THE BORIS CLINIC OPENS

DIVISION REPORTS

“The Boris Clinic will bring all medical specialists under one roof, to create an environment that encourages interaction. Visits and tests can be done in a coordinated and timely fashion, for best patient care.”

Dr. Akbar Panju

Cardiology
Dr. Stuart J. Connolly

Clinical Immunology & Allergy
Dr. Judah A. Denburg

Clinical Pharmacology and Toxicology
Dr. Anne Holbrook

Critical Care
Dr. Andreas Freitag

Dermatology
Dr. Judy Wismer

Emergency Medicine
Dr. Margaret Ackerman

Endocrinology and Metabolism
Dr. Hertzel C. Gerstein

Gastroenterology
Dr. Paul Moayyedi

General Internal Medicine
Dr. Akbar Panju

Geriatric Medicine
Dr. Sharon Marr

Hematology and Thromboembolism
Dr. Shannon Bates

Infectious Diseases
Dr. Mark Loeb

Nephrology
Dr. Alistair Ingram

Neurology
Dr. John Turnbull

Physical Medicine and Rehabilitation
Dr. Shanker Nesathurai

Respirology
Dr. Martin Kolb

Rheumatology
Dr. Alfred Cividino
EDUCATIONAL ACTIVITIES
Program Director: Dr. Nick Valettas

The Cardiology Residency Program has expanded to a total of 12 trainees, 4 of whom are Gulf State Trainees. Presently, all core rotations occur at the Hamilton General Hospital, with the exception of two blocks of Pediatric Cardiology/Adult Congenital Heart Disease at McMaster University Medical Centre and one block of Junior Attending at the Juravinski Hospital. Elective rotations provide the opportunity for trainees to explore off-site, community-based cardiology practice. Unique to the program this year has been an international cardiology elective undertaken by two of our trainees in Uganda with the objective of developing a didactic but interactive, internet-based, educational curriculum for the local cardiology trainees structured along the lines of our academic half-day.

In addition to providing an excellent clinical experience, the training program also delivers a strong didactic curriculum. The academic half-day is designed to cover all core topics in cardiology, which are complemented by dedicated didactic teaching sessions during Cardiac Catheterization, Echo, Arrhythmia, and EKG rounds. We have recently introduced Morning Report, a weekly case-based teaching session for all residents on the CCU and CIU rotations. Additionally, monthly Patient Safety Rounds provide important teaching opportunities on quality control and patient safety. Research rounds complete the formal educational activities and provide the trainees with an in-depth exposure to research methodology and critical appraisal. Multiple evaluative tools (OSCEs, written and oral examinations, and ITES) are used to assess a trainee’s progress and prepare him/her for the Royal College Sub-specialty examination in Cardiology.

RESEARCH PROGRAM

The major research programs in the Division are in clinical trials and epidemiology studies on the major factors affecting cardiovascular health. These are on the following themes in which divisional members play leading roles as Principal/Lead Investigators, working through national and international networks: acute coronary syndromes and myocardial infarction, cardiac arrhythmias (sudden death, implantable defibrillators, rhythm and anti-thrombotic management in atrial fibrillation), heart failure (in-hospital and community management), prevention of cardiovascular disease (primary and secondary prevention, risk factors), and quality of care initiatives. While most of these studies are carried out under the umbrella of the Population Health Research Institute, individual members also collaborate and lead other studies with national and international colleagues in addressing major questions in cardiology and cardiovascular diseases.

All of these studies will have a large impact on the understanding and treatment of almost all aspects of cardiac and cardiovascular risk factors and diseases. Funding for these studies comes from numerous sources, including national granting agencies and industry partners. Members have been successful in obtaining major grants from the CIHR, Heart and Stroke Foundation and other granting authorities. A major strength of the division continues to be the mentorship, help and support provided to junior colleagues with research programs to help them become established. Reflecting broad involvement by members and the large areas of research, the division continues to maintain prolific publication productivity with over 100 publications per year. Findings from the research have influenced the prevention and treatment of cardiovascular diseases globally.

MAJOR ACHIEVEMENTS

Dr. Harriette van Spall recently received a Ministry of Health grant for PACT-HF, a stepped wedge cluster randomized trial testing improved transitional care for heart failure patients.

Dr. Stuart Connolly received the Research Achievement Award from the Canadian Cardiovascular Society.

Dr. Salim Yusuf, a member of the Division of Cardiology and the Executive Director of the Population Health Research Institute, was recently awarded the Order of Canada.

FUTURE DIRECTIONS

The Division of Cardiology, along with the Population Health Research Institute, will continue to develop its research activity in new areas affecting human health. These include cardiovascular aspects of cancer management, peri-operative cardiovascular risk management and evaluation and treatment of silent atrial fibrillation, to name but a few. In addition, there is a steadily increasing emphasis within the division on knowledge translation with several faculty members devoting themselves to this area of research.

“A major strength of the division continues to be the mentorship, help and support provided to junior colleagues with research programs to help them become established.”

Dr. Stuart J. Connolly
MD, FRCP(C)
Division Director
EDUCATIONAL ACTIVITIES

The Clinical Immunology and Allergy training program is the only integrated Adult/Pediatric program in the country. Dr. Michael Cyr continues as Training Program Director and Dr. Mary Messieh has taken on the role of MUMC site director.

There are five fellows, from both Pediatrics and Internal Medicine (one Clinical Fellow from overseas), currently in full-time training. In addition to medical and pediatric residents, clinical clerks train in Clinical Immunology and Allergy along with medical students doing electives. Graduating trainees have proceeded to academic and clinical careers in Clinical Immunology and Allergy in Canada and internationally. In addition, a substantial number of postdoctoral PhD and MD research fellows, as well as visiting scientists, regularly join our division.

Undergraduate teaching is well supported by our divisional faculty. Our weekly Allergy and Immunology Rounds, with internationally renowned invited speakers on occasion, are a major success. Other seminars, journal clubs and teaching sessions are a regular feature including the weekly academic half-days.

RESEARCH PROGRAMS

Principal research themes are Inflammation and Immunity as they relate to the respiratory tract (allergic rhinitis, nasal polyps, asthma and peptide immunotherapy), food allergy (peanut desensitization, peanut allergy threshold studies, clinical food allergy challenges), autoimmune diseases, hereditary angioedema, and hemopoietic stem cells in the development and maintenance of allergy. Peer-reviewed and private sector funding, including trials of new biologics and peptide vaccines in pre-clinical and clinical models, continues to grow. Thus, there exist many research opportunities for students, postdoctoral fellows and others pursuing continuing medical education for an investigative career. The presence of AllerGen NCE at McMaster has allowed for major expansion of ongoing research collaborations, especially in food allergy, asthma and the development of atopy.

Dr. Mark Larché has established a T cell Epitope Research and Validation Centre, funded by the NIH, focusing on understanding the mediation of allergen-specific T cell function and trafficking, following interventions such as bronchial allergen challenge and peptide immunotherapy. Dr. Larché’s cat allergy immunotherapy has entered Phase 3 clinical trials and similar therapies for house dust mite allergy, ragweed allergy and grass pollen allergy are all currently in Phase 2 clinical trials in Canada.

MAJOR ACHIEVEMENTS

Dr. Paul Keith completed his term as President of the Canadian Society of Allergy and Clinical Immunology and is now Chair for the planning committee for the 2015 annual scientific meeting. Dr. Susan Waserman is now President of the Canadian Allergy, Asthma and Immunology Foundation. Dr. Mark Larché holds the Canada Research Chair in Allergy & Immune Tolerance and the McMaster University/ GlaxoSmithKline Chair in Lung Immunology at St. Joseph’s Healthcare. Dr. Denburg continues as CEO/Scientific Director of AllerGen NCE, which is in its second funding cycle (to 2019); see the separate report on AllerGen. Since 2012, Dr. Maggie Larché has been president of the Canadian Rheumatology Ultrasound Society (CRUS), a not-for-profit organization promoting the use of US by rheumatologists at point of care. She is also on the scientific committee and the research committee (CIORA) of the Canadian Rheumatology Association.

FUTURE DIRECTIONS

With all the above activity, maintenance of a critical mass of academically committed members of our division is a high priority. The growing outpatient load and the hospital restructuring make it necessary to provide greater service to a larger volume of both adult and pediatric patients over a larger area. Moreover, the international stature of research emanating from our division at McMaster, with new opportunities of linkage to respiratory health, rheumatology and inflammation provide continued opportunities for academic growth of our division.
Although the Division is the smallest in the Department, members play a major role in education. This includes year-round supervision of medical students and residents on internal medicine, intensive care and emergency department clinical services at St. Joseph’s Healthcare and Hamilton Health Sciences, as well as elective rotations through our specialty service. Faculty members are active supervisors in postgraduate education at the Masters and PhD level in Health Research Methodology, Medical Sciences, e-Health, Global Health, and Pharmaceutical Sciences at both McMaster University and the University of Toronto. The Division draws Doctor of Pharmacy students from across the country, as well as undergraduate pharmacology, health sciences and statistics students. We are part of national and provincial training programs in Drug Safety and effectiveness and Drug Policy. Clinical Pharmacology and Toxicology (CPT) participates in a University of Toronto-coordinated clinical pharmacology and toxicology residency training program accredited by the Royal College of Physicians and Surgeons of Canada. We are actively recruiting trainees and graduates. We continue to lobby for joint specialty-clinical pharmacology training.

