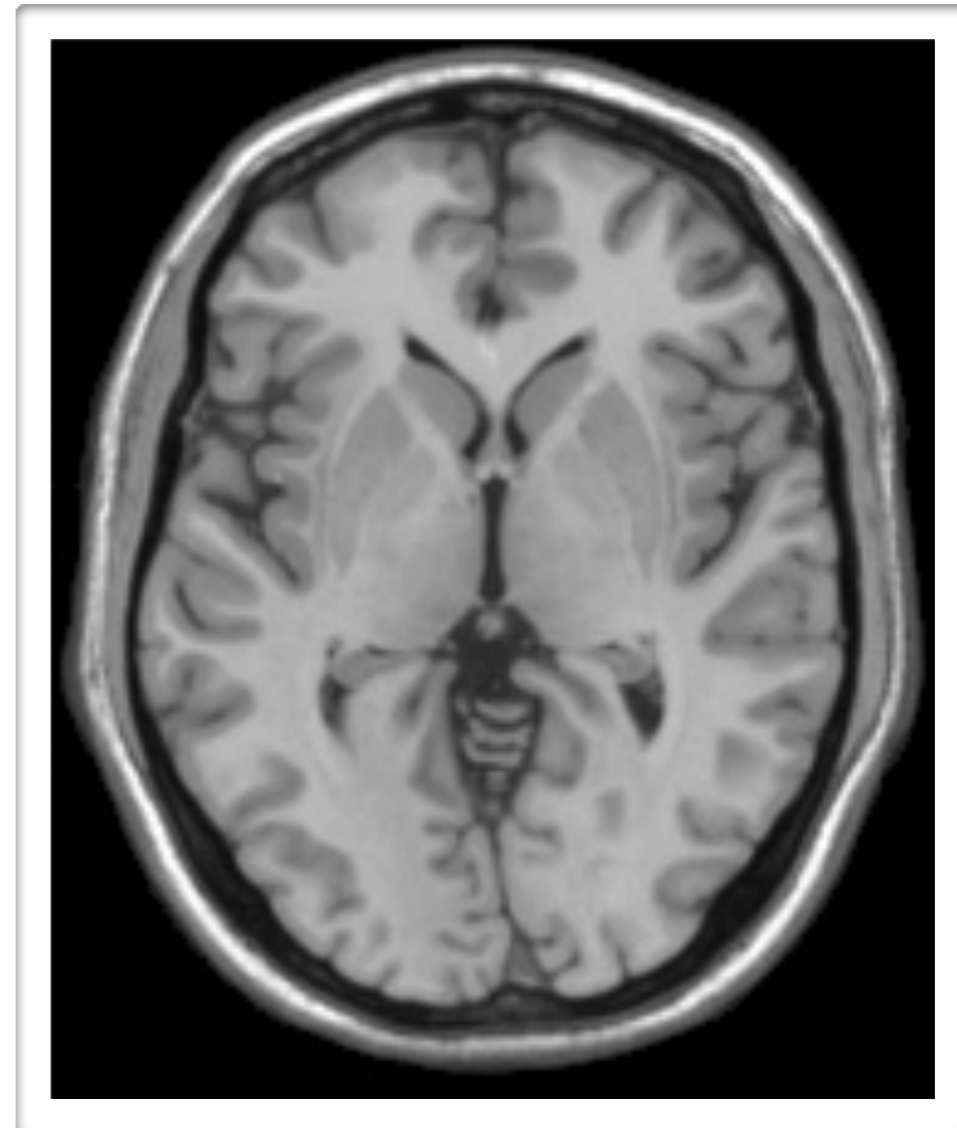
Dr. Frauscher's research program at Queen's is supported by the Savoy Epilepsy Foundation, the Botterell Foundation, the Innovation Grant of Department of Medicine and a Research Initiation Grant of Queen's University. In her lab, the focus is on improvement of diagnosis therapy of people with epilepsy. The lab's main interests are the interactions between sleep and epilepsy, application of HFOs and non-invasive methodologies, and development of normative electrophysiological for different cortical regions.



Dr. Lysa Lomax received her MD and MSc. degrees at the University of Calgary. Dr. Lomax then completed her residency at Queen's University specializing in neurology. After her residency Dr. Lomax took an Epilepsy Fellowship at the University of Melbourne at the Austin Hospital, then a Sleep Medicine Fellowship at Queen's University and KGH.

Dr. Lomax is a member of several Canadian, American, and International neurology groups and remains professionally active with many epilepsy groups. Her research interests include genetics of generalized epilepsy, epilepsy syndromes, and cardiac arrhythmia in epilepsy. New research interests include sleep disordered breathing in acute stroke.

She is certified to read EEG and polysomnography. Dr. Lomax maintains an active clinical practice with multidisciplinary Sleep clinics, Epilepsy clinics, and a transition clinic to guide children and families from paediatrics to adult care. Dr. Lomax participates in Stroke and Neurology inpatient services.



**Purple Day 2016**  
**Celebrate Purple Day All Month Long!**



### The "perfect" Epilepsy Referral:

A perfect referral to the Epilepsy Clinic would be patients who failed a trial of anti-epileptic medication, and who continue to have adverse side effects such as allergic rash and continued seizures on appropriate doses of anti-epileptic medication.

Others with syndromes such as Tuberous sclerosis, Dravet Syndrome, etc. would benefit from referral to the epilepsy clinic.

### Clinical Pearls of wisdom for Epilepsy: ITCH.

**INVESTIGATE** all patients with unprovoked first seizure with EEG and CNS imaging.

**TREAT** patients with two unprovoked seizures, or one unprovoked seizure and abnormal EEG/CNS imaging.

**CHOOSE** the best anti-epileptic. Recommended are lamotrigine, carbamazepine CR, divalproex sodium, or levetiracetam.

**HESITATE** before using phenytoin/Dilantin if possible.

### Dr. Allison E. Spiller Epilepsy Educational Endowment Tree Planting

On Sunday, May 1st over 111 trees were planted in a beautiful rolling field adjacent to Fanshawe Lake in London. Thanks to donors, over 180 trees were purchased and raised over \$4,000 towards the "Allison E. Spiller

Epilepsy Education Endowment" to support health care professionals at Kingston hospitals working with people who help people who have epilepsy. The remainder of the trees will be planted in 2016.



# Patient Story: Garth Scott

Garth Scott is an 84 year old man who, like many Canadians, has Parkinson's disease. In the spring of 2015 he was approached by his neurologist, Dr. Stuart Reid, who asked if he was interested in trying out the new Duodopa treatment for his Parkinson's. Garth readily agreed and in November of 2015 he underwent the procedure, performed by Dr. L. Hookey of KGH whereby he was fitted with a Duodopa diffusion pump. He was the first Kingstonian to do so. The improvement was immediate. Garth now enjoys, as he puts it, a "greatly improved quality of life", a sentiment echoed by his wife Mary Summerfelt.

Garth and Mary have welcomed several Parkinson's patients and their partners into their home, which they share with their Border Collie, Pyper, to discuss the procedure and the positive affect it has had on their lives, both as patient and caregiver. They hope to continue to do so as the need arises.

Garth is retired from DuPont Canada Inc. where he served as Communications Coordinator. He has been an active member of his community for many years including hosting a live phone-in television show, and as a member for several years of The Kingston Whig Standard Community Editorial Board.

