

Annual Report

Department of Medicine

2006-2007

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I. Overview of the Department

The Department of Medicine is the largest department in the Faculty of Medicine and one of the largest in the University with close to 800 faculty members, of which more than 440 are full-time; about 260 of these are clinician-teachers. As a clinical department, Medicine is based in McGill's teaching hospitals, primarily the Royal Victoria and Montreal General Hospitals of the McGill University Health Centre (MUHC) and the SMBD-Jewish General Hospital.

The McGill Department of Medicine is organized into 13 Divisions, encompassing all aspects of internal medicine and its subspecialties. The academic Divisions are Allergy and Immunology, Cardiology, Dermatology, Endocrinology, Gastroenterology, General Internal Medicine, Geriatrics, Hematology, Infectious Disease, Nephrology, Respiratory Medicine and Rheumatology. Medical Biochemistry also comes under the supervision of the Department. Several additional Divisions are hospital based and exclusive to the MUHC (Clinical Epidemiology, Critical Care and Human Genetics). Two additional divisions within the MUHC, Medical Oncology and Palliative Care are hosted at the university level by the Department of Oncology in partnership with the Department of Medicine. Their reports will be submitted by Oncology. In addition to the Divisions, the Department boasts a series of large centers, which carry out research or provide highly specialized clinical care (e.g. McGill AIDS Centre, McGill Bone Centre, Meakins-Christie Laboratories, and McGill Centre for Tropical Medicine).

II. Departmental Highlights

MUHC Redevelopment Plan

A major factor in the evolution of the academic mission of the Department is access to modern, high quality research and teaching space. This has been a major problem at the MUHC, which has been planning a major redevelopment project for more than a decade, without substantial progress. Following an exhaustive review of the functional and technical plan for the redeveloped MUHC, the Quebec government has publicly committed to building the Glen Yards project as a public private partnership (PPP). The selection process to choose the consortium that will build the Glen campus is already underway and an announcement of the successful bid is expected at the end of October 2007. Once the winning consortium is chosen, the final design phase and construction will proceed very quickly.

The arrival of Dr. Vassilios Papadopoulos

Near the end of the 2006-2007 academic year, the MUHC announced the hiring of *Dr. Vassilios Papadopoulos* as the Director of the MUHC Research Institute. Although he was to officially take on his position on July 1, 2007, Dr. Papadopoulos began contributing to the running of the Research Institute from early 2007, setting the stage for the realignment of research themes in the MUHC in anticipation of an application to the CFI Large Scale Institutional Endeavor competition in September 2007. The arrival of Dr. Papadopoulos, who will hold a position in the Division of Endocrinology, is expected to help the MUHC component of the Department reinforce its research excellence.

Cardiovascular Prevention Center at the JGH

Another major Departmental initiative was the opening of the Cardiovascular Prevention Centre at the Jewish General Hospital, which opened its doors in August 2006. With participation of the divisions of Internal Medicine, Cardiology, Endocrinology and Nephrology, the Centre has brought together medical experts from various fields for the treatment of patients with hypertension,

dyslipidemia, obesity, metabolic syndrome, diabetes and other cardiovascular risk factors. The Centre takes an integrated approach to the diagnosis and treatment of patients at high risk for developing cardiovascular disease. Medical therapies are complemented with lifestyle modifications such as weight control, smoking cessation and exercise. Due to the wide range of experts at the Centre, patients will be able to consult medical specialists from various disciplines, nutritionists, nurses, and in the future, psychologists, and a kinesiologist in the same centre. In addition to excellent clinical care, the Centre will provide a novel and exciting platform for training of physicians and other professionals and the opportunity to grow McGill's research efforts in this important area.

III. Divisional Highlights

Cardiology

The past year saw further consolidation and growth of the MAUDE unit, a specialized centre for the care and study of patients with congenital heart disease who have made the transition to adulthood. This program has now moved to the Royal Victoria Hospital site, joining the other tertiary cardiovascular sciences programs located there. This program, which involves clinicians from both the JGH and the MUHC is emerging as a leader on the Quebec and Canadian scene, and has established strong collaborations with colleagues in Montreal and elsewhere in Quebec.