RESEARCH PROGRAMS

Despite its small numbers, the division continues to be highly successful in attracting research funding, largely because of a very wide collaborative network within medicine, pharmacy, nursing, epidemiology, economics and the social sciences. Grants come from a variety of peer-review sources. Our research topics focus on the benefits, harms, economics and evidence for therapies and include projects examining methods of improving prescribing, the impact of electronic medical records and computer-based decision support, the impact of changes in drug policies on health and health care utilization, patient preferences regarding therapies, the development, dissemination and implementation of evidence-based guidelines for therapies, medication management interventions, medication adherence support, patient needs for therapeutic information, drug interactions, comparative effectiveness and safety of competing medications, and educational interventions to improve prescribing skills. As well as scholarly papers and presentations, members of the division hold multiple copyrights and patents on research products, software, reports and guidelines.

MAJOR ACHIEVEMENTS

The recent department initiative to quantify and rank academic activities of all faculty has shown that clinical pharmacologists are amongst the top percentile group. One of the unique features of our division is its ability to directly impact professional practice and patient care through drug policy decision-making. Our leadership in evidence-based therapeutics and inter-professional practice leads to multiple major advisory roles with the federal and provincial governments, as well as leadership positions in provincial and national professional societies.

FUTURE DIRECTIONS

Since therapies are a prevalent and increasingly costly sector of health care, clinical pharmacologists with training in medicine, pharmacology and epidemiology are in high demand but critically short supply. Thus, a major immediate goal of the division is the recruitment of new members to allow us to address the significant needs for therapeutics and toxicology consultation, for education to improve prescribing practices and medication safety, and to expand our involvement in health policy and research.

Dr. Anne Holbrook
MD, PharmD, MSc, FRCPc
Division Director
EDUCATIONAL ACTIVITIES

The Critical Care Program continues to offer a Royal College accredited two-year Fellowship Program (Program Director: Dr. Tim Karachi). We currently have 13 national/international fellows in the program. The Critical Care Program offers formal rotations for residents from a variety of other specialties. There are formal block electives/selective rotations in critical care being offered to medical and elective students, as well as external residents (Organizer: Dr. Heather Whittingham). We continue to provide a multidisciplinary Regional Critical Care Journal Club, as well as Regional Critical Care Rounds. We have a national advanced Critical Care Simulator Course (Organizer: Dr. Alison Fox-Robichaud) using a state-of-the-art facility. Faculty provide formal educational sessions on a daily basis, as well as once weekly academic half days for Critical Care residents/fellows.

RESEARCH

The Adult Critical Care Fellowship Program mandates all fellows to complete a research program under the supervision of faculty. There is an Annual Fellows Research Day in conjunction with the Fellowship Program at the University of Western Ontario. Many of the abstracts/projects are also presented at a variety of international conferences with subsequent peer-reviewed publications. Drs. Deborah Cook/Maureen Meade Co-Chair a research mentorship program dedicated to formal training in research methodology and stewardship. Members of the division are active participants in the Canadian Critical Care Trials Group. Several members of the division are either principal or co-investigators in a variety of trials including studies involving modes of mechanical ventilation/weaning; management/mechanisms in septic shock; prophylaxis for thromboembolism; and end of life care, just to name a few.

MAJOR ACHIEVEMENTS

Dr. Deborah Cook is the Co-chair of the Evidence-Based Practice Centre at McMaster University, as well as the Director of ICU Clinical Effectiveness and Outcomes Research at St. Joseph’s Healthcare, Hamilton. She is the Academic Chair of Critical Care Medicine at McMaster University and holds the McMaster University/St. Joseph’s Healthcare Regional Academic Chair in Critical Care Medicine, as well as the Canadian Research Chair of Research Transfer in Intensive Care. She will be awarded the Officer of the Order of Canada in September 2014 for her accomplishments. She was officially recognized and honoured by her peers at the Canadian Critical Care Forum Conference in Toronto. The Canadian Critical Care Trials group has honoured her in creating The Deborah J. Cook Mentorship Scholarship Award.

Dr. Peter Kraus is the LHIN Lead for Critical Care Medicine, which advises government and/or creates policy with regards to future directions in Critical Care utilization, funding and standards of care. There is ongoing financial support for the Clinical Critical Care Assistants Program sponsored by the Ministry of Health and Longterm Care. Dr. Dragi Jichici is the Co-Founder and Co-Chair of the Canadian Neurocritical Care Society. Dr. Jill Rudkowski is the Clinical Clerkship Coordinator. Drs. Mark Soth (St. Joseph’s Healthcare), T. Karachi (Juravinski), Cindy Hamielec (Hamilton General) and Andy Freitag (McMaster) are the Medical Directors and Site Leads for Critical Care Medicine. Dr. A. Freitag was promoted to full Professor.

FUTURE DIRECTIONS

We continue to provide support and leadership in the delivery of Critical Care Services both in Hamilton and in the LHIN. We not only practice evidence-based medicine, but create the evidence within Critical Care, which has and will change clinical practice locally, nationally and internationally. We have expanded our clinical borders by way of our Critical Care Response Teams and continue to work with our colleagues on quality of life/end of life decision making.

Deborah Cook, professor of medicine and clinical epidemiology and biostatistics, was made an Officer of the Order of Canada. She was recognized for her contributions to the improvement of global intensive care unit procedures and the creation of a national network for critical care research.

“We not only practice evidence-based medicine, but create the evidence within Critical Care,”

Dr. Andreas Freitag
MD, FRCP
Division Director
EDUCATIONAL ACTIVITIES
The Dermatology Residency Program based at University of Toronto with a McMaster University stream has been active for the last four years. Now, a new CMG CaRMS Dermatology residency position from McMaster University has replaced the former one. This new program is the first formal conjoint CaRMS residency matched position between McMaster University and the University of Toronto. It will also serve as a prototype for the creation of a future full Dermatology/ McMaster University residency program aimed to start in 2020. In the new program, one new resident per year will begin their PGY1 and 2 required rotations at McMaster University and then transfer to the University of Toronto for completion of the PGY3 to 5. Throughout the educational experience, the resident will have a blended opportunity to experience and be educated by both institutions. The McMaster University resident will become familiarized with the faculty and career opportunities in the Hamilton region, while attending an established and internationally recognized Dermatology residency training program at University of Toronto. This work is the combined effort of dermatologists from Hamilton and Toronto.
Undergraduate teaching continues to be offered through tutorial based dermatologic problems and e-learning modules. However, new modifications have been introduced where each medical student will experience a Dermatology Clinic experience with patient observation and clinical teaching; an innovative Problem-Based Learning (PBL) experience. Members of the Division continue to participate in subspecialty clinics outside of their individual practices. These include Dr. Rosilene Lanzini (MUMC out-patient clinics, Program Director of Dermatology Post-Grad), Dr. Ron Vander (St. Joseph’s Out-patient Clinics), Dr. Judy Wismer (MUCM Out-patient). Members of the Division continue to participate in subspecialty clinics outside of their individual practices. These include Dr. Rosilene Lanzini (MUMC out-patient clinics, Program Director of Dermatology Post-Grad), Dr. Ron Vander (St. Joseph’s Out-patient Clinics), Dr. Judy Wismer (MUCM Out-patient). Resident will become familiarized with the faculty and career opportunities in the Hamilton region, while attending an established and internationally recognized Dermatology residency training program at University of Toronto. This work is the combined effort of dermatologists from Hamilton and Toronto.

CLINICAL ACTIVITIES
Members of the Division continue to participate in subspecialty clinics outside of their individual practices. These include Dr. Rosilene Lanzini (MUCM out-patient clinics, Program Director of Dermatology Post-Grad), Dr. Ron Vander (St. Joseph’s Out-patient Clinics), Dr. Judy Wismer (MUCM Out-patient). Members of the Division continue to participate in subspecialty clinics outside of their individual practices. These include Dr. Rosilene Lanzini (MUCM out-patient clinics, Program Director of Dermatology Post-Grad), Dr. Ron Vander (St. Joseph’s Out-patient Clinics), Dr. Judy Wismer (MUCM Out-patient).
EDUCATIONAL ACTIVITIES

In 2014, seven PGY1 joined the residency program and seven residents graduated maintaining a total compliment of 38. After nearly three years as Program Director, Ian Preyra has stepped down to focus on his new role as Chief of Emergency Medicine at St. Joseph’s Healthcare Hamilton. He was also chosen for the Royal College Program Director of the Year Award. Alim Pardhan was selected as the new Program Director and also received multiple awards including PARQ Excellence in Clinical Teaching. He has given up his role as the combined CTU director for HHS and SJHH. The CTU responsibilities were once gain divided between the two hospitals with new CTU directors, Amna Zaki at SJHH and Cathy Sellens at HHS.