Some 20 years ago erratic and unnatural movement of Garth's right arm led to a diagnosis of Parkinson's disease and treatment began. Initially he found he could function more or less normally with little disruption to his quality of life. As time went on Garth began to find that his symptoms worsened and were more difficult to manage. He began to experience bradykinesia (slowness of movement), and dyskensia (involuntary shaking and arm movement). He was forced to give up his woodworking hobby and sell off his tools as it became too dangerous.

He tried several medications, none of which proved entirely satisfactory. He finally settled on Sinemet CR with some regular Sinemet to help "fill in the gaps." This worked fairly well for a number of years, but as time passed Garth found it increasingly difficult to function and froze in place several times. As well, Mary found it difficult to manage his diet, since protein had such a negative impact on the effect of the medication.

In the two years prior to getting the Duodopa pump, Garth found himself increasingly housebound and immobile. As well, he began to feel depressed. It was thanks to the efforts of Dr. Stuart Reid, described by Garth as his all-time favourite doctor, that Garth was accepted into the Duodopa program. That was in 2015 and in October of that year Dr. Hookey successfully performed the procedure to make the infusion possible. In early November the pump was



# Patient Story: Rick Allen

“Shaking, jerking, and shaking - that was life for the Allen's, and all while waiting for the medication to kick in or wondering if it was time for more medication!” -  
Lori Allen

A long journey but finally life is better...

Rick Allen is a gentleman who likes to remain out of the spotlight. So his wife, Lori agreed to tell his story on his behalf.

It has been some twenty plus years, since Rick was diagnosed with Parkinson's. During those years, it was a great struggle for Rick and his wife Lori. Rick and his wife operated a chip truck for over 20 years, until one day it became apparent Rick could not function properly. Rick was having more and more panic attacks and his legs could not handle him carrying items, walking, or both at the same time.

Rick was being constantly told he was depressed and should consider taking anti-depression drugs. The final push to go to hospital was when Rick got stuck in a portable bathroom. When he finally was able to get out Lori rushed him to KGH emergency.

In less than ten minutes, Rick was correctly diagnosed with Parkinson's. The specialist at the time explained the disease to both of them, and explained options for Rick which, at the time, were pills to control his shaking. Despite the medication, Rick could no longer work as he still had difficulty with movement. The disease affected both their lives as they had to sell the Chip Truck and Lori returned to work in nursing again.

Unfortunately, Lori had to leave Rick alone while she was working, which was a huge worry for her, knowing he was at home alone. Their lives became focused on Rick's medication and ensuring it was taken at the correct time to reduce his shakes and tremors.

Today Rick is 61 years old, and he received the Duodopa pump in April 2016. Rick is Dr. Giovanna Pari's patient, and since his implant he is more mobile, cutting the grass with his sit-down lawnmower, and no longer sitting in the car while Lori goes to the store.

The Duodopa pump has provided Rick with an improved quality of life! For example, just this week he drove the car for the first time in ten years from the driveway up the laneway and back. For many that would not be a great achievement, but for Rick it meant one more positive step in his journey living with Parkinson's!



# 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



## Professors

Dr. Deb Dudgeon

## Associate Professors

Dr. Raymond Viola

## Assistant Professors

Dr. Ingrid Harle

Dr. Craig Goldie

## Key Accomplishments in 2015

### Advanced Dyspnea Clinic at Hotel Dieu Hospital:

Dr. Ingrid Harle continues to provide consultative and on-going support to people with advanced Chronic Obstructive Pulmonary Disease (COPD) and heart disease in a half-day clinic each week. She has had a very positive impact on the overall well-being of these patients, so much so that this clinic is now in high demand

### Neuromuscular Disease Clinic at Providence Care:

Dr. Stephanie Connidis provides consultative services to people with Amyotrophic Lateral Sclerosis in collaboration with rehabilitation and other specialists.

### Long-stay Palliative Care Unit beds at St Mary's of the Lake Hospital:

Dr. Greg Patey established longer stay beds for Palliative Care patients at St. Mary's of the Lake Hospital, which has reduced length of stay at KGH, eased long term care wait lists, reduced emergency department visits and improved effectiveness of short stay Palliative Care beds

**Pediatric Palliative Care:** Dr. Craig Goldie is working with members of the Pediatric Department to improve care of pediatric patients with palliative needs.



### Community Outreach

- Dr. Connidis and Dr. Harle are members of the Board of Hospice Kingston and involved in, amongst other things, plans for the residential hospice.
- Lectures to community partners including: South East Community Care Access Center, Long-term Care, Napanee Hospital, Hospice Kingston
- Monthly Regional Palliative Care Rounds: video-conferenced rounds to 10 sites across our LHIN. These rounds are accredited by the Royal College of Physicians and Surgeons of Canada.

### Research

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Viola R, Knott C, Peng YP, Ouellette-Kuntz H, Webber C, Logan D, Groome P. Evaluation of community palliative care initiatives to reduce hospital utilization in southeastern Ontario. Poster presented by Dr. Christine Knott at the SEAMO Innovation Showcase, Faculty of Health Sciences, Queen's University, Portsmouth Olympic Harbour, Kingston, Ontario. May 27, 2015.

Harle I, Raskin W, Hopman W, Booth C. "Prognosis, treatment benefit, and goals of care: what do oncologists discuss with patients who have terminal cancer?" MASCC/ISOO Annual meeting on Supportive Care in Cancer, Jun 26, 2015 Copenhagen, Denmark – Poster Presentation

Mitri M, Klinger D, Harle I. "Adopting a Palliative Care Approach in Patients with COPD: Examining the Perceptions of Physicians, ICRE-October 23-25, 2015, Vancouver B.C.- Poster Presentation

Barbera L, Sutradhar R, Howell D, Sussman J, Seow H, Dudgeon D, Atzema C, Earle C, Husaine A, Lui Y, Kryzanowska MK. Does routine symptom screening with ESAS decrease ED visits in breast cancer patients undergoing adjuvant chemotherapy? *Supportive Care in Cancer*, 2015 October 23 (10):3025-32.

Anita R. Peoples, Peter W. Bushunow, Sheila N. Garland, Charles E. Heckler, Joseph A. Roscoe, Luke L. Peppone, Deborah J. Dudgeon, Jeffrey J. Kirshner, Tarit K. Banerjee, Timothy S. Collins, Shaker R. Dakhil, Marie S. Flannery, Gary R. Morrow. Bupirone for Management of Dyspnea in Cancer Patients Receiving Chemotherapy: A Randomized Placebo-Controlled URCC CCOP Study. *Supportive Care in Cancer*, Epub ahead of print September 2015

Daniel Langer, Katherine Webb, Amany Elbehairy, Alberto Neder, Deborah Dudgeon, Denis

O'Donnell. Dyspnea and exercise intolerance in breast cancer survivors: The role of inspiratory muscle weakness. *European Respiratory Journal*, September 1, 2015, Vol 46 Issue suppl 59

## Education

### Undergraduate

The Division of Palliative care has seen numerous academic successes in 2015, to highlight a few:

1. "Palliative Threads" initiated throughout the undergraduate curriculum
2. Rejuvenation of 1st year medical student home visit program, which has always been well-received and appreciated by the students
3. Palliative Care selective for medical students started

### Post Graduate

1. Total number of residents doing 1 month rotations increased to 70
2. Increase in number of Family Medicine residents doing the combined community/Saint Mary's of the Lake rotation
3. Sub-specialty Palliative Medicine documents finalized for the Royal College of Physicians and Surgeons of Canada and programs can now apply
4. Dr. Dudgeon is Chair of the newly formed Palliative Medicine Sub-specialty Committee of the Royal College of Physicians and Surgeons of Canada

### Continuing Medical Education

1. 4-Day Palliative Medicine CME - continues to be fully subscribed, held twice each year for over 20 years
2. Drs. Connidis and Kondor received LEAP training to become program facilitators for the nationally recognized palliative care training program for health care professionals.