This year saw several recruitments including *Dr. Robert Scott Kiss*, an expert in lipid metabolism to join the Cardiovascular Research Laboratories at the MUHC, *Dr. Viviane Nguyen*, who has joined the McGill Heart Failure program at the MUHC, and *Dr. Manu Prabhakar*, who is a new interventional cardiologist.

Clinical Biochemistry

The laboratories of both the JGH and the MUHC have undergone reorganization as part of the need to meet new accreditation standards and ISO compatibility. *Dr. Shaun Eintracht* is a newly

recruited Medical Biochemist in the Department of Diagnostic Medicine at the JGH, where he played a key role in ensure that accreditation of the laboratories was successful.

Clinical Epidemiology

This past year saw the formal merger of the Division of Clinical Epidemiology from the previously existing divisions at the RVH and MGH. *Dr. Christina Wolfson* was appointed the first Director for the Division, following an international search. Although based in the Department of Medicine, the Division has close links with the Department of Epidemiology, Biostatistics and Occupational Health, and has been given the responsibility for oversight of epidemiological research across the adult hospital sites of the MUHC by the Research Institute. Division members previously based at the MGH have moved to a renovated location in the V building on the Allen Memorial property of the RVH site.

Clinical Immunology

This year saw the recruitment of *Dr. Devi Bannerjee* who returned to McGill after two years at the Rockefeller Institute. She is now establishing a clinical research program to develop in vitro methods for the diagnosis of skin allergies. This year also saw the unfortunate departure of *Dr. Thomas Hudson*, who has moved to Toronto to lead the Ontario Cancer Research Institute.

The program in Primary Immunodeficiency Disorders, led by *Dr. Chris Tsoukas* continues to grow and progress. This unit specializes in immune deficiency care and clinical research, which is not related to HIV, but rather to inherited or acquired defects in immunoglobulin production or lymphocyte function. The unit is a referral centre for Quebec, eastern Canada and border areas of the northeast United States.

Dermatology

Although the Division has made considerable progress in growing its academic profile, including the establishment of solid clinical research and an annual research day, the problem of

recruitment and retention remains very acute. The Division is expected to lose two faculty members in the coming year and other faculty members are moving their practices into the community due to severe resource constraints in the hospital setting. An attempt to recruit a clinician-educator from South Africa failed when he was unable to obtain a *Professeur sélectionné* position from the Faculty. These events make sustaining the quality of dermatology teaching difficult.

Endocrinology

Dr. Robert Sladek formally joined the Division as a full-time faculty member. Dr. Sladek has been active at the Genome and Innovation Centre for some time, but was granted a tenure track slot in recognition of his record of accomplishment and his central role in maintaining the Genome Centre since the departure of Dr. Hudson. His work is in the area of diabetes genomics. He was able to inaugurate his full-time academic career by publishing a landmark article in *Nature* (along with Dr. Constantin Polychronakis of Pediatrics), which used a whole genome scan to identify novel susceptibility genes for Type 2 diabetes.

Dr. Monsur Murshed was recruited to the McGill Bone and Periodontal Centre, in partnership with the Faculty of Dentistry. Originally from India, Dr. Murshed received his doctoral degree in Cologne, Germany and recently completed post-doctoral training at Baylor. He is an expert on the molecular biology of bone mineralization.

Despite these excellent recruitments, the Endocrine Division has still not been able to attract a new leader for the Fraser Laboratories, which has been without a leader since the death of Dr. Patel some years ago. Similarly, we are still attempting to recruit a replacement for Dr. Enrique Silva who left the JGH more than a year ago.

Gastroenterology

This year saw the retirement of *Dr. Saul Katz* after a very distinguished career as a clinician and educator. *Dr. Phil Wong* returned to McGill from Toronto where he had been completing post-doctoral training in the field of hepatology. Dr. Wong has taken on the task of leading the McGill Gastroenterology Training Program from Dr. Alain Bitton, who served with distinction in this capacity over the last decade. Recent recruits, *Drs. Maida Sewitch* and *Ernie Seidman* have had exceptional years garnering a variety of personal awards from CIHR and elsewhere. Through the efforts of *Dr. Kevin Washke* and *Dr. Josée Parent*, the Division is increasingly recognized as a Canadian training centre for the specialized techniques of Endoscopic Ultrasound and Endoscopic Mucosal Resection.

