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Impact of Giving: 2017-18

McGill
Thank you for your generosity.
This is an exciting time at McGill University as we prepare to mark our Bicentennial in 2021. It’s still a few years away, but the buzz and planning has started.

We will have much to celebrate thanks, in large part, to the generosity of donors like you.

In the past year alone, we launched our new School of Population and Global Health, a Computational Medicine Initiative, and the Indigenous Health Professions Program, which will enable us to both train more Indigenous students and better serve Indigenous communities.

We also announced the McGill Clinical Innovation Competition (CLIC) and the alumnus-sponsored Dr. Ray Hakim Family Prize for Clinical Innovation in Health Care. Plans are also underway for a new Clinical Innovation Program to be housed in the recently renovated Steinberg Centre for Simulation and Interactive Learning.

Other major steps forward include the expansion of our WELL Office to provide personal counselling and academic support and advocacy to students from all our health professions programs and schools, including Medicine, the School of Communication Sciences & Disorders, the School of Physical & Occupational Therapy and the Ingram School of Nursing.

Thank you for giving the Faculty the means to continually improve our offer to our students. Gifts like yours make a tremendous difference.

I hope that it fills you with a sense of pride to read on and learn how philanthropy changes lives. Because of donors like you, an occupational therapy student reconciles studies with family life (page 4), a nurse researcher shines a light on pediatric palliative care (p. 14) and a First Nations community turns the tide on Type 2 diabetes (page 6).

On behalf of all of us here at the Faculty of Medicine, THANK YOU!

With gratitude and appreciation,

David Eidelman, MDCM’79
Vice-Principal (Health Affairs)
Dean, Faculty of Medicine
Montreal is perfect for students.... I miss its people, diversity and freedom.

– Yosuke Tomita
Land a professorship in your home country at the tail end of a PhD is cause for celebration. For Japan’s Yosuke Tomita, it’s also bittersweet. That’s because starting that new job has meant saying goodbye to Montreal.

So, as Tomita settles into his new role at the Takasaki University of Health and Welfare (about two hours northwest of Tokyo), where he is building on his graduate research on motor control in neurorehabilitation, the mention of Montreal and McGill does make him wistful.

“Montreal is perfect for students,” he says, of a city that he misses for its “people, diversity and freedom.”

Foremost in his memory of McGill’s School of Physical and Occupational Therapy (SPOT): a stimulating research environment, a diverse student population and a life-changing gift, which enabled him to start a family and launch his career.

Tomita and his wife Sanae had saved enough money for him to pursue his studies at McGill, but not for her to join him. When he began his doctorate in Rehabilitation Science in 2013, she stayed behind in Japan to work. They would have only three visits over the next two years.

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Tomita made the most of his time alone, concentrating on academics. His courses offered him a diverse set of fundamentals in occupational therapy not available, he says, in Japanese universities. He also enjoyed studying alongside other international students. “They were from France, India, Brazil, Singapore, China.” They hailed from different backgrounds but found a common language in the practice of occupational therapy.

Tomita’s life took a new turn in 2015, when he was awarded a $35,000 Richard and Edith Strauss Doctoral Fellowship in Physical and Occupational Therapy from the Richard and Edith Strauss Canada Foundation, a longtime friend of the Faculty. Sanae was finally able to leave Japan and join him in Canada that summer.

Both work and home life flourished. In the winter, Sanae became pregnant. Meanwhile, Tomita progressed on his thesis. Under the supervision of Mindy Levin, BSc(PT)’76, PhD’90, he conducted experiments at the Jewish Rehabilitation Hospital, researching gait and posture in stroke patients.

The couple chose a baby name that spoke of their love of Montreal, Yuki, the Japanese word for snow. Their daughter arrived on November 20, 2016. The very next day saw that season’s first snowfall. The timing was also significant in terms of Tomita’s thesis: He had just completed his data collection five days earlier.