*The Gillian Gilchrist Chair in Palliative Care Research: A Queen's – Lakeridge Health Partnership*

*(Left to right) Gillian Gilchrist, Richard Reznick, Deborah Chiu, Barry Guppy, Deborah Dudgeon, Kevin Empey, Hak Ming Chiu*

## Advancement

### **EXTRA Program (funded by Canadian Foundation for Healthcare Improvement)**

Dr. Kondor is part of a Kingston team, with representatives from Providence Care, Kingston General Hospital and the South East Community Care Access Centre, whose project is to improve access to palliative care services in southeastern Ontario.

### **Canadian Society of Palliative Care Physicians**

Dr. Connidis is a Board member and was chosen to serve as secretary of the Society for the next year. She is also on the Advanced Care Planning Task Group.

### **College of Family Physicians of Canada**

Dr. Connidis is a member of the Palliative Care Committee

### **Royal College of Physicians and Surgeons of Canada**

Dr. Connidis is engaged in national workforce planning.

### **Canadian Partnership Against Cancer**

Dr. Dudgeon is the Senior Scientific Lead for the Person-Centred Perspective and chair of the National Palliative and End-of-Life Care Network



Dr. Ingrid Harle in the Cancer Clinic KGH



# Patient Story: Brent Griffiths

This story was written by Alison Griffiths.

In August 2014 my husband Brent Griffiths was diagnosed with colon cancer at the age of 34. Our twins, Jack and Lily were only 6 years old at the time of diagnosis. He became very sick and was hospitalized in early July 2014, at which time, the doctors thought his symptoms were related to his ulcerative colitis. Brent had surgery to remove his colon and the pathology showed colon cancer with two of twenty-seven lymph nodes involved. Brent was referred to an incredible oncologist, Dr. Chris Booth, and began 6 months of chemotherapy in September 2014.

In early March 2015, Brent's CT scan showed that he was cancer free. In late March he underwent surgery with the intent of having his ileostomy reversed, however, many sesame size tumours involving the peritoneum of the abdominal cavity were found. A biopsy of one of these revealed cancer, and therefore the ileostomy reversal was not done. The surgical team informed us of this terrible news and thus began the roller coaster ride for our family! Dr. Booth referred us to a surgeon in Toronto who could perform a specialized procedure for removing cancers involving the peritoneum; any visible cancerous lesions would be removed, followed by bathing the abdominal cavity with a heated chemotherapy solution. Brent was taken to the operating room for this surgery in June 2015, but unfortunately, for a second time, no surgery was done because the cancer had spread significantly and was involving the bowels as well. Since the tumours were small it was felt he would respond to chemotherapy. Brent's surgical recovery was complicated by a bowel obstruction, with associated pain and vomiting.

Brent was transferred back to Kingston General Hospital for ongoing recovery; he continued to experience abdominal pain, vomiting and thus was not able to eat. The oncology team consulted palliative care for assistance in managing Brent's symptoms. I remember feeling very upset when this referral was made, as I thought the oncology team had "given up" on Brent. I asked a lot of questions and learned that palliative care is more than end of life care; palliative care teams have expertise in relieving symptoms, and therefore can improve a person's quality of life while going through cancer treatments or any other serious illness. Dr. Ingrid Harle came into our lives in July 2015 and she was so kind to us during our initial consultation. I remember her asking Brent if it was okay to sit beside him on the bed. She had a very gentle way about her. She was very focused on both of us and asked a lot of questions about our children as well. Dr. Harle really cared to take the time to get to know us. Brent and I felt very fortunate that she was now part of our medical team. The palliative care team worked hard to figure out the right combination of medications that would improve Brent's symptoms. His bowels were not working properly and our goal was to get chemotherapy started again. By the end of July 2015 a new chemotherapy regimen was initiated. Dr. Harle or one of her colleagues came to see us every afternoon in the hospital and we enjoyed their visits and



The nurses in the palliative care clinic were lovely and kind, always remembering us and asking about our children. This meant so much to both of us!

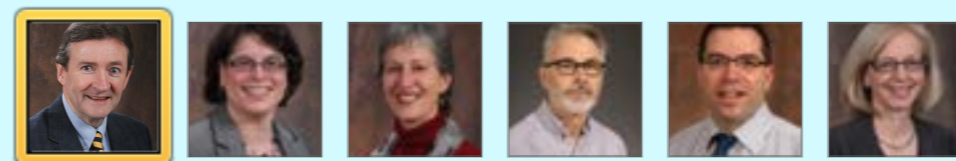
# Division of Respiriology

## Mission

- ◆ To provide excellence in the care of respiratory patients 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 eleven active clinical faculty members in the division, three (Dr. Christine D'Arsigny, Dr. Paul Heffernan and Dr. Christopher Parker) have a 50% intensive care commitment, and three (Dr. Michael Fitzpatrick, Dr. Onofre Moran-Mendoza & Dr. Susan 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 and Dr. Onofre Moran-Mendoza with assistance from all other clinical faculty.

**Interstitial lung disease:** Dr. Onofre Moran-Mendoza

**Lung cancer:** Drs. Genevieve Digby & Chris Parker

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

**Pleural Space Clinic:** Drs. Digby, Fitzpatrick, Heffernan, Moffat & Parker.

**Pulmonary Function Laboratory:** Medical Director -Dr. A. Neder

**Pulmonary hypertension:** Dr. Christine D'Arsigny

**Pulmonary rehabilitation:** Dr. Denis O'Donnell

**Sleep medicine:** Drs. Mike Fitzpatrick & John Garvey [with assistance from Drs. Lysa Boissé-Lomax (Division of

## 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  
Dr. John Garvey



### Major changes in 2015:

Drs. Ron Wigle (General Respirology) and Lutz Forkert (Lung Cancer investigation and staging and Medical Director of the Pulmonary Function Laboratory) retired in 2015. Their legacy of leadership in education, research and clinical care is profound, and deeply respected by their colleagues in the division. It was a nostalgic moment when we came together as a group in the summer of 2015 to mark their retirement, thank them for all that they have contributed to our division, and wish them well for the future.

Dr. John Garvey, a medical graduate of University College Galway, Ireland, with subsequent higher level training in Dublin and in Australia, joined the division in July 2015 as a respirologist and sleep medicine specialist. John's research interests are in inflammatory mechanisms related to obstructive sleep apnea. John also brings tremendous experience in endobronchial ultrasound with him, and has already been a great mentor to our faculty in this area. His prime clinical focus is in the diagnosis and treatment of sleep disorders, and John assumed Medical Directorship of the KGH Sleep Laboratory in late 2015.

Dr. Geneviève Digby, a medical graduate of Queen's University, Kingston, who has also completed her internal medicine and respirology training in Kingston with outstanding accolades, has been appointed to the division with effect Jan 1st, 2016. Dr. Digby's main clinical focus will be lung cancer diagnosis and staging, and her academic interest is in the field of quality and safety in the care of lung cancer patients. We very much look forward to having Geneviève join the group in 2016.