General Internal Medicine

The Division inaugurated a novel Clinical Scholars Program under the leadership of *Dr. Vicky Tagalakis*. This program, which is currently part of the two year fellowship program in General Internal Medicine, is a 2-year program that provides formal training and mentorship to future clinician-scientists who wish to follow a clinical research career track or to future clinicians who wish to acquire knowledge and skills in clinical research. Some of the research tracks include Women's Health, Medical Education, Thrombosis Medicine and Health Services Research.

Dr. Barbara Young was recruited to the MGH site, with the new responsibility of supervising adult health care in Nunavik. An important initiative of the McGill RUIS office, this new position will help McGill to improve the provision of tertiary care to a vast, sparsely populated region of Quebec. Dr. Young, who has extensive experience in providing care in remote regions, will coordinate care across several specialties while collaborating with other stakeholders including the Northern Outreach and Telehealth programs of the Montreal Children's Hospital.

Dr. Ernesto Schiffrin was elected to the Royal Society of Canada, a signal event that was celebrated by the Department at a reception in November 2006. *Dr. Susan Kahn* was awarded

the Award of Research Excellence at the Annual Meeting of the Society for Maternal-Fetal Medicine in February 2007. *Dr. Peter McLeod*, who was awarded the Duncan Graham Award by the Royal College of Physicians and Surgeons of Canada, retired from his clinical activities at the end of this past academic year, choosing to focus his work on Medical Education within the Centre for Medical Education.

Geriatric Medicine

The Division continued to build on its strengths in research and teaching. Among many highlight, the division director, *Dr. Howard Bergman* continues to serve as President of the Canadian Geriatrics Society and Chair the Board of Directors of the National Initiative for the Care of the Elderly, recently funded by NCE. The major challenge is how to maintain current leadership in the face of increasing demands from the community and from the RUIS.

Hematology

This year saw the appointment of *Dr. Steve Caplan* as Director of the McGill Division of Hematology. *Dr. Caplan* had been serving as interim Director but a search and selection committee strongly endorsed his leadership and proposed that this be made permanent. *Dr. Molly Warner* was named MUHC Director of Hematology, assisted by *Dr. Denis Cournoyer*, who was named Associate Director.

In November 2006, full accreditation was received from the Foundation for the Accreditation of Cellular Therapy (FACT) for the McGill Stem Cell Transplant Program. This program is one of only two FACT accredited programs in Quebec, and one of only five in Canada.

Dr. Jean-Pierre Routy was widely quoted in the media for his successful collaborative research in the field of HIV immunopathogenesis. With collaborators at *Université de Montréal* and internationally, *Dr. Routy* was involved in a series of high profile publications in *Nature* and *Blood* regarding the molecular biology of immunity in HIV. *Dr. Jacques Galipeau* played an increasingly

prominent role in the emerging field of regenerative medicine on regional, national and international levels. In particular, he is the leader of the therapeutics theme within the Canadian Stem Cell Network and has established important collaborative projects with other leading groups in this field including those at Ottawa, Toronto and UBC.

This year marked the first year of operation of activity in the Segal Cancer Center of the Jewish General Hospital, providing important improvements in the quality of care to patients and in excellence in clinical research. In addition, the JGH remains the referral centre for molecular diagnostics for McGill hematology.

Infectious Disease

Dr. Michael Libman took over the leadership of this important Division from *Dr. Brian Ward*, who served with distinction for the last few years. *Dr. Ward* will now focus on his growing international research program. *Dr. Marcel Behr* has been appointed Associate Director of the Division with responsibility for Research. *Dr. Madhukar Pai*, whose primary appointment is in the Department of Epidemiology, Biostatistics and Occupational Health, joined the Division as an Associate Member. He studies the role of T-cell responses in the diagnosis and management of tuberculosis.