Two months later, Tomita received the job offer. “Without the fellowship, this would never have happened,” he says, referring to an initial publication of his research in the Journal of Neurophysiology as well as the university appointment. “The quality of my research really depended on how much I could concentrate and devote myself.”

Before moving home, Tomita organized a visit of Japanese students to SPOT, which has resulted in one of the participants applying to the program.

He hopes to organize another tour soon, to share with others the opportunities he found here, in the land of his daughter’s birth.
The Kahnawake School Diabetes Prevention Project (KSDPP) began as a three-year research project. More than two decades later, it is still running and has much to show for its longevity: it has increased health awareness in the Mohawk community outside Montreal, helped stabilize rates of new cases of Type 2 diabetes and attracted positive buy-in from local educators, becoming a model of Indigenous community health intervention.

The beginnings of the program can be traced to the mid ’80s when Dr. Ann Macaulay, now the program’s Scientific Director and a professor in the McGill Department of Family Medicine, joined forces with the late Louis T. Montour, MDCM’72, a McGill medical resident and one of very few Indigenous doctors to graduate from the University. Together they presented findings to the community that revealed Kahnawake’s prevalence of Type 2 diabetes to be twice as high as that of the general population.

Community leaders recognized that solutions to diabetes prevention would be found in the next generations. “The elders said, ‘Please focus on the young. We’re old. We’re probably not going to change our ways,’” said Macaulay, who, from 1970, had worked as a family physician in Kahnawake and as medical director of the community hospital.

The program took seven years to secure a national research grant, but thanks to Macaulay, Montour, Gilles Paradis, MSc’87, current Chair of the Department of Epidemiology, Biostatistics and Occupational Health, Université de Montréal’s Dr. Louise Potvin, and the continued efforts of the community, the KSDPP was finally launched in 1994. It initially took the form of a health curriculum integrated into the curriculum of Kahnawake’s two elementary schools, and numerous supporting community-wide interventions. It then found further research funding from the Canadian Institutes of Health Research, the Lawson Foundation and the R. Howard Webster Foundation, with the latter recently investing in extending the program to other Indigenous communities.
Kahnawake Finds Diabetes Success in Community and Classrooms

Its success in Kahnawake can be measured, for example, in a growing number of bike paths, the healthy foods served at the local youth centre and in the schools, the walking school bus – a group of children walking with adults to the elementary schools – the schools’ wellness committee and healthy lifestyle policies, and events that use walks as fundraisers.

“Things have steamrolled,” said Alex McComber, MEd’96, who was one of the two intervention facilitators first hired. “This was something the community was ready for and it caught on very rapidly.”

The community, particularly its young people, has become more aware of health issues. “Parents are reporting back about children coming home from school and saying, ‘These things aren’t healthy. We shouldn’t be eating this,’” says McComber, who was a high school principal before he joined KSDPP and is getting set to begin a five-year, part-time Faculty appointment as Assistant Professor in McGill’s Department of Family Medicine.

The program, in the way it has been designed, implemented and assessed, is a shining example of participatory research, where all decisions go through a community advisory board. “The most important range of expertise is from community members,” says Macaulay, a longtime advocate of engaging communities through participatory research. She notes that when federal granting agencies were developing Indigenous research ethics guidelines, they looked to the KSDPP as an example of best practices.

Academia and community have found common ground through the KSDPP. Of the 24 graduate students who have trained with it – the majority at McGill – four have come from the 8,000-resident community. One of them, Treena Delormier, BSc (NutrSc)'93, MSc’96, has just been appointed as an Associate Professor at McGill and will be taking over from Macaulay as Scientific Director, as the program continues to find new ways to encourage entire families to make good food choices, be physically active, get enough sleep and live healthier lives.
Collins Oghor remembers his first dying patients. It was during a surgical rotation early in his studies. He and his fellow medical students found the situation trying and keeping their emotions in check a challenge. Thankfully, he had Denny Laporta, BSc’73, MDCM’77, to talk with, as well as some of his fellow classmates, in an informal gathering in the Physician Apprenticeship course.