### Key accomplishments in 2015:

**Research:** Research productivity within the Division remained exceptional. In PubMed alone, 35 peer-reviewed articles were listed and a similar number of papers were either in press or in review. The majority of these publications are in highly ranked, peer-reviewed journals and attest to the impressive productivity of this cognate group of researchers. Publications cover a diverse list of topics including: population health studies in asthma, development and assessment of new knowledge translation tools ( D. Loughheed) , cardiopulmonary interactions in patients with combined COPD and heart failure (J.A. Neder), and the systematic interrogation of the heterogeneous physiological abnormalities in patients with apparent “early” COPD ( D. O’Donnell). Important work has also been published by Dr. Genevieve Digby on the preponderance of undiagnosed (and untreated!) COPD among patients being evaluated for lung cancer.

**Featured Researcher:** Dr. Alberto Neder joined the Respiratory Division just over three years ago, accepting a prestigious SEAMO Clinician Scientist award at Queen’s University. Dr. Neder was formally Professor and Head of the largest division of respirology in Brazil, at Sao Paulo University. Here he had a stellar career as an internationally - renowned researcher in the clinical physiology of respiratory diseases. Since his arrival at Queen’s, Professor Neder has established a state-of-the-art exercise testing laboratory which houses sophisticated (and unique) equipment to permit in-depth exploration of cardiopulmonary interactions in patients with combined pulmonary and cardio-circulatory diseases. Prof. Neder is not only a highly productive researcher, with more than 50 peer-reviewed publications since his arrival at Queen’s, he is also a very enthusiastic teacher and mentor. He is one of the foremost experts in clinical integrative physiology on the world stage. The Division of Respirology at Queen’s is honored to have Dr. Neder in the respirology group, and look forward to his critical contribution to our future academic mission.



## Education

**Postgraduate Training Program in Respiriology:** The Respiriology Training Program underwent a change in leadership in late 2015, when Dr. Chris Parker stepped down as Program Director, and Dr. Paul Heffernan took over the role. The division is deeply appreciative of the leadership provided by Dr. Parker over the last 8 years, including a stellar evaluation of the program by the Royal College survey team in 2011, and is also much indebted to Dr. Paul Heffernan for taking up the challenge of program directorship and, already - in a few short months - making a major positive contribution. Dr. Heffernan will lead the program into the new era of competency based medical education (CBME), which will commence in July 2017.

The training program has had another very successful year. Both of our graduating trainees of June 2015 (Drs. Aiden Brazil & Geneviève Digby) successfully completed their Royal College respiriology subspecialty examinations. Dr. Brazil has set up practice in Cornerbrook, Newfoundland, while Dr. Digby has been recruited to the Division of Respiriology at Queen's University (initially part-time, to allow her to complete her Masters degree in Health Quality and Safety, and then full-time as of July 1st, 2016). There are currently four Canadian graduates in our respiriology training program (Drs. Natalie Kozij, Mathieu Saint-Pierre, Christina Liak and Karlo Hockmann), and one clinical fellow from Egypt (Dr. Amany Elbehairy), who is studying respiratory research and sleep medicine. Two Saudi Arabian physicians completed their training in June 2016 (Drs. Muhannad Hawari and Abdullah Alharbi) and returned to Saudi Arabia to commence practice as specialists in respiriology. In addition, Dr. Roain Bayat completed his clinical sleep medicine fellowship in 2015 and has commenced practice as a respiriologist & sleep medicine specialist in Oshawa, and Dr. Rupy Johal (Dept. of

## Undergraduate:

**Ford Connell Award:** Dr. Sue Moffatt has, for a remarkable 6th time, been chosen as the Ford Connell Awardee by the graduating Queen's Medical School class of 2015. This award has hitherto been given to only one faculty member at Queen's University each year - the individual whom the graduating class considers to have made the most outstanding contribution to their 4-year medical school education. In 2016, a decision was made to award this prize to two recipients, rather than one - the two who received most votes from the graduating class. The Division is proud of Dr. Moffatt's remarkable educational achievements. The respiratory undergraduate teaching course, led by Dr. Moffatt, has again been ranked among the top undergraduate courses in the medical school. Drs. Chris Parker and Sue Moffatt continued their extensive leadership and teaching commitments in the medical school at Queen's throughout 2015.

**Lung cancer clinic:** Dr. Lutz Forkert directed the Lung Cancer clinic for the division until his retirement from clinical practice in December 2015. Working with Dr. Ken Reid, Division of Thoracic Surgery, he developed an efficient collaborative algorithm for triage, diagnosis and staging of patients with suspected lung cancer. The addition of endobronchial ultrasound has greatly enhanced the diagnostic and staging ability of the service, and will continue to facilitate accurate and less invasive staging of patients with the disease. Part of the Lung Diagnostic and Assessment Program, the lung cancer diagnostic and staging clinic will be operated by Drs. Digby, Heffernan and Parker henceforth.

## Developments within clinical programs of distinction in 2015

**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
- (v) for patients with very severe disease - 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 clinic:** Dr. Lutz Forkert directed the Lung Cancer clinic for the division until his retirement from clinical practice in December 2015. Working with Dr. Ken Reid, Division of Thoracic Surgery, he developed an efficient collaborative algorithm for triage, diagnosis and staging of patients with suspected lung cancer. The addition of endobronchial ultrasound has greatly enhanced the diagnostic and staging ability of the service, and will continue to facilitate accurate and less invasive staging of patients with the disease. Part of the Lung Diagnostic and Assessment Program, the lung cancer diagnostic and staging clinic will be operated by Drs. Digby, Heffernan and Parker henceforth.



*Dr. Helen Driver in the sleep clinic (photo credit KGH)*

**Sleep Medicine program** The arrival of Dr. John Garvey in July 2015 has revitalized the sleep medicine service. John assumed Medical Directorship of the KGH Sleep Laboratory in late 2015, and his arrival has facilitated more timely access to diagnosis and treatment for patients with sleep-related issues and a strengthening of the academic sleep medicine fellowship program. Dr. Lysa Boissé-Lomax, a neurologist with specialized training in EEG analysis and epilepsy management, and also in sleep medicine, continued to support the sleep medicine program in 2015, and offers sleep medicine trainees an expanded multidisciplinary training opportunity. The

program now offers specialized assessment of patients with suspected nocturnal seizure disorders and unusual parasomnias. The sleep medicine fellowship program is directed by Dr. Mike Fitzpatrick, a respirologist and board certified sleep medicine specialist, and provides advanced sleep medicine training for residents after completion of respirology, psychiatry, neurology or other training programs.

**Adult Cystic Fibrosis Clinic** The Adult CF Clinic continues to grow and now has approximately 50 patients over 18 years of age. Adults now comprise ~70% of the local CF population. There is a close liaison between the Lung Transplant Program at the University of Toronto and the Adult Cystic Fibrosis Clinic at Queen's, with collaborative pre-transplant assessment and post-transplant management of patients with cystic fibrosis.

**Endobronchial ultrasound** The endobronchial ultrasound (EBUS) program has flourished under the leadership of Drs. Paul Heffernan, Chris Parker, John Garvey and Christine D'Arsigny. The procedure is now offered routinely for lung cancer staging and investigation of mediastinal lymph node enlargement and other mediastinal lesions, under sedation and local anesthetic. Working with our colleagues in the Division of Thoracic Surgery, we have facilitated careful triage of mediastinal lesions that are amenable to this non-invasive diagnostic technique from those where there is a bona fide need for thoracic surgical intervention. Our diagnostic yield from this (EBUS) technique equals or surpasses that described in most programs in the literature.