Ultrasound is a growing modality for clinical assessment in the ED. Andrew Healey and Melissa Hayward continue to offer a popular subspecialty program in ultrasound.

The Undergraduate program curriculum, lead by Barb Pek, has had a significant enhancement of learning resources available for the teaching week.

This year, under the direction of Michelle Weisford, the division offered its first fellowship in Pre-Hospital Care and there is an opportunity to offer a position in the coming year.

RESEARCH ACTIVITIES

In 2014, there has been a doubling of the publication output to 52. This is due to efforts of many people with Andrew Worster, Jonathan Sherbino, Teresa Chan, and Michelle Weisford as the leaders. The Division Research Associate, Wendy Bhanich Supapol, continues working with the LHIN hospitals measuring quality of care indicators. This year’s project was measuring the impact of education on reducing the prescribing of narcotics for patients presenting with migraine headaches.

Two clinical scholars joined the division, Kerstin Hogg and Jennifer Tang, both active academics. A measure of effectiveness of research mentorship was increased quality of the presentations at the Resident Research Day.

Kerstin brings a unique clinical practice being both an emergency physician and haematologist that will bring opportunities for collaborative studies in the Emergency Department.

In the rapidly developing and changing world of social media and the impact on education, division members are leaders. Jonathan Sherbino, amongst his many activities, was the co-chair of ICRe 2014 where social media was the theme. Teresa Chan has presented a number of times this year on the uses and impact of social media to faculty members.

MAJOR ACHIEVEMENTS

Emergency Medicine at McMaster provides clinical supervision and teaching to hundreds of students and residents annually. Faculty members are being recognized for their contributions locally, provincially, and nationally.

This Division has been able to recruit outstanding new faculty who will further contribute in teaching, mentoring, and research.

FUTURE DIRECTIONS

The division is now reaching a critical mass of physicians with significant academic portfolios. With this is the opportunity for strategic planning for divisional programs and to recruit and mentor new faculty.
EDUCATIONAL ACTIVITIES

Members of the division made major educational contributions.

1. Undergraduate Medicine
   a. Large group sessions, LMIC review lecture, tutoring in professional competencies, MF2, MF3and clerkship, and clinical electives
   b. Clinical skills preceptorships
   c. Advising for the McMaster University Medical Journal
   d. Examiners for OSCE examinations

2. Postgraduate Medicine
   a. A full Endocrine fellowship training program: 1 Senior and 1 Junior Fellow
   b. General medicine and endocrine teaching on the CTU
   c. Clinical electives in Endocrinology and Metabolism
   d. Monthly city-wide endocrine/Metabolic Grand Rounds and Journal Club, and semi-annual basic science seminars
   e. Membership on the Specialty Committee RCPSC
   f. Program Director of Medical Biochemistry Residency
g. Directing the International Health Program for Internal Medicine
   h. Chairing, organizing and/or speaking at CMe events
   i. Canadian Hypertension Education Program (CHEP) & Clinical Practice Guidelines
   j. Endocrine Subgroup
   k. Rapid response committee for Osteoporosis
   l. Endocrine Society Task Force for the Primary Adrenal Insufficiency Clinical Practice Guidelines
   m. Endocrinology and Metabolism Quality Improvement Project CP50

3. Postgraduate Health Research Methodology and Other Programs
   a. 9 postdoctoral fellows, 5 PhD students, 5 MSc student and 3 undergraduate honors students
   b. Several thesis committees and chairs
   c. Examiners for 3 PhD comprehensive examinations and dissertations

4. Other Education Including CME, and General Public Education

RESEARCH PROGRAMS

Collaborative research across disciplines is the key distinguishing characteristic of the division. All members of the division are directly or indirectly involved in research. Several members are pursuing an extensive program of basic and/or clinical research related to obesity, and diabetes care, pathophysiology and remission; muscle metabolism; AMP-activated protein kinase, inflammation, and fatty liver disease; dysglycemia, cancer and cardiovascular disease; and osteonecrosis, hypo and hyperparathyroidism and osteoporosis. Key achievements include:

1. Ongoing leadership of the Metabolism and Childhood (Mac) Obesity Research Program (http://mcmaster.ca/macobesity)
2. Receipt of 7 new grants from CIHR, CFI, CDA, and 2.5 million from industry
3. Publication of more than 80 peer-reviewed articles in the 2013-2014 academic year
4. Graduation of the 4th subspecialty endocrine fellow in June 2014
5. Organization of a successful Departmental Fundraiser for Uganda Hospital/Schools
6. Presentations at more than 75 major national and international meetings
7. A Ugandan internist did a 2-month clinical endocrine preceptorship in our program
8. Dr. Prebtani was awarded the Medical Humanities Award by the HHS Medical Staff Association
9. Dr. Khan was awarded the International Hypoparathyroidism Award for excellence in patient care and research
10. Dr. Steinberg's Canada Research Chair in Metabolism and Obesity was renewed and he was named the J. Bruce Duncan Chair in Metabolic Diseases
11. Dr. Szabo received the Canada Research Chair (Tier 2) in Metabolism in Human Stem Cells and Cancer Development

FUTURE DIRECTIONS

1. Developing/assessing innovative educational approaches for patients and physicians
2. Ongoing research assessing:
   a) medical and surgical remissions of type 2 diabetes;
   b) molecular mechanisms by which obesity causes insulin resistance/type 2 diabetes;
   c) role of fats and inflammation as major contributing factors causing the metabolic disturbances observed with obesity;
   d) how and why metformin lowers glucose levels in type 2 diabetes;
   e) causes and consequences of dysglycemia and obesity;
   f) improving health care delivery during transition from pediatric to adult services;
   g) disease modeling using obese patient derived adult and pluripotent stem cells;
   h) drug screening for compounds that prevent or reverse obesity and type 2 diabetes induced neurophytology;
   i) bone histomorphometry in atypical femoral fractures;
   j) novel therapies for hypoparathyroidism

MAJOR ACHIEVEMENTS

1. Graduation of the 4th subspecialty Endocrine fellow in June 2014
2. Organization of a successful Departmental Fundraiser for Uganda Hospital/Schools
3. Presentations at more than 75 major national and international meetings
4. A Ugandan internist did a 2-month clinical endocrine preceptorship in our program
5. Dr. Prebtani was awarded the Medical Humanities Award by the HHS Medical Staff Association
6. Dr. Khan was awarded the International Hypoparathyroidism Award for excellence in patient care and research
7. Dr. Steinberg’s Canada Research Chair in Metabolism and Obesity was renewed and he was named the J. Bruce Duncan Chair in Metabolic Diseases
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Dr. Hertzel C. Gerstein
MD, MSc, FRCPc
Division Director
EDUCATIONAL ACTIVITIES

The popularity of the Division of Gastroenterology’s national endoscopy training programs continues to grow. The eighth annual McMaster Residents’ Endoscopy Training Course organized by Dr. David Armstrong, Dr. Frances Tse and Dr. Eric Greenwald is a national course teaching GI residents from Vancouver to Halifax. This continues to be very popular. We also have a regular “Train the Trainers” course and are one of only two sites in Canada to run such programs. These are important in ensuring that endoscopy teaching remains of the highest standard. We also run endoscopy master classes to ensure gastroenterologists maintain their endoscopy skills and learn new techniques.

RESEARCH PROGRAMS

The division has been at the forefront of GI research for 30 years, culminating in the creation of the Farncombe Family Digestive Health Research Institute (FFDHRI) thanks to a generous gift of $15 million from the Farncombe family. Dr. Paul Moayyedi is the Acting Director of the FFDHRI and many of the GI Division faculty are also members of the Institute. The close proximity between clinicians and scientists with diverse disciplines such as immunology, physiology and microbiology has provided an environment for truly innovative bench-to-bedside research. The FFDHRI houses the Farncombe Family Gnotobiotic Facility, the only germ-free facility in Canada. Together with the metagenomic lab this will allow us to understand how gut flora interact with the host to cause disease in the GI tract and beyond.

The Upper Gastrointestinal and Pancreatic Diseases (UGPD) Cochrane Review Group also has its base within the FFDHRI under the leadership of Dr. Paul Moayyedi and Dr. Grigorios Leontiadis. This produces systematic review published in the Cochrane Library that informs clinicians and patients worldwide on evidence-based medicine. We are the top GI research group in Canada and five of the top ten most cited gastroenterologists worldwide in Google Scholar are from FFDHRI. GI division members have published over 3,000 papers that have been cited over 85,000 times.