“We all knew that the prognosis for these patients was not good and we had to deal with the fact that there is only so much medicine can do for someone. It was really good to talk about that with Dr. Laporta, how when he was a young trainee he had to go through this,” says the MDCM-MBA student.

Since 2005, the Physician Apprenticeship course has offered MDCM students a safe space in which to discuss such issues. It brings together a half-dozen students from different years under the guidance of an experienced clinician known as an Osler Fellow.

For Oghor, having a leader who is not also your teacher is very important. “These are doubts you can’t express in front of a professor who’s evaluating you.”

Funded by the Frank Litvack Fellowship Program Fund and the Dr. Nathan and Judy Laufer Fund – Osler Fund, there are about 130 Physician Apprenticeship groups, which meet six to eight times per year in a casual setting.

Laporta, a critical care doctor and Osler Fellow, remembers his own training 40 years ago. “We were taught that if something went wrong with the patient, you must have screwed up and, conversely, if the patient does well, you’re made of the right stuff. There was nothing in between. I’d like to think those days are over.”

Another Osler Fellow, pediatric allergist Dr. Karen Sigman, cites an experience from when she was a medical student. She was just coming off knee surgery in the same hospital where she was beginning surgery rotation. A consulting orthopedic resident walked up to her and her fellow med students in the Emergency room. The resident eventually realized she had been his patient and blurted out: “I didn’t recognize you with your clothes on.”

Sigman now uses this story as a launch pad to discuss privacy, confidentiality and power dynamics. “You’re offered a window into somebody’s life when they’re at their most vulnerable. This is a privilege and you can’t abuse that privilege,” she tells her students.

After several years leading a group, Sigman appreciates not only what she can bring to the students but also what they give back to her. “I’m seeing medicine through their eyes,” she says.

One of her students, Jonah Dabora, appreciates Sigman’s introspection and her honesty about how she can do better as a doctor. “It’s important to see the physician not only as a physician but as a human being.”
2017 Incoming MDCM Class

- **1,912 applicants**
- **377 interviews**
- **181 students admitted to Med-1**
* Including 2 to MDCM-PhD

**INGRAM SCHOOL OF NURSING**
- 870 students in total, including 96 and 12 at the Master’s and PhD levels, respectively
- Degrees, diplomas and certificates awarded in 2017: 277 (up from 239 previous year)

**SCHOOL OF COMMUNICATION SCIENCES AND DISORDERS**
- 45 MSc, MScA and PhD students in total
- 32 graduates in 2017

**SCHOOL OF PHYSICAL & OCCUPATIONAL THERAPY**
- 614 students + 18 post-docs
- 259 graduates in 2017

**BSc (BIOMEDICAL), GRADUATE AND POSTDOCTORAL STUDIES**
- 1,685 BSc students (Anatomy and Cell Biology, Biochemistry, Microbiology and Immunology, Pharmacology and Therapeutics, Physiology)
- 1,388 MSc students (across the Faculty)
- 1,040 PhD students (across the Faculty)
- 327 postdoctoral fellows (across the Faculty)

**DID YOU KNOW?**
Two of McGill’s most recent Rhodes Scholars are medical students, Alexander Lachapelle and Benjamin Mappin-Kasirer.
**IN THE NEWS**

"Breast cancer study reveals new pathways for metastasis"
(Rosalind and Morris Goodman Cancer Research Centre)

"Gene discovered in inflammatory bowel disease could lead to improved treatments"
(McGill University Research Centre on Complex Traits)

"New mechanism detected in Alzheimer’s disease"
(Department of Human Genetics)

"Child abuse affects brain wiring"
(McGill Group for Suicide Studies, based at the Douglas Mental Health University Institute and the McGill Department of Psychiatry)

"Molecular chaperones shape up defective cystic fibrosis protein"
(Departments of Physiology and Biochemistry)

"McGill study finds people infected with HIV more likely to develop fatty liver"
(Department of Medicine)

**SPOTLIGHT ON RESEARCH**

- 800 full-time faculty members active in research
- 2,000+ graduate student researchers
- 2,300+ journal articles published each year

**CANADA’S NO.1 medical-doctoral university**
(Maclean’s 2018 rankings)

- 1st in new patent applications
- 2nd in invention disclosures and
- 2nd in cumulative active licenses

Medicine is the leading Faculty at McGill in terms of sponsored research dollars received.