**Interstitial lung disease clinic** "The ILD clinic" is directed by Dr. Onofre Moran-Mendoza and includes patients with virtually every type of interstitial lung disease. One of the core strengths of this clinic is its strict adherence to standardized and validated tools for diagnosis, assessment of disease severity and management of interstitial lung disease. The rapidly developing database and networking of this clinic with other ILD clinics

across the country will provide a tremendous opportunity for research in interstitial lung diseases. The program includes monthly multidisciplinary ILD rounds that include Dr. Sandy Boag (Lung Pathologist) as well as Drs. Rob Dhillon and Justin Flood (Chest Radiologists) to discuss and determine the diagnosis of patients with ILD as per current guidelines and also have an academic/ educational role for the Respirology Fellows and Housestaff rotating in Respirology.

There is also an ILD Fellowship program that has graduated one Respirologist from Saudi Arabia (Dr. Muhannad Hawari) and another Respirologist will start his ILD Fellowship in the upcoming academic year.





### Dr. Diane Lougheed Physician Profile and the Cystic Fibrosis Clinic

Dr. Diane Lougheed is a clinician scientist at KGH, and Professor of Medicine in the Division of Respiriology at Queen's University, cross-appointed to the Department of Biomedical and Molecular Sciences and the Department of Public Health Sciences, She is also an adjunct scientist at the Institute for Clinical Evaluative Sciences (ICES). Dr. Lougheed studied Human Kinetics in her undergraduate degree and was drawn to the diversity in respiratory physiology.

Asthma is her main clinical and research area of expertise. She has held numerous administrative positions. She is Past President of the Canadian Thoracic Society (CTS) and Past Chair of the CTS Asthma Clinical Assembly, responsible for developing national

asthma clinical practice guidelines. She has had a major role in many aspects of Government of Ontario's provincial Asthma Program, including leading the development, evaluation, and implementation of a standardized care map for management of adults with acute asthma in emergency departments and developing standards for asthma data elements for electronic medical records. Since 1995, she has steadily lead the expansion of the local asthma services from an inter-disciplinary Asthma Clinic and Asthma Education Centre, to include a Severe Asthma Clinic, an Asthma Nurse Practitioner clinic, and a Primary Care Asthma Program (PCAP) servicing 8 primary care locations in our region.

Dr. Lougheed is Director of the Asthma Research Unit at KGH, where she conducts both clinical physiology and epidemiology research. She studies how patients perceive asthma symptoms such as shortness of breath (dyspnea) and cough, work-related asthma, and asthma guidelines implementation. She recently collaborated with researchers

## What is your asthma control zone?

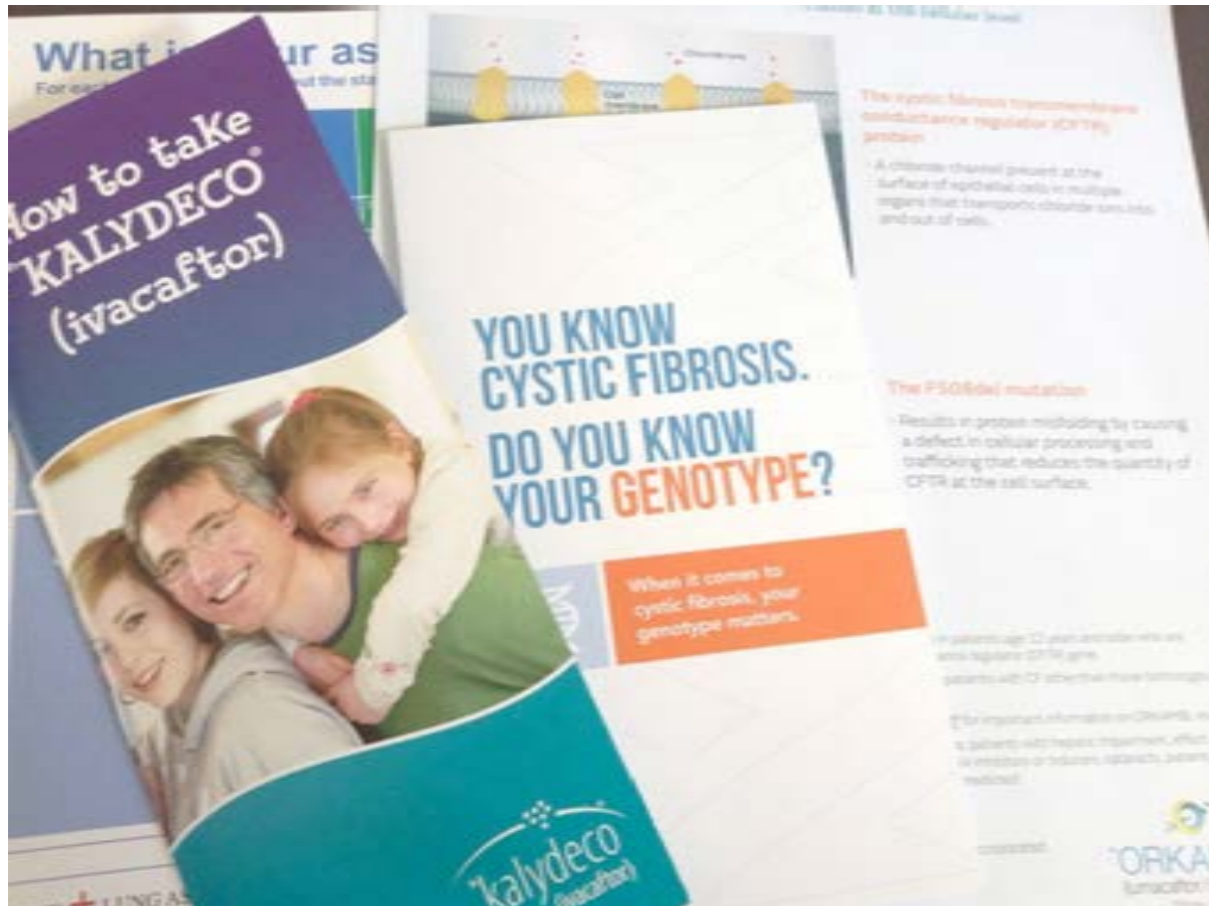
For each item below think about the statement that most closely reflects what you are currently experiencing.