MAJOR ACHIEVEMENTS

Dr. David Armstrong has been appointed President-Elect for the Canadian Association of Gastroenterology in 2014. Dr. Paul Moayyedi is the joint Editor-in-Chief of the American Journal of Gastroenterology in 2014. Dr. Paul Moayyedi is also appointed the Canadian Association of Gastroenterology Visiting Professor for 2014. Dr. Stephen Collins was elected as a Fellow to the Royal Society of Canada.

FUTURE DIRECTIONS

The Farncombe Family Digestive Health Research Institute will provide an innovative environment with the collaboration of clinical and basic science researchers. Our challenge is to maintain this integrated approach of bench-to-bedside research with the reorganization of health care in Hamilton. Our goal is to unravel how nutrition and gut flora interact with the intestinal mucosa to produce health and disease. This applies not only to disorders of the digestive tract, but has implications for diseases in all organ systems.

“We are the top GI research group in Canada and five of the top ten most cited gastroenterologists worldwide in Google Scholar are from Farncombe Family Digestive Health Research Institute.”

Dr. Paul Moayyedi
BSc, MB, ChB, PhD, FRCP, FRCPC, AGAF, FACG
Division Director
The Division of General Internal Medicine at McMaster University consists of 36 full-time academic General Internal Medicine specialists and 27 subspecialists who have a secondary appointment in General Internal Medicine. The Division is involved in clinical, educational, and scholarly activities and in the last 12 months there have been multiple exciting initiatives that have taken place in the Division. Our members are distributed across three academic sites in Hamilton. The GIM Division meets quarterly and these meetings are extremely well attended.

We now have a quarterly newsletter, CityWide, edited by Dr. John You and Dr. Daniel Brandt-Vegas. This newspaper serves as a forum for communicating within the Division of General Internal Medicine and with all members in the Department of Medicine. The newsletter highlights major awards, recognitions, recent grants, publications and research done by members of the division and informs of all the initiatives taking place within the division.

The last 12 months have seen the official initiatives taking place within the division. Many of the GIM physicians in our division have dedicated a significant amount of their time to the clinical and educational development in several different communities in Africa and have developed a strong relationship with Makerere University and Gulu University in Uganda and with the medical school in Namibia. Their contribution to global health is greatly appreciated. The global health initiatives and partnerships, particularly in Uganda and Namibia, have been working extremely well, thanks to the hard work of our members in the Division of GIM at McMaster.

The last 12 months have seen the opening of Phase I of The Boris Clinic at the McMaster University Medical Centre. Phase I of The Boris Clinic has the General Internal Medicine Rapid Assessment Clinic where we have learners at different levels working under the supervision of an attending Internal Medicine specialist. This has been an attractive rotation for our learners. The second phase of The Boris Clinic will be in operation by early 2015, and we are working toward the creation of an innovative ambulatory clinical teaching unit which we believe will be the first ambulatory CTU in the country. Drs. Mohamed Panju, Shariq Haider and Martha Fulford have been working tirelessly to create an innovative curriculum for the clinical CTU.

We continue to provide exemplary clinical teaching units at all three sites in Hamilton. Our medical liaison rotation and a modified hybrid model of night float rotation have been in operation for the last few months. We are monitoring the medical liaison rotation and the modified hybrid model of night float rotation closely. We have responded to all the constructive feedback that we have received from our residents, and we are now well poised for the Royal College Accreditation of the Core Internal Medicine Program which will be occurring in the spring of 2015.

In the last year, we have been fortunate in recruiting Dr. Ray Naden who has joined us from New Zealand. Dr. Naden, a specialist in Obstetrics Medicine and a member of our GIM Division, is providing leadership in Obstetrics Medicine at the McMaster site.

Our division has been extremely successful in research activities. Dr. John You, our divisional Research Coordinator, has been successful in receiving grants and has published extensively regarding end of life care. Dr. Jim Doukets, GIM member with a particular interest in thrombosis, has had multiple publications in high impact journals. We had our GIM AFP Research Grant competition and for the year 2013/14 and Maria Tbone, Jim Doukets and Zahira Khalid were the successful applicants. Our members in the division continue to mentor and supervise our residents in multiple research activities. Several of the research projects were presented at our annual residents research competition.

We would like to congratulate the Internal Medicine Clerkship Program Faculty Award recipients: Dr. Dorese Hunt for the Juravinski Hospital, Dr. John You for the Hamilton General Hospital, and Dr. Jill Rudkowski for St. Joseph’s Hospital. The following individuals are to be congratulated for receiving the Core Resident Teaching Award: Dr. Mohamed Panju for the Hamilton General Hospital, Dr. Ameen Patel for the Juravinski Hospital and Dr. Joe McMullin for St. Joseph’s Hospital. We would also like to congratulate Dr. Brian Kayes, recipient of the Hypertension Canada Research Foundation Award for distinguished contributions that impact on the health of Canadians in 2013. Dr. Mitch Levine has recently been appointed as the new editor-in-chief for the Canadian Journal of Internal Medicine.

Many of the GIM physicians in our division have dedicated a significant amount of their time to the clinical and educational development in several different communities in Africa and have developed a strong relationship with Makerere University and Gulu University in Uganda and with the medical school in Namibia. Their contribution to global health is greatly appreciated. The global health initiatives and partnerships, particularly in Uganda and Namibia, have been working extremely well, thanks to the hard work of our members in the Division of GIM at McMaster.

The Division Director, Dr. Akbar Panju, was the recipient of the Boris Family Chair in Education and Internal Medicine. He was previously the recipient of the Medard DeGroote Chair in Medicine.

Our division members have published extensively in the past 12 months and these are all highlighted in other parts of this annual report.

Overall, we had a very successful 12 months in the Division of General Internal Medicine at McMaster, and we look forward to recruiting four young academic general internal medicine specialists in the coming year.
EDUCATIONAL ACTIVITIES

The division has maintained a strategic role in training learners from our undergraduate and postgraduate medical and health professional programs. With the support of the Department of Medicine, Faculty of Health Sciences (FHS), members of the division have achieved ongoing excellence and recognition in education in geriatrics.

Dr. Alexandra Papaioannou and the Geriatric Education and Research Aging Sciences (GERAS) team have partnered with McMaster Family Health Team in the project “Teams Advancing Patient Experience: Strengthening Quality” (TAPESTRY) which is a federally-funded project to promote and educate community volunteers to become a member of the primary health care team. The St. Peter’s GERAS team will provide tools for primary care physicians through EMR on frailty, falls, fractures, osteoporosis, dementia, delirium, end of life, incontinence and osteoarthritis.

The division in collaboration with the Regional Geriatric Program Central (RGPc), GERAS Centre and an inter-professional planning committee was successful in hosting the 4th Annual Geriatric Education day “Balancing Chronic Disease Management Priorities in Frail Seniors: When is Enough, Enough?” Dr. Audrey Chun, Director at the Martha Stewart Centre for Living at Mount Sinai Hospital in New York was our keynote speaker. Our “Life Long Achievement Award” recipient for 2013 was, Mr. Charles and Mrs. Margaret Juravinski who have given generously to the building of caring communities.

In 2013 the division launched with key educational leaders, the Geriatric Certificate Program (GCP). Of the 180 clinicians registered with the SCP 19 clinicians have successfully completed the program. This program will be recognized as an accredited McMaster University Continuing Health Sciences Education certificate program in 2015. Next year, the GCP consortium plans to offer evidence-based e-learning courses.

RESEARCH PROGRAM HIGHLIGHTS

Dr. Papaioannou is the principle investigator leading the “Gaining Optimal Osteoporosis Assessments in Long-Term Care (GOAL)” project, which is a knowledge translation initiative. The purpose of GOAL is to disseminate the 2010 Osteoporosis Clinical Practice Guidelines, adapted for long-term care and the frail elderly using a multifaceted knowledge translation model. The objective of the GOAL collaboration is to gain optimal osteoporosis assessments for residents in 50 long-term care homes in Ontario to prevent future falls and fractures.

Dr. Tricia Woo is a co-investigator and subject matter expert in a unique quality improvement project with Dr. Neville and colleagues across the FHS. The project is entitled “Labarge Aging Curriculum – An Innovative Interprofessional Education Approach to Caring for Older Adults” and is funded by the Labarge Foundation. The goals of this project are in alignment with the Ontario Senior’s Strategy Report and one part of the project will entail developing Dr. Woo’s “Geriatric Skills Day” workshop into a longitudinal experience.

Additional research collaborations include: Dr. Christopher Patterson, (CI) - Canadian Longitudinal Study on Aging project which received ongoing funding for an additional five years; Dr. George Heckman’s (PI) - “Implementing care processes to manage heart failure in LTC: A feasibility study” and (CI) “Ensuring High Quality Care for Canadians with Alzheimer’s Disease and Related Disorders: Developing Quality Assurance and Standardized Care Processes for Primary Care Memory Clinics”; Dr. Aliya Khan (PI) in developing a Canadian Longitudinal Registry for Hypoparathyroidism and International Hypoparathyroidism Award for excellence in patient care and research; and Dr. Sharon Marr (PI) with the RGPc - “Seniors and caregivers perspectives on transitions from the ED and the community”.