**SPOTLIGHT ON THE STEINBERG CENTRE OF SIMULATION AND INTERACTIVE LEARNING**

- One of the 1st medical simulation centres to open in Canada, in 2006.
- Occupies 31,000 sq. ft. of space, including 10 clinical exam rooms, a simulated apartment and a clinical ward.
- Works with a pool of 205 standardized patients who have been trained to accurately and consistently recreate the history of an actual patient in specific scenarios.
- Employs 16 full-time staff members. (In addition to staff from Quebec and Canada, this very international team has roots in the United States, Sri Lanka, Cuba, Japan, New Zealand, Lebanon, Colombia, Romania, Greece, Italy, Germany and the Philippines.)
- Hosts 3,000+ hours of total learning time a year, with about 500 courses, workshops and events.
These people had such simple problems but because they didn’t have any treatment, we saw complications in late stage that we don’t see in North America.

– Ji Wei Yang
Husband and wife Nicolas Cadet and Ji Wei Yang, both MDCM’12, grew up in families where serving others was simply a way of life.

Yang, a 2009 recipient of the Dr. Clarke K. McLeod Research Bursary, says that her parents dedicated themselves to their church community. “They were always generous with time and resources.” She was regularly recruited by them to help out, so it’s not lost on her that they gave her the name Ji Wei, which is Mandarin for helper and protector.

She also praises her in-laws for their good work. A doctor and pastor, they eased the settlement in Quebec for many new arrivals from Haiti in the 1970s. “My mother-in-law would provide advice for physical health and my father-in-law would provide advice for spiritual health.”

At the age of 11, Cadet would prepare PowerPoint presentations for community health workshops given by his mother who, along with his father, ingrained in him important philosophies: “They showed us that we should always treat people with love and compassion, and to be generous with our time and our knowledge.”

Yang and Cadet see medicine as a tool to apply their parents’ teachings. Those shared values and their common profession have made them a force for community health and international medicine.

The two have organized several medical and health education clinics in Montreal. In 2014 and 2015, they took that care abroad to Haiti, where they led glaucoma screening missions for some of the country’s most vulnerable citizens. While there, Cadet also conducted eye surgeries and the two organized symposiums for local doctors.

Cadet, who trained in ophthalmology at Université de Montréal and is currently on a fellowship in ocular plastic surgery at McMaster University, treated hundreds of people during those two visits. He remembers one particular story of a bright 15-year-old girl who had been labelled legally blind and was unable to afford glasses.

“I went there with boxes full of glasses. When she tried one pair on, she went to 20/20 vision. It was just simple myopia,” he recalls. “She was really emotional. She said ‘I can now realize my dream of becoming a doctor.’ That really touched me.”

For Yang, an endocrinologist and thyroid fellow at the University of Toronto, her time in Haiti gave her a perspective on the difficulties that can result from a lack of access to health care. “These people had such simple problems but because they didn’t have any treatment, we saw complications in late stage that we don’t see in North America.”

Cadet also remembers being moved by the sound of his wife speaking to a patient in Creole, the language of his Haitian-born father. It was a nice coda from decades earlier, when his mother, a white Québécoise, learned to speak Creole to treat Montreal Haitians.

Cadet made sure to get to know local doctors and specialists and referred patients to them. He was also able to recruit doctors from Montreal, some of whom taught surgical techniques to the local specialists.