| Step 1        | What to Look for   | CONTROLLED ASTHMA  | UNCONTROLLED ASTHMA  | DANGEROUSLY UNCONTROLLED ASTHMA   |
|---------------|--|--|--|---|
| ➔             | Physical activity ➔  | Normal   | Some interruption with activities  | Difficulty talking  |
|               | *Reliever use ➔  | Less than 4 times / week   | 4 or more times / week   | Reliever/inhaler doesn't work as usual<br>OR<br>Relief lasts less than 2 hours  |
|               | Day time symptoms:<br>may include: cough, difficulty breathing, wheeze ➔   | Less than 4 days / week  | 4 or more days / week  | All the time  |
|               | Night time symptoms:<br>may include: cough, difficulty breathing, wheeze ➔ | Less than 1 night / week   | 1 or more nights / week  | Everynight  |
|               | Peak Flow Rates<br>(optional) ➔  | Greater than _____   | Between _____ and _____  | Less than _____   |
| <b>Step 2</b> | What is my level of asthma control? ➔                                      | If all checks are in the green column, your asthma is under control (Green Zone).        | If you have any checks in the yellow column and zero checks in the red column, your asthma is uncontrolled and in the Yellow Zone. | If you have any checks in the red column, your asthma is dangerously uncontrolled (RedAlert Zone).  |
| <b>Step 3</b> | Steps to Take  | Follow your current plan.<br>_____<br>_____<br>_____<br>_____<br>_____<br>_____<br>_____ | Make an appointment to see your doctor<br>Follow the steps below:<br>_____<br>_____<br>_____<br>_____<br>_____<br>_____            | <b>Seek Immediate Medical Assistance</b><br>• Go to your nearest emergency room.<br>• Call 911<br>• Take your reliever inhaler as necessary. May take every 10 - 20 minutes on way to the hospital or as recommended by your doctor.<br>_____<br>_____<br>_____ |

• Continue this treatment for \_\_\_\_\_ days.  
• If asthma is not improving within \_\_\_\_\_ days see your doctor.

from Western University and University of Toronto to develop and evaluate a mobile asthma app. Funded by Canada Health Infoway and the Ontario Lung Association, the breathe app connects the patients' prescribed asthma action plan medications from the electronic medical record with the Air Quality Health Index via a personal health record at Telus.

Her other sub-specialty area is cystic fibrosis. The Kingston Cystic Fibrosis clinic was founded in the late 1960s as a pediatric clinic. Cystic Fibrosis care teams in many ways are the pioneers in interdisciplinary care. The team includes physicians, a nurse coordinator, dietitian, physiotherapist, social



worker, and pharmacist. As survival steadily improved in Canada, there came a need for adult clinics. Dr. Lougheed joined the local CF care team in 1999, to supervise the care of several patients (who were then in their twenties). The clinic population is now over 60% adults! Locally, the core team remains the same for both the adult and pediatric clinic, but the physicians are different. This makes the transition to the adult clinic easier for patients.

The Kingston CF Clinic is accredited by Cystic Fibrosis Canada, ensuring care is provided in accordance with best practices. To receive funding, clinics participate in a national CF Patient Registry, from which an annual report on outcomes such as survival is published every year. This accreditation also provides a small 'incentive grant' including a small travel budget to ensure team members can attend the North American CF conference to stay up to date on the latest CF care.

Dr. Lougheed has worked in the CF clinic for many years. The greatest change she has seen is the remarkable improvement in survival. Many new respiratory therapies, and recognition of the importance of nutrition are key contributing factors. Patients with CF can receive lung transplants as well. In 1989 the gene for cystic fibrosis was discovered, and very recently two drugs are available to treat some of the specific genetic mutations which cause cystic fibrosis.

# Patient story from the Lung Diagnostic and Assessment Program (LDAP)

JL, a 73 year-old woman, presented to the Emergency Room with several weeks of cough, abdominal pain and post-tussive emesis. Work-up included a chest x-ray that demonstrated right upper lobe collapse. A subsequent CT chest demonstrated a right hilar mass, significant mediastinal lymphadenopathy as well as multiple liver masses suspicious for metastatic lung cancer. She was discharged from the ER and referred to the Lung Diagnostic Assessment Program (LDAP). The following day, she received a phone call from the LDAP Nurse Navigator, who explained the referral, took further history and identified patient support systems. Arrangements were made for the patient to be seen by Dr. Digby in LDAP clinic the next day. Dr. Digby reviewed the patient's imaging with the patient and her family, at the LDAP clinic visit, explained the suspected diagnosis and arranged for several tests over the following 2 weeks, including liver biopsy and further staging studies. JL and her family were overcome with gratitude for the rapidity at which the LDAP functions, including the timeliness of the specialist consultation, promptness of further testing, and extensive support offered by the LDAP Nurse Navigator and physician. JL stated that "Everything was explained so clearly" and that her care was progressing quickly. Referring to the LDAP, JL expressed: "It's a fantastic resource for patients!"

## LDAP Nurse Navigator and Respirologists





# Division of Rheumatology

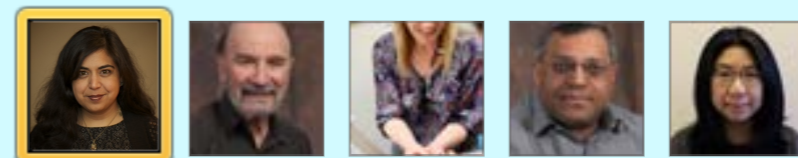
## Mission

To Provide:

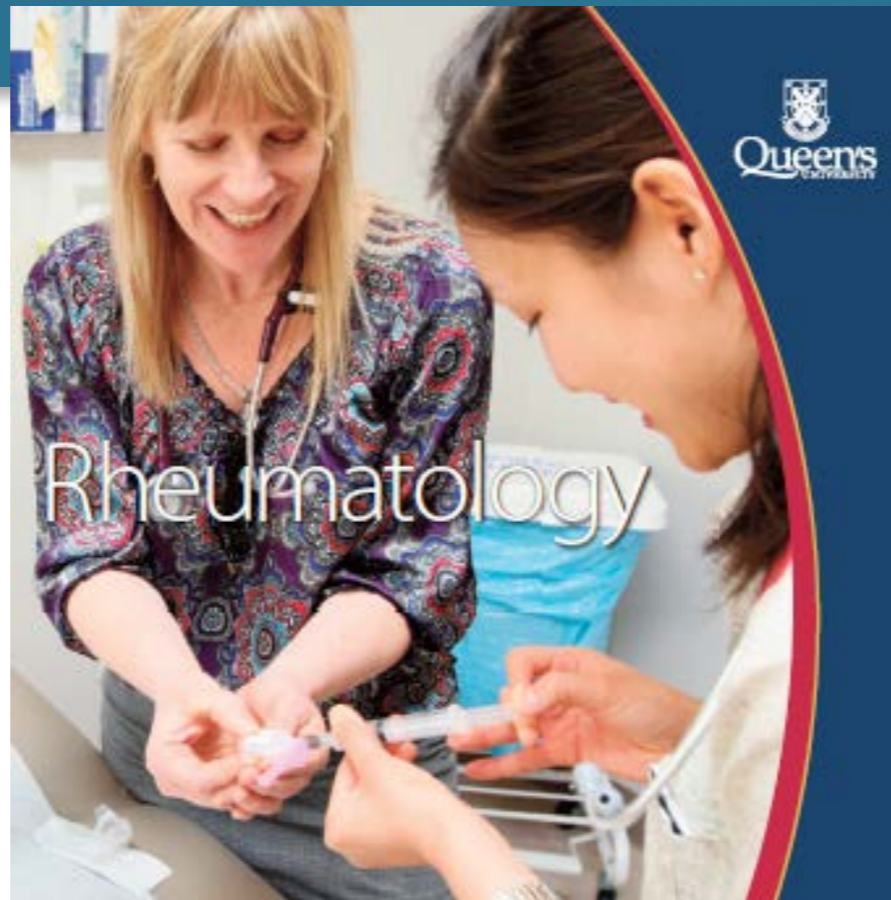
- ◆ Care that is excellent and compassionate for patients with rheumatic diseases in our region
- ◆ Education, at all levels of medical education including undergraduate, postgraduate and continuing education
- ◆ Research that is cutting edge and translational in areas including:
  - Conditions of bone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



**Dr. Mala Joneja**



# Division of Rheumatology



## **Professor Emeritus**

Dr. Tassos Anastassiades

## **Professors**

Dr. Tanveer Towheed

## **Associate Professors**

Dr. Mala Joneja

## **Assistant Professors**

Dr. Marie Clements-Baker

Dr. Tabitha Kung

## **Key Accomplishments in 2015**

### **Dr. Towheed on the Osteoporosis Clinic**

Dr. Towheed is the Clinical Director of the Osteoporosis Clinic, currently operating one half-day per week. It is the only specialized Osteoporosis clinic available within our referral region. The clinic welcomes new referrals pertaining to all aspects of Osteoporosis and Metabolic Bone Disease and emphasizes diagnosis and management and provides follow up as necessary.