We want to acknowledge and congratulate the following students/residents and division members for their accomplishments: Ms. Alison Flannagan was recognized as the recipient of the “Dr. Irene Turpie Award” for her outstanding clinical performance during her Medicine Subspecialty Select clerkship rotation in Geriatrics; Mr. Adrian Chan Tri-City Annual Geriatric Research Day Oral Presentation; Dr. Gillian Marzetti – Annual Resident Research day Quality Award; Dr. Irene Turpie - Individual Award for her Service Award for Geriatric Excellence; Dr. Aliya Khan - International Hypoparathyroidism Award for excellence in patient care and research; Dr. Papaioannou - Ontario College of Family Physicians Certificate of Recognition for her contributions to primary care; Dr. Sabrina Prasad - College of Physicians and Surgeons of Ontario Council Award; Dr. Cheryl Alably - Teaching Award Undergraduate Medicine/Medicine Selectives Program; Dr. Sharon Marr - Teaching Award in Undergraduate Teaching DOM.

FUTURE DIRECTIONS

With the growing need to develop geriatric expertise nationally and internationally, the division will continue to promote and develop evidence based, sustainable and novel educational programs that improve functional independence, social isolation, and quality of life of our seniors. With our growing aging population, health care providers with geriatric expertise are essential and key to ensuring quality care for our frail seniors. The division will promote and support research endeavours and educational programs that promote geriatrics as a specialty in our future health care professionals and projects.

Special thank you to: Dr. P. O’Byrne and Ms. A. Rosati and their administrative staff, Dr. J. Kelton, Ms. R. Repa, Mr. K. Sulewski, Dr. B. Lumb, Dr. D. Russell, Dr. A. Papaioannou, Dr. M. Gagnon, Dr. Brian Miniaszek, Dr. J. St. Onge, Dr. T. Wito, Ms. Lynn Pacheco, Dr. M. Gagnon, Dr. A. Papaioannou, Dr. M. Gagnon, Dr. Brian Miniaszek, Dr. J. St. Onge, Dr. T. Wito, Ms. Lynn Pacheco, Dr. M. Gagnon, Dr. A. Papaioannou, Dr. M. Gagnon, Dr. Brian Miniaszek, Dr. J. St. Onge, Dr. T. Wito, Ms. Lynn Pacheco, and all of our division members and their administrative staff for their support and dedication.

Dr. Sharon Marr
BSc, MD, FRCP(C), MEd, Division Director

MAJOR ACHIEVEMENTS
The Division of Hematology and Thromboembolism is internationally recognized for its excellence in research, education and patient care. Our members are derived from the Departments of Pathology and Molecular Medicine, Pediatrics, and Oncology, as well as Medicine. Several division members also hold cross-appointments in Biochemistry & Clinical Epidemiology and Biostatistics.

**EDUCATIONAL ACTIVITIES**

Division members continue to make important educational contributions at all levels, including clinical mentorship of medical students, internal medicine residents, residents from other specialty programs, and clinical fellows; as well as supervision at the Masters and PhD level in Health Research Methodology, Biochemistry and Biomedical Sciences. The Hematology Residency Program, led by Dr. Wendy Lim, remains the educational centerpiece of our division. Modifications to the Residency Program this year included institution of Morbidity and Mortality Rounds and revision of the Hemostasis/Coagulation Rotation. Digitalization of our morphology teaching slides was able to move forward after one of the Hematology Residents, Dr. Chris Hills, received an unrestricted educational grant to undertake this task. Plans were made to divide the Thromboembolism Rotation into two separate 4-week blocks in each of the training years in order to accommodate movement of our division members to other locations.

**RESEARCH PROGRAM**

The division has achieved world-wide recognition for its research in thrombosis and hemostasis, platelet physiology and function, blood transfusion therapy, the molecular biology of red cell disorders and clinical trials in malignant hematologic diseases. Funding for our research comes from a variety of sources including CIHR and the Heart and Stroke Foundation. Division members were responsible for well over 150 publications during the 2013-2014 year, including manuscripts in *JAMA*, *New England Journal of Medicine*, *Lancet*, and *Stroke*.

**MAJOR ACHIEVEMENTS**

Faculty receiving academic recognition this year included Dr. Jeffrey Ginsberg (Jack Hirsh Award for Outstanding Academic Achievement), Professor Nancy Heddle (Emil von Behring lecture award from the German Society of Transfusion Medicine and Immunohematology), Dr. Wendy Lim (Eberhard F. Mammen Young Investigator Award), Dr. Ishac Nazi (Department of Medicine Internal Career Award), and Dr. Shannon Bates (El Lilly Canada/May Cohen Chair in Women’s Health). Dr. Deborah Siegal received the Jeff Ginsberg Subspecialty Resident Award, while Dr. Andrew Shih was awarded the top scientific poster at the Department of Medicine Resident Research Day. Dr. Lori Linkins was named the first Department of Medicine Undergraduate MD Research Liaison, while Dr. Donnie Arnold became the Subspecialty Chair for The Boris Clinic. Drs. Peter Gross, John Eikelboom and Wendy Lim received this year’s Hematology & Thromboembolism AIF-funded Student Research Awards. Dr. Menaka Pai and Dr. Jim Douketis were named Secretary and President of Thrombosis Canada, respectively. The first Irwin Walker Day in Blood and Marrow Transplantation (co-chaired by Drs. Kyle Lepic and Parveen Wasil) and the first Annual Division of Hematology and Thromboembolism Winter Gala (planned by Drs. Menaka Pai, Chris Hills, Cathy Ross, and Shannon Bates, along with Ms. Ann-Marie Turner) were great successes.

**FUTURE DIRECTIONS**

The division intends to continue building on its research, educational and clinical successes. Dr. Paul Kim, a basic scientist with an interest in the biochemistry of fibrinolysis, will join our division in July 2014. Led by Dr. Sam Schulman, the local organizing committee for the next Congress of the International Society on Thrombosis and Haemostasis to be held in Toronto in July 2015 is already hard at work planning for this prestigious event. A joint application by Thrombosis programs across the country for recognition of Adult Thrombosis Medicine as a Royal College Area of Focused Competence (AFC) Diploma Program was approved and Drs. Douketis and Bates have been named to the Thrombosis AFC Working Group, which will oversee development of the discipline. Members of our division are also involved in developing a similar application for Bone Marrow Transplantation.

Dr. Shannon Bates
MD, MSc, FRCP(C)
Division Director

The division has achieved world-wide recognition for its research in thrombosis and hemostasis, platelet physiology and function, blood transfusion therapy, the molecular biology of red cell disorders and clinical trials in malignant hematologic diseases.
INFECTIONOUS DISEASES

EDUCATIONAL ACTIVITIES
Under the leadership of Residency Program Director Dr. Cheryl Main, the division participated actively in undergraduate MD teaching and in the training of residents from Infectious Diseases, Internal Medicine, Anesthesia, Family Medicine, Neurology and Critical/Intensive Care. The division shared trainees with Medical Microbiology in the program, also headed by Dr. Cheryl Main, who has assumed the role of Vice Chair for the ID Subspecialty Committee at the Royal College. Dr. Mertz established the first fellowship program at McMaster on Infection Prevention and Control. Dr. Haider received the Department of Medicine Teaching Award for PostGraduate Medicine and a nomination for PARO Program Director of the Year Award. Dr. Haider was a supervisor to Dr. Nadine Kronfi who was awarded an Ontario HIV Treatment Network HIV Fellowship. Dr. O’Shea co-chaired the post-graduate Internal Medicine Global Health curriculum. Dr. Smieja has developed the curriculum for a new HRM course on advanced diagnostic research and taught a diagnostics course at Stellenbosch University in South Africa.

RESEARCH PROGRAMS
Dr. Mertz was awarded a Hamilton Health Sciences New Investigator grant as well as PSI grant for a randomized trial to prevent surgical site infections in cardiac surgery. Dr. Loeb was awarded a CIHR grant for a clinical trial of a novel vaccine to prevent tuberculosis the results of which were published in Science Translational Medicine.

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Dr. Smieja conducted a randomized trial of counseling and varenicline for smoking cessation amongst HIV infected subjects. Drs. Loeb and Mertz were awarded three contracts from the WHO to conduct systematic reviews of influenza in pregnancy, herd immunity, and pediatrics over the 2013-2014 academic year. Drs. Mertz and Loeb published an influential systematic review in BJA on risk factors for complications of influenza. Dr. Loeb has completed the second year of a large CIHR-funded randomized controlled trial in the Hutterite community comparing live influenza vaccine to inactivate vaccine in order to assess the effect of herd immunity. He was asked to present preliminary findings of the trial to the U.S. CDC and the APIC Influenza Working Group to inform on recommendations for influenza vaccination. Dr. Loeb was also asked by the World Health organization to present his findings at a meeting in live influenza vaccine in Geneva to better understand vaccine effectiveness. Dr. Loeb presented preliminary findings of his dengue genetics study to a panel at the NIH. He has been conducting a pilot study to assess if randomizing children in Vietnam to Vitamin D or placebo will reduce respiratory infections.