While they are currently working in Hamilton and Toronto respectively, Cadet and Yang plan to get back to their health fairs for glaucoma, diabetes, hypertension and thyroid disease in Montreal, educating and treating vulnerable populations.

The mission of care and compassion, which both sets of parents began, continues.
As a nurse researcher studying the palliative care of children, Raíssa Passos dos Santos has seen the wincing of a child going through a painful procedure, and sat with parents who hoped to turn around their child’s dire situation.

At those times, the Ingram School of Nursing doctoral student can’t help but feel a rush of emotion. “There have been so many times when I wanted to cry. But I was able to keep that in,” she said. “And then I’d cry at home.”

Passos dos Santos sees the need to balance being sensitive to the pain the family and child are experiencing with the need to provide care and advocacy, and clear-eyed observation. She also sees the importance of the nurse’s perspective in end-of-life discussion and decisions.

“Nurses are the only health professionals who spend 100 percent of the time with the families,” says Passos dos Santos, who believes that nurses’ knowledge of the child’s situation and the trust they’ve engendered with the families make them obvious candidates to discuss the ethics that arise in a palliative situation.

Passos dos Santos, recipient of a David McCutcheon Fellowship in Pediatric Palliative Care, is exploring the moral experiences of families and children in palliative care in Brazil and Canada. From her research so far, she sees ambiguities when it comes to children receiving end-of-life care.

“One thing we talk about is ‘the child’s best interest’ but right now, we do not have a definition of what is in the child’s best interest,” she says, referring to the literature on the subject.

For now, the 28-year-old international student will continue observing and advocating, as she meets with more families this year through the Montreal Children’s Hospital and possibly back in her home country of Brazil. She’ll also try to be part of the families’ home lives, “interviewing them during important moments.”

She says the families are comforted by the attention and hope their participation will help others. The thoughts they share with her and the experiences she’s invited to observe are the tools helping to build knowledge about pediatric palliative care. At the same time, a persuasive case will be formed by the doctoral candidate for having nurses’ far-reaching role in health care extend to helping patients and families make the most important decisions.

“Right now, we do not have a definition of what is in the child’s best interest.”

– Raíssa Passos dos Santos
David McCutcheon Fellow in Pediatric Palliative Care
Nadia Zayed and Maria Apellaniz spend their days trying to provide important medical information to future generations.

Supported by the Garber Family Post Doctorate Fellowship in Hereditary Cancer, the two are working to provide a clearer genetic picture to the families in Montreal and around the world that may be at higher risk for cancer.

Combing through complex sets of patient samples, they identify gene mutations in people with a family history of the disease. These mutations can help individuals understand the risks they and their offspring face of a future cancer diagnosis.

Zayed, who hails from Algeria and has earned degrees in France and Montreal, and Apellaniz, who came to Montreal from her native Spain, are post-doctoral fellows under the supervision of William Foulkes, James McGill Professor in the departments of Medicine, Oncology and Human Genetics at McGill University. The Foulkes Lab at the Jewish General Hospital’s Lady Davis Institute studies genetic predisposition to cancer, with the goals of improving prevention and treatment options for patients and their families.

Zayed’s main project involves 52 families of French-Canadian heritage with strong histories of breast cancer but none of the genetic mutations typically associated with the disease. “They don’t have any mutations among the commonly known genes. They should have the mutation somewhere; but what is it?” asks Zayed, who is in her third year of the four-year project to find a cancer-causing variant common to this cohort.
Apellaniz, who began her post-doc in 2017, seeks to better understand a recently discovered genetic mutation called DICER1, which, when present, increases the risk of multiple cancers, including lung, renal, ovarian and thyroid.

She analyzes patients’ DNA from blood and tumour samples to see if they have pathogenic mutations in the DICER1 gene. "If an individual has a mutation in DICER1 in the DNA extracted from blood, that means that the mutation is present in the germline and could therefore be transmitted to the offspring," she says.