An important aspect of the Osteoporosis clinic is to provide training to rotating Residents and Rheumatology Fellows.



### Research Highlights

Dr. Anastassiades published and lectured in the area of glucosamine for the treatment of bone and joint disorders. This relates to his issued patent on N-butyryl glucosamine (GlcNBu) for the treatment of bone and joint disorders. It demonstrates the potential that GlcNBu, which has been chemically synthesized, could also be synthesized naturally through the “relaxed specificity” of this human N-acetyltransferase enzyme. This implies that GlcNBu can be positioned between pharmaceuticals and nutraceuticals and also shows the potential for “green synthesis” for the commercial production of GlcNBu.

The CaMos group also published data on the ten- year incident osteoporosis-related fractures in the population-based Canadian Multicentre Osteoporosis Study - comparing site and age-specific risks in women and men.

Dr. Towheed’s work this past year has included studies including:

1. The effect of TNF inhibitors on cardiovascular events in patients with rheumatoid arthritis: an updated systematic review of the literature. This was published in Current Rheumatology Reviews on April 4, 2016. This work was completed by a Queen's Medicine Student and he initiated this work as part of his 2nd year course work in Critical Inquiry.
2. Combination of pregabalin with duloxetine for

### 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.



## EARLY INFLAMMATORY ARTHRITIS CLINIC

Due to the recognition that early effective treatment of rheumatoid arthritis has been shown to result in better patient outcomes including higher rates of remission, lower disease activity, less joint damage, and less long-term disability, there has been a push to identify inflammatory arthritis as early as possible. Early inflammatory arthritis clinics have been developed in many centers to accomplish just that.

By recruiting patients with early disease, these early arthritis clinics are aimed at improving access to Rheumatology care for patients who can benefit most from early intervention. To this end, the division of Rheumatology here at Queen's has developed the **EARLY INFLAMMATORY ARTHRITIS CLINIC** where patients are seen by Dr. Tabitha Kung. This clinic currently runs one half-day every other week and is solely accepting patients with suspected early inflammatory arthritis.

Patients have already been seen in the context of this clinic. One such patient is Mr. WR, a 51 year old gentleman who was seen 8 weeks after his symptoms developed. He was experiencing an additive inflammatory polyarthritis (7 swollen joints, 10 tender joints) mainly affecting his large joints. Due to his condition affecting his lower extremities to a greater degree, he had to take time off work, and on initial visits was brought to the clinic in a wheelchair due to significant difficulty ambulating. Joint aspiration found inflammatory infiltrate with no evidence of infection or crystalline arthritis, investigations found him to be RF negative, CCP positive with elevated markers of inflammation, and he was started on conventional DMARDs (Methotrexate subcutaneously) and received intra-articular corticosteroid injections. He had improved dramatically by 3 months such that he was returning to work, and by 5 months, he was in remission, back at work full-time and feeling 'completely back to normal!'

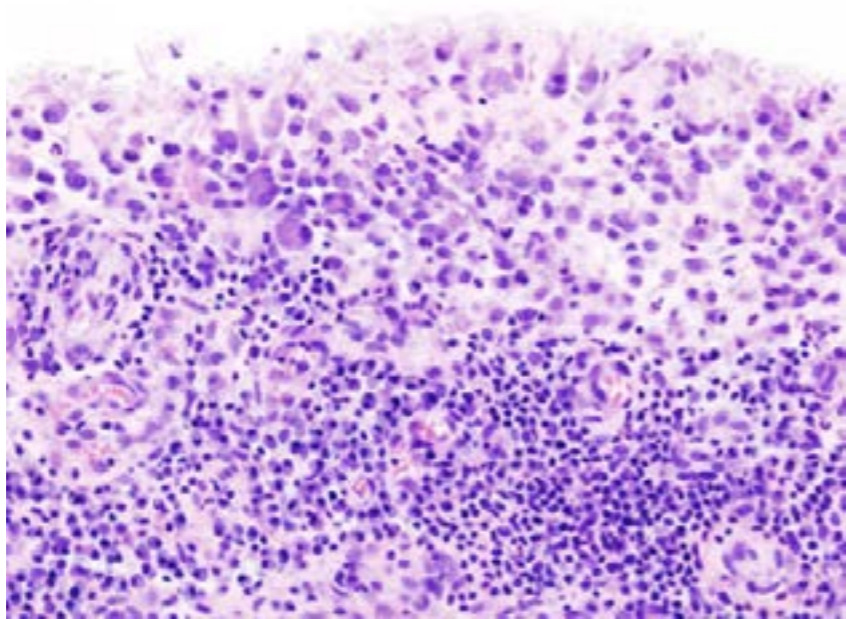
Mr. WR's case illustrates the findings of early rheumatoid arthritis cohort studies that have shown that early institution of effective treatment can lead to better outcomes. In fact, a study performed within the context of an early arthritis clinic found that early assessment by a Rheumatologist led to better chance of remission and less joint destruction than those who were seen later in their disease course. Moreover, as the RA treatment armamentarium has increased to include the not only the gamut of conventional DMARDs, biologics and newer small molecules, our ability to achieve effective treatment has also been expanded.