MARK ACCOMPLISHMENTS
Dr. Main was awarded the Faculty Teaching award for the division this year. Dr. Haider was elected to Board of Directors of the Canadian Association of HIV Research and became a member of central planning committee of the Association of Medical Microbiology and Infectious Diseases. Over the past year, Dr. Loeb assumed the role of Chair of the Data Safety and Monitoring Board of an important NIH vaccine trial on influenza H7N9. Dr. Loeb received the Jonas Salk Award from the March of Dimes for lifetime achievement in research.

FUTURE DIRECTIONS
We will continue to expand studies using biomarkers, such as genetic and immunologic studies, and continue to work closely with colleagues doing bench research. Division members will continue to engage in various aspects of vaccination research and hospital epidemiology.
The Division of Nephrology continues to be very active in both undergraduate and postgraduate medical education. All members of the Division contribute substantially. In terms of undergraduate medical education, most members of the Division continue to serve as tutors in MF1, MF2 and MF3 as well as clerkship. The Division offers a clerkship rotation on the inpatient services and continues to be in high demand. Dr. Azim Gangji is the clerkship coordinator for the Nephrology inpatient rotation and the Undergraduate Medicine Subspecialty Selective Coordinator.

As of July 1, 2014 there will be six fellows pursuing subspecialty training in Nephrology through the training program under the directorship of Dr. Azim Gangji. The Division offers post subspecialty training for those pursuing careers in Academic Nephrology. We initiated a Renal Transplant Fellowship Program in 2014 after receiving accreditation from the American Society of Transplantation.

The Division plays a major role in the Internal Medicine training program, with upwards of 20 trainees rotating through for eight-week blocks throughout the year. Training is provided in inpatient nephrology and transplantation, as well as outpatient clinics. Very popular initiatives in simulated procedures, such as central line insertion, and evaluation exercises, such as the Nephrology ROSE, continue to garner acclaim under the direction of Drs. Gangji and Yang.

The city-wide consult service is now offered to subspecialty trainees from other disciplines that are likely to encounter ICU/acute kidney injury. Nephrology now offers a rotation for those enrolled in the critical care training program. This has been enthusiastically received by ICU, Anesthesia and Emergency Medicine fellows.

Research Programs

The research mission of the Division continues to flourish. The Hamilton Centre for Kidney Research (HCKR), led by the Amgen Chair of Nephrology research, Dr. Richard Austin, is highly successful and continues to hold more than $2 million in yearly operating and salary support funding, essentially all from peer-reviewed agencies and much of it from the CIHR. More than 20 students at master’s and PhD levels work in HCKR labs, as well as numerous technicians and post-doctoral fellows. Peer-review original research publications in the last two years number about 70. Links with the Division of Urology and a focus in research in prostate and renal cancers has developed, underpinned by Dr. Damu Tang’s published work in Nature Communications and JCI, and the recruitment of Dr. Ali Nedawi after his DeGroote Fellowship, who also has a focus in prostate cancer. His work is funded by the Prostate Cancer Foundation of Canada.

Dr. Austin’s work focuses on novel cellular mechanisms leading to atherogenesis and vascular calcification, with recent data from his lab appearing in numerous high-impact journals. Clinician-scientist, Dr. Joan Krepinsky’s work in both diabetic and hypertensive renal disease continues to appear in the highest impact nephrology journals, and she and Dr. Austin collaborate in work examining T-cell death associated gene-51 in the pathogenesis of uricemic vasculopathy. This line of investigation received $1 million in support over 3 years from Amgen Inc. Dr. Krepinsky holds two 5-year CIHR operating awards to study metalloprotease activity in the pathogenesis of diabetic glomerular disease and to study follistatin as a potentially therapy for diabetic nephropathy, as well holding Canadian Diabetes Association and Kidney Foundation operating funding. Dr. Peter Marguetts has extended his long term interest in angiogenesis and peritoneal membrane injury into the kidney itself, where similar processes may underlie scarring, and is pursuing CIHR-funded studies of circulating fibrocyte involvement in progressive renal disease in collaboration with Drs. Walsh and Ribic are also involved in this work. Dr. Jeff Dickhout holds two CIHR operating grants for his studies on the role of ERF stress and sodium in progressive renal injury since starting as an Assistant Professor in 2012, and has recently secured a Krescent salary award from the Kidney Foundation of Canada. HCKR researchers all continue to hold CIHR and other substantial peer-reviewed operating funding, despite the current environment. This continues to speak to the division’s longstanding focus on the central importance of such awards. However, the contributions of SJH and research to salaries of basic science investigators in the HCKR also remains of critical importance.

Clinical research is also extremely active in the division, and growing rapidly, with about 70 publications in the past two years. Dr. Michael Walsh’s large study of piaofeme in severe vasculitis is nearly fully recruited, funded by several million dollars in peer-reviewed funding from agencies in Canada, the UK and the US. This is the largest vasculitis RCT ever conducted. Studies of sponrocalcine in dialysis patients and liberalization of phosphate control have also been funded by CIHR and are led by Dr. Walsh. He also holds salary support award from the KRESCEnt program of the Kidney Foundation of Canada. Drs. Walsh and Brimble are conducting the HOST Study of symptoms assessment and recovery time after dialysis. Dr. Brimble received kidney Foundation funding for studies on the impact of Vitamin D supplementation on left ventricular mass in peritoneal dialysis patients, and a HAHSo award for a study on the evaluation of a web-based education tool promoting independent dialysis. Drs. Clare and Gangi’s studies of bioimpedance as a measure of fluid overload in dialysis patients were funded by the Kidney Foundation of Canada. Dr. Gangji also holds P2I funds for an observational study on volume assessment in acute kidney injury in the ICU. Dr. Christine Ribic holds nearly $1 million from Leo Pharma to study low molecular weight heparin in dialysis patients and funds from Pfizer to study the role of circulating fibrocytes in chronic allograft nephropathy.

Major Achievements

- Continued success in both funding and publication in HCKR, with most members holding multiple peer-reviewed operating grants including CIHR.
- Ongoing remarkable activity in the clinical renal transplant program under the Directorship of Dr. Darin Teale with approximately 115 transplants being performed in 2014 and over 1,250 successfully transplanted patients now followed in the program.
- Major reorganization of the histocompatibility lab and entry of the centre into the highly successful recipient sharing program. The histocompatibility lab will move to SJHH shortly from McMaster.
- Leading edge innovations in educational initiatives, expansion of the portfolio of educational opportunities offered to learners from several disciplines.
- Continued growth and funding success in clinical research.

Future Directions

The Division intends to continue the successes in basic science and clinical research, and maintaining a focus on the securing of peer-reviewed funding. We expect to continue to lead the Department of Medicine in education innovation, and are led in this regard by Dr. Gangji. Dr. Ingram will step down as Division Director in July of 2014 and will be replaced by Dr. Scott Brimble. The division continues to be recognized for the excellence of its clinical care, both dialysis and transplantation; this will always be our guiding and driving principle.
This year has been a year of considerable movement in Neurology. The division has grown and several of our programs have maintained or expanded their position as premier sites for neurological research and clinical activity in Canada.

FACULTY
After over 30 years, Dr. Michael Kronby has ‘retired’—still seeing patients in his office but no longer taking call or seeing hospital referrals. Throughout his career, he has always placed the interests of the city-wide neurology group above local interests. Over the last year, the division has been rejuvenated by the recruitment of younger colleagues, namely Drs. Kelvin Ng, Ashkan Shoamanesh, Ahmed Attar and Andrew Gomez.

EDUCATIONAL ACTIVITIES
Nearly all members participate in the training of clinical skills in neurology for undergraduate medical students. At the postgraduate level, Dr. Jim Sahlas has ably steered the residency program which appears to be in good shape as we approach another round of RCPCSC accreditation in early 2015. We now have 14 residents in the program. Drs. Jim Sahlas, Michel Rathbone, and Susan Goodwin continue as site coordinators. Dr. Barbara Connolly has taken a greater role in the residency program.

CLINICAL ACTIVITIES
The stroke program at the HGH has undergone a significant expansion, and is now perhaps the busiest in the province. Drs. Wes Oczkowski, Sahlas, Jaime Silva, Mike Sharma, and Brian Van Adel are involved. Dr. Rathbone leads the CIHR-funded neuro-restorative group, with particular interest in the trophic role of purinergic compounds. Dr. Tarnopolsky remains prolific in neuromuscular research, as does Dr. Baker. The division continues with clinical and basic research in motor neuron disease. Dr. Adrian Upton remains near to realizing his dream of commercializing the smart pacemaker and the responsive brain stimulator, as well as a portable magnetic stimulation device for the self-treatment of migraine. Dr. Upton is undertaking drug trials and trials into sudden unexpected death in epilepsy.