The two researchers both subscribe to the same school of thought: the more information a person has on their genetics – even if it’s something that points to a greater predisposition to the disease – the better off they are to then mitigate those risks. They may go for more frequent check-ups or even pursue preventive surgery, as did actress Angelina Jolie. A carrier of a gene mutation linked to breast and ovarian cancers, she underwent a double mastectomy and had her ovaries and Fallopian tubes removed.

As Apellaniz explains, "You’re not going to erase the mutation but your risk will be decreased."

Zayed and Apellaniz are both grateful to the Garber family for providing post-doctoral research funding. Regarding her work, Zayed notes that funders typically view variants that have not yet been proven as cancer-causing mutations as a lower priority. For these two researchers, this kind of gene sleuthing remains a high priority, especially when it means someone might find vital information on risks posed to their family and its descendants.
Dr. Robert Platt knows that drug safety does not begin and end at the drug trial.

As a member of the Canadian Network for Observational Effects of Drug Studies, headquartered at McGill, he sets up studies that investigate potentially unsafe medication. He and his colleagues test hypotheses by using data reported to health regulators on patients’ adverse reactions.

Think of it as a very large-scale drug trial.

“The job of our group and groups like ours – there’s one in the U.S. and one in Europe and in Australia – is to provide reassurance that, when drugs are being used, they’re not creating any surprise side effects,” says Platt, inaugural Albert Boehringer (1st) Chair in Pharmacoepidemiology, and Professor, Departments of Epidemiology, Biostatistics and Occupational Health (EBOH) and Pediatrics.

Pharmacoepidemiology can play an important watchdog role in society, protecting consumers from harm. In 2004, anti-inflammatory medication Vioxx was pulled from the shelves after it was shown to put patients at higher risk for cardiovascular disease, while weight-loss drug Fen-Phen was recalled in 1997 after heart and lung problems beset a number of patients.

For decades, McGill researchers have been active on this front. In fact, then-professor Lucien Abenhaim brought together epidemiologists and pulmonary experts who helped make the case against Fen-Phen.

Prior to Abenhaim, the late Dr. Walter Spitzer, a Strathcona Professor and Chair, EBOH, who was at McGill from 1975 until his retirement in 1995, worked on the adverse effects of oral contraceptives. Spitzer passed the McGill pharmacoepidemiology baton to Dr. Samy Suissa, a James McGill Professor who focuses on medications for asthma, cardiovascular disease and women’s health issues. Suissa more recently brought Platt to EBOH.

Since then, McGill has further increased its activity in the field. Other new hires include Laurent Azoulay, BSc’01, whose research assesses the safety of cancer treatments, and Kristian B. Filion, BSc’03, MSc’06, PhD’09, who examines cardiovascular medications, devices and procedures.

This growth comes thanks in part to donor funding, notably a $3 million gift in 2014 from Boehringer Ingelheim (Canada), Ltd.

Of industry partners, Platt says, “They want to get things right. They want to get the balance of the risks and benefits.” And, as he points out, a lot of his work confirms that drugs tested on a smaller cohort or for shorter periods are indeed safe.

Platt sees potential in the field for graduates. “Government, industry and academia are always looking for new people.” For that reason, McGill has launched a formal specialization in pharmacoepidemiology – which is good news for drug safety and for patients.
The job of our group and groups like ours is to provide reassurance that, when drugs are being used, they’re not creating any surprise side effects.

– Robert Platt
Albert Boehringer (1st) Chair in Pharmacoepidemiology
Since 1821, McGill has been offering outstanding educational opportunities to students from across the globe, pioneering new areas of research and discovery, and changing how we understand the world. As we approach our University’s 200th anniversary, McGill’s professors, researchers and students continue to tackle the biggest questions in science, culture and human endeavour.

Looking towards McGill’s third century, we hope you will join with us in celebrating and supporting this important work as we embark on The Road To 200 and beyond, and as, together, we create an even better world and a brighter future.

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