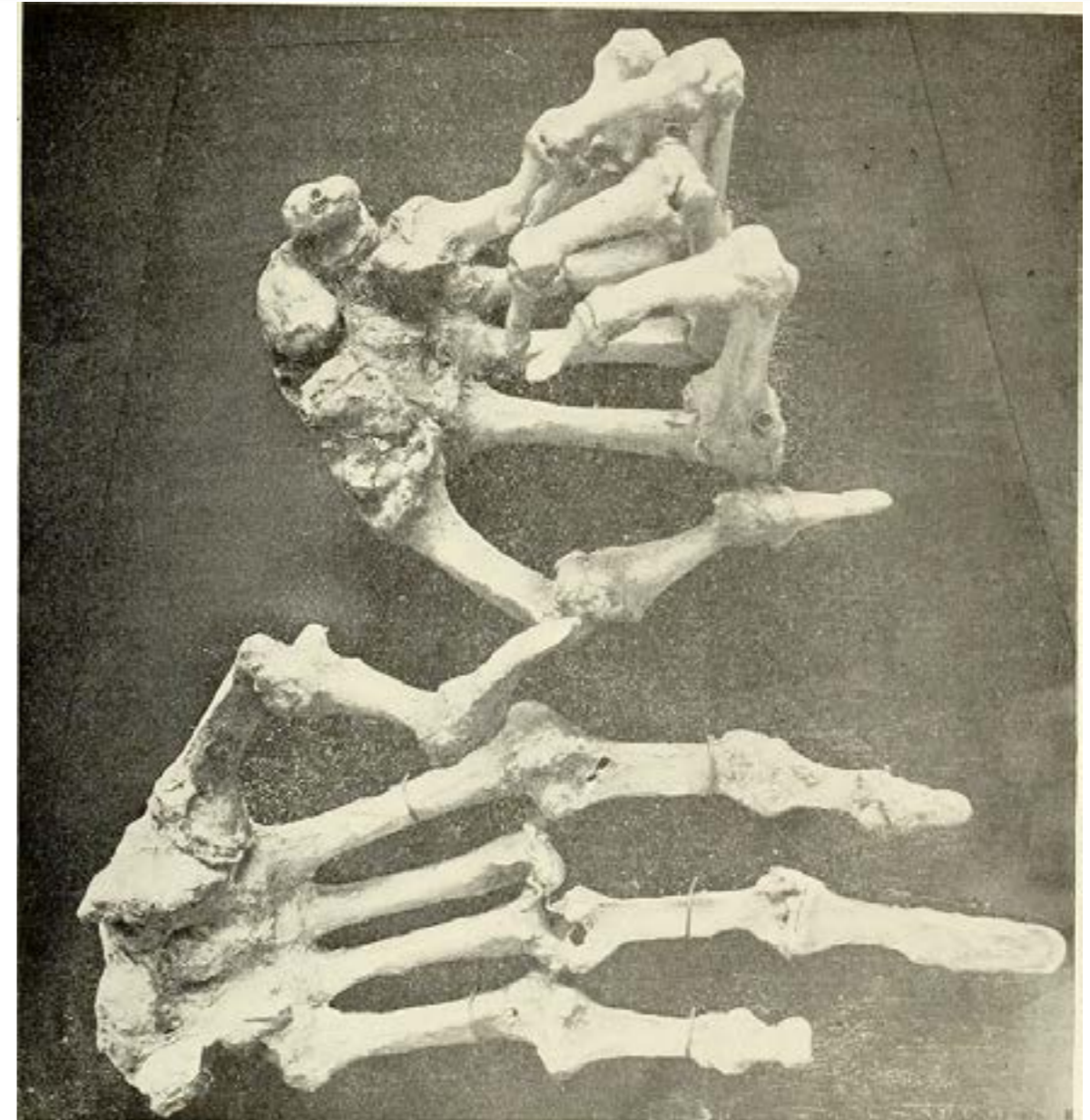
***Dr. Tabitha Kung with a doll of her made by a patient***

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Histopathology of chronic synovitis of the knee joint in a patient with rheumatoid arthritis. Photo Credit: user KGH at Wikipedia Commons



Hand. Arthritis Deformans (Rheumatoid Arthritis) Both hands articulated and dried. There is an extensive formation of new bone about the joints of the terminal phalanges which must have greatly impeded their motion. There is also a similar deposit but less extensive at the articulation of the thumb with the wrist

Photo Credit: Harvard Medical School at Wikipedia Commons

# Patient Story: Chuck Rowsell

Chuck Rowsell is a patient of Dr. Tabitha Kung, who was diagnosed with early rheumatoid arthritis. For his entire life Chuck has been a busy man, always on the go. He had spent just over 20 years serving in the Military and now works as a Construction Commissioning Coordinator. He is continuously traveling across Ontario from one Military facility to another for work. He is always on the move and on the weekends he focuses on family. His wife and two daughters, who are currently in college, are among his biggest supporters. When his arthritis was at its worst, Chuck was unable to walk and care for his daily needs but now that he has his rheumatoid arthritis under control he says he has a “whole new outlook on life”.

Chucks first encounter with this type of pain began around Labour Day 2015. He had a cyst removed in August of that year and thought he was experiencing abnormal pain/tingling in his right hand as a result of the surgery, therefore he dismissed it. He met with the surgeon who carried out the operation, only to be informed that his symptoms had nothing to do with the surgery. This pain he was suffering from was something else. One day at work, he couldn't lift his arm/hand up to the keyboard on his computer, raising it up with his other arm and placing it in place was painful. After that, he couldn't move his fingers to use the mouse due to pain and swelling, and so left work for the day. His condition worsened quickly and he found himself in the emergency department every weekend for about 4 weeks because of pain. Unknown to Chuck at that time was the fact that the symptoms he was experiencing turned out to be Rheumatoid Arthritis.

In the beginning of Chuck's condition, he had met with his family physician who worked relentlessly to help identify a diagnosis. She had referred him to a shoulder/joint pain specialist in hopes of getting Chuck on treatment that would aid in pain relief. This specialist also felt that there was something unknown happening, as Chucks symptoms did not match a sports type injury. The specialist referred him to physiotherapy to aid in getting his joints mobile, which was not helpful. It was not until a month or so after his symptoms started, that things were feeling worse, and his family doctor sent him to St. Mary's on the Lake to get tested for carpal tunnel syndrome. The specialist at St. Mary's couldn't find anything abnormal for a 50+ year old man. The doctor asked Chuck if he would allow them to carry out further nerve/disease testing. Thinking this would help in getting a diagnosis, Chuck quickly agreed. On completion of this testing the doctor identified that he was not a specialist in the field, but suggested that Chuck may have a form of Arthritis. He suggested Chuck return to his family physician as he would be forwarding a suggestion to her in hopes she would carry out further/ extensive blood work in search of possible type/form of arthritis.

By now, the pain had traveled from his right wrist, to the right shoulder, then to the left arm and extending

# Patient Story: Joe Van Veggel

Joe Van Veggel is a patient of Dr. Towheed, and sees him in the osteoporosis clinic at Hotel Dieu Hospital, every six months.

Joe has suffered from osteoporosis for over thirty years. He currently lives at home with his wife Brenda, and is visited by his two daughters, and two granddaughters frequently. Joe has gone through a lot of medical stress, but is now improving his health, with stronger bones and frequent exercise.

Joe's osteoporosis problems started in 1984, when he was in a construction accident. He jumped from the second floor of a building, to escape a near fatal fall into steel below, and survived. As a result, he drove his heel through his ankle (fractured calcaneous), and damaged his L1 vertebrae.

Joe has a family history of osteoporosis, on his mother's side of his family. Many women in his family suffered from osteoporosis, due to not getting the proper nutrition during the war - therefore Joe's chances of getting osteoporosis were pretty high.

As a result of his accident, Joe was three years in a cast, non-load bearing. Joe couldn't work as a construction superintendent during this time, and became very weak because of his immobility.

Brenda took care of him, and was a great support at this time. Once the cast was off, he went to physiotherapy to become stronger, and returned to work.

Joe was in a cycle of breaking bones, recovering, and then having his bones break again. The breakage happened mostly in his foot, and vertebrae. By 1999, he had fractured 14 vertebrae.

Around 2004, Joe would have severe coughing spells and pass out. This was the onset of interstitial pulmonary fibrosis. Subsequently his driver's license was taken away.

In 2011, Joe needed a double lung transplant. He moved to Toronto, where the lung transplant would take place. Part of being in the transplant program was a requirement to exercise three times a week for 2 hours a day. This was very important to make his body strong enough to handle the transplant, but some of the medications that he would be on after the transplant, would be very detrimental to his bones.

The transplant was a success, but it took longer than expected due to his osteoporosis. He made a full

**Photos Courtesy of Queen's University, Kingston General Hospital,  
Hotel Dieu and Dr. Stephen Archer**