RESEARCH ACTIVITIES
There are several funded studies in stroke ongoing, involving Drs. Hart, Wes Oczkowski, Sahlas, Jaime Silva, Mike Sharma, and Brian Van Adel. Dr. Rathbone leads the CIHR-funded neuro-restorative group, with particular interest in the trophic role of purinergic compounds. Dr. Tarnopolsky remains prolific in neuromuscular research, as does Dr. Baker. Dr. Mazurek continues his research in neuropsychiatry, and Dr. Turnbull continues with clinical and basic research in motor neuron disease. Dr. Upton remains near to realizing his dream of commercializing the smart pacemaker and the responsive brain stimulator, as well as a portable magnetic stimulation device for the self-treatment of migraine. Dr. Torri and Dr. Shapiro are undertaking drug trials and trials into sudden unexpected death in epilepsy.

CLINICAL ACTIVITIES
The stroke program at the HGH has undergone a significant expansion, and is now perhaps the busiest in the province. Drs. Wes Oczkowski, Sahlas, Sharma, Draga Jichici, Hart, Chidam Vegappan, and Van Adel are involved, and have recently been joined by Drs. Ng and Shoamanesh. Dr. Giammarco continues her complex headache clinic. Neurorheumatologic activities and ALS have been greatly expanded, and Drs. Tarnopolsky, Steven Baker, Bill Brown, Goodwin and Turnbull are involved. Dr. Jichici continues to provide neurocritical care expertise, and coordinates the neuro step-down unit at the HGH. Drs. Luis Morillo and Michelle Shapiro collaborate to provide adult care in epilepsy, and have received assistance from Dr. Ahmed Attar, who has joined us from Saudi Arabia. A new epilepsy monitoring unit has opened on the 7th Floor at the HGH. Drs. John Paulseth, Barbara Connolly and Attar are running the movement disorders clinics, and Dr. Paulseth is receiving assistance from Drs. Silva, Vegappan and Debra DelRubis in the MS clinics. It is anticipated that additional recruitment in MS will occur over the next year. Dr. Alejandro Torres-Trejo is looking to expand the neuro-oncology presence at the Regional Cancer Centre. We are recruiting Dr. Gomez to replace Dr. Kronby at St. Joseph’s Hospital. Dr. Amadeo Rodriguez continues to provide his valued neuro-ophthalmology clinic, and Drs. Mazurek and Patricia Rosebush continue to run a very busy neuro-psychiatry clinic.

FUTURE DIRECTIONS
The societal need for greater attention to diseases of the brain and behaviour will necessitate further expansion in the division, yet space and resource limitations are constraining growth. It is uncertain at present how this will play out.
The division report

PHYSICAL MEDICINE AND REHABILITATION

FACULTY
The division welcomed Dr. Florin Feloiu. Dr. Feloiu serves as an attending physician on the stroke rehabilitation unit at the Regional Rehabilitation Center. Dr. Feloiu completed his residency at McMaster University and is also trained as a physical therapist. Dr. Pankaj Bansal has also joined the orthopedic rehabilitation program as a hospitalist physician. Dr. Bansal earned his undergraduate degree at McMaster University, and completed his hospitalist fellowship at the Sunnybrook Health Sciences Center.

The PM&R faculty continue to foster relationships with community partners. In this context, Dr. Feloiu is a member of the Parkinson’s Disease Management team at the Hotel Dieu Shaver Hospital. Another faculty member is a consultant to the Cambridge Memorial Hospital’s Rehabilitation Program.

EDUCATION
Dr. Peter Varey continues as our Residency Program Director. As in previous years, the department was successful in recruiting outstanding residents via the CaRMS match. The McMaster program is the second largest PM&R Residency Program in Canada.

RESEARCH
Dr. Steve Baker continues to be the leading researcher in neuromuscular rehabilitation in the country, with tremendous innovation and groundbreaking research in peripheral nerve and neuromuscular disorders. Dr. Chari and colleagues published in the European Journal of Physical Medicine and Rehabilitation on factors that predict return to home after stroke.

CLINICAL PROGRAMS
The division provides the full spectrum of rehabilitation services for patients with general and specialized rehabilitation needs. Of particular note, the division, working closely with Hamilton Health Sciences, reorganized the amputee fitting program. In the past, all the enrolled patients were admitted to the hospital. The new innovative model delivers rehabilitation treatment in an blended outpatient and inpatient model.

FUTURE DIRECTIONS
The division continues to actively recruit new faculty to support inpatient and outpatient programs. Although the division is one of the largest academic programs in North America, there are still many unmet clinical needs in the medical schools catchment area.
EDUCATIONAL ACTIVITIES
The Respirology Residency Training Program, under the leadership of Dr. Lori Whitehead, continues to be very successful and has become one of the most respected programs in Respiratory Medicine in the country. Dr. Whitehead’s tenure as program director will end in June 2014, and Dr. Rebecca Amer, one of our own graduates, will be her successor in July 2014. In July 2014 the program will welcome two new trainees.

Our capacity to provide a Respirology training experience for rotating residents from other postgraduate programs such as Internal Medicine, Anesthesia, Radiation Oncology, and Head and Neck Surgery has been considerably enhanced by offering electives at the Hamilton General and Juravinski sites. Dr. Jacob Gelberg has done an additional year of training in Interventional Pulmonology in Calgary and has joined the faculty as a Clinician-Educator. He contributes in both Respirology and Internal Medicine and is developing a new program in Interventional Pulmonology together with our colleagues in Thoracic Surgery.

Members of the division are heavily involved in undergraduate course and general lecture series at McMaster University called “Demyystifying Medicine”. Further, members of the division frequently contribute to Continuing Medical Education programs. Our Divisional Rounds at St. Joseph’s Healthcare are web-cast and regularly attended by physicians at other hospitals, from HHS Hospitals to Oakville and even Thunder Bay. Dr. Marcel Tunks, an active member of the Ontario Thoracic Society, was elected as Chair of the Better Breathing Conference in January 2015.

RESEARCH PROGRAMS
Some of the major research interests of faculty are the epidemiology, pathophysiology and treatment of asthma; the physiology and pathophysiology of airway and vascular smooth muscle; the cellular and molecular biology of pulmonary fibrosis; controlled trials of therapy in respiratory disorders, and the impact of the environment on respiratory health. Professor Malcolm Sears continues to direct the Canadian Healthy Infant Longitudinal Development study (CHILD) Study – a longitudinal evaluation of a cohort of children at four centers across Canada - with major funding from the Allen Grant. He was also successful in obtaining significant research funding from the CIHR in the Spring 2014 competition. Dr. Martin Stampfl examines the early cellular responses to cigarette smoke with substantial CHIR grant support. Dr. Mark Larché received considerable attention for his NH-funded work on the immunology of allergy and specifically the potential for vaccines to prevent cat allergy, along with his collaborators, Dr. Helen Neighbour and Parameswaran Nair. Dr. Martin Kolb was awarded a 5-year CHIR grant to study the role of abnormal matrix in the progression of pulmonary fibrosis, and Dr. Luke Janssen was successful in obtaining a 5-year CHIR grant to study calcium-signaling and gene expression human fibroblasts. This means that 3 of 8 awards in the 2014 CHIR competition from the CIHR went to members of our division. Further, Dr. Kjetil Ask received a substantial grant from the Canadian Foundation for Innovation (CFI) to develop an automated slide scanning system with the ability to perform molecular analysis on paraffin embedded tissues.

MILESTONES AND AWARDS
Dr. Christine Bradley has retired after many years of stellar service in Critical Care, Internal Medicine Respirology and administration. She was based at the Hamilton General site for most of her career and has moved to New Zealand in January 2014. Further, Dr. Helen Ramsdale will fully retire from clinical practice in June 2014, but she will continue to serve in the important role of Chair of the Respiratory Section of the OMA.

NEW DEVELOPMENTS
A major area of change is the development of collaborative clinical programs. Dr. Gerard Cox has been appointed to coordinate these activities within our city (between HHS and SJH) and the larger LHIN in the region. The most ambitious initiative is the Diagnostic Assessment Program for Lung Cancer – a joint undertaking with Cancer Care Ontario (CCO) and St. Joseph’s Healthcare, Hamilton that involves nursing, Thoracic Surgery, Respirology, Diagnostic Imaging and Pathology. This successful program is intended to reduce wait times for patients undergoing investigation of suspicious lung lesions. Team members of a new Pleural Space Clinic led by Dr. Gelberg and Thoracic colleagues, were honored with an award presented by the Collaborative Management of Patient Care in Advanced Stages of Malignancy, Cancer Quality Council of Ontario, CCO. Another innovative program is the combined Respirology/Rheumatology/Renal clinic that cares for patients with complex multi-system and lung disorders (Drs. Cox, Kolb, Khalidi, and Walsh). We believe that developing such patient-centered, multi-disciplinary clinics will be an important element of our efforts to provide best care to our patients. Further, we are expanding our Sleep Medicine Program, led by Drs. Powles, Gottschalk, and Li, in which we have trained several scholars over the last few years and several new recruits in the near future.