This year saw several Division members emerge as leaders in clinical research on *Clostridium difficile*. Most notable was the publication in the New England Journal of Medicine by a team lead by *Dr. Vivian Loo* describing the *C. difficile* epidemic in Quebec. Others including *Drs. Mark Miller, Andre Dascal* and *Michael Libman* have participated in conferences and symposia across North America and Europe on this topic.

The Division has been at the forefront of growing McGill's international medicine profile. *Dr. Brian Ward* has working on collaborations with Belgium, Germany and Johns Hopkins University on a variety of projects involving vaccine development and evaluation and Chagas Disease

diagnostics. The National Reference Centre for Parasite Serology, based at the MUHC, has attracted numerous international collaborators including those from Thailand, Brazil, and Nepal as well as the American Red Cross. Dr. Behr is leading an international team studying mycobacteria under the aegis of the US National Sanitorium Association. Drs. Ward and Libman are key participants in ArcticNet, a Tri-Council supported network for arctic research, looking at zoonoses and parasitic disease in Quebec.

A key challenge in the coming year will be the reorganization of HIV services and research. It is hoped that the two large HIV clinics (MGH and RVH), will be joined into a single unit as part of a plan to achieve a single strategic plan for the Division, including the Centre for Tropical Disease.

Meakins-Christie Laboratories

The Meakins continues as a world leader in respiratory research. More than 150 alumni of the laboratories attended this year's reunion at the American Thoracic Society meeting. To keep up with the growing need for laboratory space, the construction of a new wing with 14,000 sq. ft. of space at 3626 St. Urbain finally began in the past year. Completion of the construction is expected in early 2008.

Dr. Qutayba Hamid was honored with the Burton Zweiman Lectureship at the American Academy of Allergy and Immunology. *Dr. William S. Powell* was awarded the John J. Day Award from the Quebec Heart and Stroke Foundation. *Dr. James Martin* received the Walton Visiting Scientist Award from the Science Foundation of Ireland.

Medical Genetics

Dr. Ken Dewar, working with Dr. Andre Dascal of Infectious Disease, made a major contribution in a highly cited paper describing the genome structure and virulence factors in *Clostridium difficile*.

Nephrology

The Director of the Division, *Dr. Andrey Cybulsky*, was named the first holder of the Catherine McLaughlin Hakim Chair in Medicine, recognizing his achievement in the field of research on inflammatory mechanisms of kidney disease. *Dr. Elena Torban*, an expert in the field of the molecular biology of renal development was recruited as a Medical Scientist. The Division broadened its international collaborations with links between the laboratory of Dr. Lemay and those of Dr. Rabb at Johns Hopkins and of Dr. Nunès at Marseille as well as those between Dr. Cybulsky and Drs Hetschel and Bonventre at Harvard, and Dr. Podymow with collaborators at Cornell.

Rheumatology

A major achievement this year was the restoration of full accreditation status to the McGill Rheumatology training program, through the efforts of the Program Director, *Dr. Michael Starr*, and the Division Director, *Dr. Henri Ménard*. *Dr. Marie Hudson* joined the Division at the JGH, where she will contribute to the McGill Scleroderma program, led by Dr. Murray Baron who is the Director of the Canadian Scleroderma Research Group. *Dr. Sasha Bernatsky* was the recipient of a Networks of Centers of Excellence Young Investigator Award and was cited in the lay press for her work on the financial burden of Juvenile Arthritis on families. *Dr. Henri Ménard* received the Distinguished Investigator Award of the Canadian Rheumatology Association.

IV. Successes

Salary Awards – awarded Spring 2007

CIHR New Investigator

- Kaberi Dasgupta
- Marie Hudson
- Michael Reed
- Madhukar Pai

FRSQ Chercheur Nationaux

- William Foulkes
- Louise Larose
- Stephane Richard

FRSQ Chercheur Boursier – Junior 1

- Stephanie Chevalier
- Robert Sladek
- Madhukar Pai

FRSQ Chercheur Boursier – Junior 2

- Deborah Da Costa
- Elham Rahme
- Stephane Laporte
- Stephanie Lehoux
- Michael Reed

FRSQ Chercheur Boursier –Senior

- Louise Pilote
- Suhad Ali
- Anne-Marie Lauzon
- Tomoko Takano
- Jean-Pierre Routy

FRSQ Chercheur Boursier Clinicien – Junior 1

- Marie Hudson
- Lucie Opatrny
- Marc Tischkowitz

FRSQ Chercheur Boursier Clinicien – Junior 2

- Kaberi Dasgupta

V. Postgraduate Training

The core training program is led by *Dr. Thomas Maniatis*, assisted by *Dr. Patrizia Zanelli* at the MGH and *Dr. Michelle Elizov* at the JGH.

The McGill Internal Medicine Residency Training Program has continued its efforts to expand its program-wide academic half-day series in a manner that supplements site-specific teaching activities. Feedback from the expansion of the half-day series has been very positive to date. The Program has focused on using the Simulation Centre for ethics & communication skills to senior residents. This series of academic half-days received rave reviews from both faculty and residents.

The Training Program continues to make great efforts with regards to its presence in the regions through its Community Hospital Internal Medicine Experiences (CHIME). Given the increasing number of trainees coming into the Training Program, continued efforts are being made to ensure that the Training Program has enough rural sites with supervisors to ensure that all of the trainees have an appropriate exposure to CHIME during their residency. Feedback from these rotations has been very positive to date.

The Training Program has been working with the developers of the McGill Simulation Centre to develop more academic half-days on procedures in critical care, including intubation and central line insertion. These will be implemented in 2007-2008. The Program is also working on integrating quality assurance and quality improvement into the training of its residents.

During the CARMS match for positions starting July 1, 2007, the Training Program attracted trainees from across Canada and outside of North America as well. Once again, all of the allotted entry-level positions for Internal Medicine at McGill were filled during the first iteration of the CARMS match this year.

VI. Division of Experimental Medicine

(a) Present State of the Division

The Division of Experimental Medicine, providing graduate studies in the Department of Medicine, is completing its fourth year under the directorship of Dr. Hugh Bennett, with headquarters at Lady Meredith House.

(i) Experimental Medicine Graduate Student Society (EMGSS): The year was a productive one, with continuing leadership and activity from EMGSS whose stated purpose is "to promote and defend the rights, welfare and interests of the more than 200 graduate students in Experimental Medicine and to enhance the educational, social and cultural atmosphere in which they evolve".

One of the most significant achievements of the EMGSS in the past academic year was the organization of the "7th Annual Biomedical Graduate Conference" at McGill, which involved the participation of all the graduate departments within the Faculty of Medicine. Dr. Andras Nagy, Senior Investigator at the Samuel Lunenfeld Research Institute (Mount Sinai Hospital) was the keynote speaker at this conference. Seventy-six (76) abstracts were accepted and presented at the conference, which was attended by over 200 people. This year the conference was held at the downtown Holiday Inn. The conference was self-funded by monies raised through sponsorships from the Victor Cape Lecture fund, pharmaceutical companies and contributions from the various departments involved.

The students also organized and staged an orientation session and party at the start of the academic year. These activities are essential in the recruitment of new members to EMGSS and to replace those members of the executive who are graduating.

The World Wide Web page (www.medicine.mcgill.ca/expmed) was completely revamped over the past 2 years and continues to be an excellent promotional/educational/research resource tool.

(ii) Let's Talk Science (LTS) Program: The LTS program, brought to McGill on the initiative of the EMGSS in 1998 has continued to be very successful. The McGill chapter of the LTS has its own web site (<http://www.medicine.mcgill.ca/EXPMED/LTSM/>), which continues to be maintained by one of the program co-coordinators.

The LTS program, aimed at demystifying science and promoting it as an enjoyable career for elementary and high school students has grown further in the past year. LTS McGill is composed of over 150 volunteer graduate students who participate in five main types of activities: classroom presentations on scientific subjects, mentorship of science fair projects, science fair judging, robotics workshops, and lab tours.

(b) Graduate Students

(i) Numbers: There were over 210 students registered in Experimental Medicine during the 2006-2007 academic year. Of these, sixty-four were newly admitted to our programs, in the following proportions (24 Ph.D., 46 M.Sc., and 4 Diploma in Clinical Research).