Our members also serve organizations outside Hamilton. Dr. Lori Whitehead is the Chair of the Specialty Committee for Respirology at the Royal College of Physicians and Surgeons of Canada, a member of the Canadian Respirology Program Directors Committee, Chair of the National Respirology Fellows Symposium, Chair of the Ontario Respirology Resident’s Education Program, member of the OTS Executive Committee, and President of the Hamilton Academy of Medicine. Dr. Cox was appointed to the Royal College Examination Committee in Adult Respirology in 2014. Finally, Dr. Rebecca Amer has been elected President of the Medical Staff Association, St. Joseph’s Healthcare.

Our residents vote each year for winners of two local awards, one for clinical education and one for research mentorship. The winners in 2014 were Dr. Gerard Cox and Dr. Andrew McIvor respectively.
RHEUMATOLOGY

EDUCATIONAL ACTIVITIES

The Postgraduate training program, under Dr. Nader Khalidi’s direction, has flourished. The Royal College Internal Review specifically highlighted the dedication, organization, support and responsiveness of the Program Director and administrative staff as a major strength of the program. This is a tribute to Drs. Khalidi, Rennée Tremblay our Administrative Assistant, and to the commitment of the entire division to providing an exemplary learning experience.

Dr. Raj Carmona, in the role of sub-unit planner, has made significant improvements in the musculoskeletal teaching tools with online videos and a comprehensive guide for physical examination. He has added new videos on joint injection techniques. These instructional videos have been incorporated by other medical schools curriculum. He has taken on the MSK Boot Camp clerkship elective. Dr. Carmona also continues to develop a focused interest in spondyloarthropathies.

Dr. Mark Matsos oversees the Residents’ Academic Half-Day and has new role as site chief for the Internal Medicine Residency Program while pursuing his clinical research program. This is a tribute to Drs. Khalidi, Rennée Tremblay our Administrative Assistant, and to the commitment of the entire division to providing an exemplary learning experience.

Dr. Maggie Larché continues to supervise the Clerkship Rheumatology Selective as well as training residents. She has been instrumental in the Canadian Rheumatology MSK Ultrasound training program, a national initiative. Dr. Larché’s focus is the care of patients with Scleroderma and is the Chair of the Hamilton Scleroderma Group.

Dr. Kim Legault’s research is focussed on Neuropsychiatric Lupus, Antiphospholipid Antibody Syndrome as well doing systematic reviews of Lupus treatment and Plasma exchange in APLS. Dr. Legault will join the faculty in November 2014.

Dr. Arthur Lau is completing his Masters in the Clinical Investigator Program and will join the faculty in July 2015. He has been prolific with writing book chapters, as well as systematic reviews, while providing elective opportunities for residents. Dr. Lau has been essential in facilitating our divisional goals in developing a common database and increasing the awareness of our research efforts.

Dr. Raja Bobba has been a tutor in Medical Foundations 2 to 5 as well as organizing clinical skill in MPS.

Dr. Walter Kean has been actively supervising undergraduate student projects. He continues as editor for the Journal Inflammopharmacology.

Dr. Lawrence Hart continues in his longstanding role as Editor of the Journal of Sports Medicine and Associate Editor of the ACP Journal club as well as being Chair, Multiple Mini-Interviews, M.D. Admissions, mentoring resident and students and supervising the Fellows’ journal club.

All of our clinical faculty have energetically participated in teaching activities, with special thanks to Drs. Walter Kean, Tulio Scocchia, Pauline Boulus, Viktoria Pavlova, Sanjay Dixit, Lani Fomorca, Brian Hanna, Rafat Farasavi, and Saeed Shaikh. Dr. Scocchia has been essential in teaching professional skills to all our learners. Our part-time faculty have been dedicated to the teaching of undergraduate and postgraduate learners and the division would not be able to complete its mandate without their assistance.

RESEARCH PROGRAMS

We have received major peer-reviewed and corporate funding in our areas of research.

Dr. Kim Legault’s research is focussed on Neuropsychiatric Lupus, Antiphospholipid Antibody Syndrome as well doing systematic reviews of Lupus treatment and Plasma exchange in APLS. Dr. Legault will join the faculty in November 2014.

Dr. Arthur Lau is continuing with the Rheumatoid Arthritis Microbiome project in collaboration with Dr. Alfred Cividino and the Division of Gastroenterology at McMaster. The aim of this cross-sectional study is to assess if the microbiota composition of patients with RA differs from healthy controls, and if the microbiota differs with controlling disease activity. This project is funded by the Hamilton Health Science New Investigator Fund.

In addition, he has completed a systematic review and meta-analysis titled: ‘The Efficacy and Safety of Biological Disease Modifying Anti-Rheumatic Drugs and Apremilast in the Treatment of Psoriatic Arthritis: A Systematic Review and Meta-Analysis’. This was recently presented at the American College of Rheumatology.

Dr. Mark Matsos continues clinical trials in Lupus therapeutics at the McMaster Lupus clinic.

Dr. Raj Carmona has been involved in clinical trials in spondyloarthopathy and osteoarthritis.

Dr. Bill Benson continues to develop Bone Destiny, a program that helps physicians determine osteoporosis treatment. He is also moving forward with his novel clinician-friendly clinical evaluation of patients with RA.

Dr. Nader Khalidi continues working with two major research groups, the Canadian Scleroderma Research Group and the Vasculitis Clinical Research Consortium. As a result of his efforts, Hamilton is now recognized as a major center in Vasculitis care and research. This work culminated in an oral presentation on MRI Evaluation as a diagnostic tool in Giant Cell Arteritis at the American College of Rheumatology. He is involved in several clinical trials in vasculitis.

Dr. Maggie Larché has been active in assessing various imaging modalities in joint diseases. She is active in several cohort studies in RA and Scleroderma. Dr. Larché has received a $600,000 grant to study the use of ultrasonography for imaging in the feet of patients with newly diagnosed RA. Other areas of research include biomarkers in RA cohorts.

Dr. Walter Kean continues his research interest in anti-rheumatic drug pharmacology and pain mechanisms in osteoarthritis. He has published extensively in this area.

Dr. Aly Cividino and Dr. Lynne Lohfeld received a $75,000 grant from CIORA (Canadian Initiative for Outcomes in Rheumatoid Arthritis) to study “Training the Rheumatologist of Tomorrow”. The results were delivered as an oral presentation at American College of Rheumatology. Moving forward this early work will form the basis for a national collaboration on tool development for the recruitment of trainees to Rheumatology.

Dr. Karen Beattie continues working on a CIHR grant for her work ‘Bone Health: Implementing FRAX in primary care’.

Dr. George Ioannidis has continued his work with CuMos, GLDQV, Quality Circles and VIDO5 (Vitamin D and Osteoporosis in long-term care) projects. In the past year, he has been part of a team, led by Dr. Alexandra Papaioannou, that has examined osteoporosis care in the long-term care setting. He provides valuable statistical support for the entire division. He has authored or co-authored ten publications and mentored fourteen undergraduate and postgraduate students.

Dr. Rick Adachi and his team have focused on the characterization and cross calibration of non-invasive diagnostic tools including peripheral QCT, HRpQCT, and peripheral MRI in measuring, bone, muscle and fat parameters. In addition, we have developed frailty indices to aid in our understanding of the relationship between frailty, falls and fractures.

MAJOR ACHIEVEMENTS

Dr. Rick Adachi received the International Osteoporosis Foundation 2014 Olaf Johnell Science Award in honour of outstanding worldwide scientific contribution to the field of osteoporosis.

Dr. Mark Matsos has been awarded The Arthritis Society Clinician Teacher Award as salary support of $45,000/year for five years.

Dr. Kim Legault has been awarded a Department of Medicine Internal Career Award providing salary support for three years to begin her career as Assistant Professor.

Most of the division members have contributed a chapter or two to a new book ‘Essential Imaging in Rheumatology’ in collaboration with Dr. John O’Neill as editor.

Royal College Internal Review of the Rheumatology Program was completed with accolades and no weaknesses identified.

Dr. Mark Matsos, Dr. Raj Carmona and Dr. Raja Bobba have been promoted to Associate Professor effective July 2014.

Faculty recruitment has been a focus of the division and we look forward to the contributions of Dr. Kim Legault and Dr. Arthur Lau.

FUTURE DIRECTIONS

The division has collectively developed a consensus document in the form of a strategic plan to lay out the current and proposed activities for the next three to five years.

Our vision is to be recognized for leadership and innovation in education, research and inter-disciplinary patient-centered care.

As director of the Division of Rheumatology, I am excited by our strategic plan. Together with my esteemed colleagues and excellent trainees, I anticipate execution of several objectives to meet our main goals of exemplary patient care, education and ongoing research.