Forty-two students graduated from our programs in 2006-2007, in the following proportions (24 Ph.D., 10 M.Sc., 1 M.Sc. (Bioethics Option) and 6 Diploma). With an anticipated enrollment of between 70-80 students (due to increasing number of applications received) in the upcoming academic year, our numbers are expected to increase, with a student population of approximately 225-230 students.

(ii) Years in the program: The average number of years in the program continues to fluctuate around the 5-1/2 year mark for Ph.D.'s, the 2-1/2 to 3 year mark for M.Sc.'s and the 1-1/2 year mark for Diploma students. The Director continues to work towards assuring the timely submission of theses of those students in thesis programs. The Division is attempting to reduce the time to graduate in order to fall in line with the new Graduate Faculty regulations on time limitations.

(iii) Graduate student funding: A summary of graduate student funding for 2006-2007 is shown below. With the continued high enrollment and despite diminishing funds available, 49 of our students remain supported by external peer-reviewed funding. The performance of our students and supervisors remains excellent. In recognition of the excellence of our students, the total number of internal and external awards remains high. A total of \$1,041,780 was raised by 49 graduate students from external peer-reviewed sources. In addition, 50 graduate students received competitive internal awards totaling \$310,440. In keeping with the performance-indicator assignment of internal awards from Graduate Faculty, we received eleven \$5,000 FGSR

Fellowships to award in 2006-2007, as well as one Max Stern Recruitment Fellowship and six Recruitment Excellence Fellowships.

Funding from External Peer-Reviewed Studentships and Fellowships

Source of Funding	Number of Awards	Total Value \$ 000
1. CIHR Studentships	6	119,00
2. CIHR Doctoral Awards	5	132,00
3. CIHR MD/PhD Studentships	4	71,75
4. CIHR Skeletal Health Training Program Awards	3	57,00
5. MCETC-CIHR Training Grants	3	62,50
6. NSERC Scholarships	4	94,50
7. NCIC Terry Fox Studentships	1	21,50
8. FRSQ Studentships	15	315,00
9. US Army Breast Cancer Research Award	1	30,00
10. Alzheimer Society Doctoral Awards	1	20,53
11. Cancer Research Society Studentships	1	22,00
12. Cystic Fibrosis Foundation Studentships	1	20,00
13. Multiple Sclerosis Society Studentships	1	21,00
14. Bayer Hemophilia Awards	1	20,00
15. Canderel Awards	1	10,00
16. Egyptian Government Award	1	25,00
TOTAL:	49	1041,78

Funding from McGill Graduate and Medical Faculties and Hospital Research Institutes

Source of Funding	Number of Awards	Total Value \$ 000
1. Tomlinson Fellowships	1	10,00
2. FGSR Fellowships	11	55,00
3. McGill Recruitment Excellence Fellowships	6	30,00
4. Max Stern Recruitment Fellowships	1	10,00
5. Fee Waiver (Summer, Fall and Winter terms)	8	32,94
6. Faculty of Medicine Internal Awards	1	7,50
7. Hospital Research Institute Awards	10	114,50
8. Institut de Recherches Cliniques (IRCM) Studentships	1	7,00
9. Cancer Center Studentship	1	17,80
10. Meakins Christie Institute Award	1	11,00
11. Montreal Chest Institute Award	1	9,00
12. Alma Mater Student Travel Grant Awards	5	3,75
13. Gerald B. Price Memorial Travel Awards	3	1,95
TOTAL:	50	310,44

(c) Staff Membership

The Division's membership increased over the past year. The Division presently has 229 members (43 Full, 44 Associate and 45 Assistant Professors together with 53 Associate Members from other departments at McGill, 36 Associate Members from the *Université de Montreal* and 2 Associate Member from *Institut Armand Frappier*, as well as 6 Adjunct Members). Of these, 109 are currently active supervisors of graduate students registered in the Division.

(d) Program and Other Developments

The Division remains open to the development of both new programs and new courses and the implementation of new collaborations. Specifically, a new M.Sc. with a "Graduate Environment Option" much like the existent "Bioethics Option" has now been established, with the Division being one of the departments involved in this important initiative. Also, a new course entitled "Reproductive Medicine and Assisted Reproductive Technology" has been approved to commence in the 2007-2008 academic year.