



UNIVERSITY OF TORONTO
FACULTY OF MEDICINE

Self-Study

External Review February 27 – March 1, 2019



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1. INTRODUCTION AND CONTEXT

1.1 Description of Division / Facts and Figures

Overview

The University of Toronto's (U of T) [Faculty of Medicine](#) has an extensive history of leadership in all aspects of its work – from discovery science and groundbreaking innovation to preparing expert physicians, rehabilitation professionals and researchers. The Faculty is known for attracting top-ranked scientists, fostering interdisciplinary research and learning, and developing graduates who lead in their fields. We are innovating in undergraduate MD education at home, and extending our reach outward through international partnerships and research collaborations with the US and Europe, China, India, Brazil and beyond.

Founded in 1843 as a school of medicine, the Faculty of Medicine lies at the heart of one of the largest biomedical research, education and clinical care networks in North America, the [Toronto Academic Health Science Network \(TAHSN\)](#). With 9 fully-affiliated hospitals and research institutes, 4 associate affiliated hospitals, and 21 community-affiliated hospitals and clinical care sites, U of T Medicine offers unparalleled opportunities for its more than 9,000 faculty & staff, and 7,000-plus learners at all levels. It is unique for a greater metropolitan area with a diverse population of more than 6 million to be served by just one Faculty of Medicine.

The Faculty's extensive educational and research activities are informed by its guiding vision, which is that its learners, graduates, faculty, staff and partners will be an unparalleled force for new knowledge, better health and equity. With this foundation, the Faculty has built a reputation that is recognized internationally. Some of the Faculty's and University's current global rankings are listed below.

Rankings

U.S. News and World Report:

Clinical Medicine (5th)

U of T overall (20th)

Psychiatry/Psychology (8th)

Molecular Biology & Genetics (10th)

Biology and Biochemistry (12th)

Pharmacology and Toxicology (14th)

Times Higher Education World University Rankings:

Clinical, Pre-clinical and Health (13th)

U of T overall (21st)

Life Sciences (22nd)

QS World University Rankings:

Life Sciences and Medicine (13th)

U of T overall (31st)

National Taiwan University Rankings:

Clinical Medicine (3rd)

U of T overall (4th)

Life Sciences (10th)

Research Funding and Impact

Annual total research funding to the Faculty of Medicine has increased from \$653M in 2010-11 to \$788M in 2017-18; \$130M was awarded in 2017/18 to on-campus researchers in the Faculty of Medicine, comprising 25% of U of T's total funding (\$512M) when hospital research institutes are excluded.

Despite overall Canadian Institutes for Health Research (CIHR) funding remaining flat nationally, the Faculty consistently outperforms the national averages in CIHR funding competitions (20% vs. 15.5% for Project Grants, 20% vs. 12% for Foundation Grants). Medicine has worked diligently to adapt to a tighter provincial and federal funding landscape by further diversifying its funding sources, primarily by increased targeting of industry (93% growth from 2010 to 2017), the US and international sources, combined with increased support from internally held budgets, trusts and foundations.

The Faculty of Medicine's researchers publish and are cited more often than any other Canadian life sciences unit. More notably, we rank **3rd or better globally** by the same metrics. (Only Harvard and Johns Hopkins rank higher.) Regarding commercialization of discoveries, the first step of this complex process is invention disclosure to the University's IPO Office: Faculty of Medicine researchers are developing and disclosing more new inventions than ever before, doubling in frequency since 2010.

Major research and innovation prizes in Medicine also keep U of T front and centre as Canada's leading university. Among recent highlights (see Section 3.6 Research Awards & Honours for complete list):

Frances Shepherd: 2018 Canada Gairdner Wightman Award
Tom Chau and Kamran Khan: 2018 Governor General's Innovation Awards
Daniel Drucker: 2018 Manning Innovation Award
David Naylor: 2018 Henry G. Friesen International Prize
Janet Rossant: 2018 L'Oreal-UNESCO For Women in Science Award
Jeffrey Wrana: 2018 McLaughlin Medal, Royal Society of Canada
Beverly Orser: 2018 Elected to National Academy of Sciences (USA)
Lewis Kay: 2018 Herzberg Gold Medal; 2017 Canada Gairdner International Award
Molly Shoichet: 2017 Killam Prize
Peter St George-Hyslop: 2017 Ryman Prize
John Dick: 2017 CIHR Gold Leaf Prize for Discovery
Graham Collingridge: 2016 Brain Prize

Training Healthcare Leaders

U of T Medicine is the single largest contributor of physicians in Canada. Between 2002 and 2016, 55% of specialists and 68% of family physicians who trained at U of T practiced outside the Toronto Central Local Health Integration Network (LHIN)¹. The Faculty's MD/PhD Program also produces 30–40% of total MD/PhD graduates in Canada. Other measures of return on educational investment:

- 70% of specialists and 55% of family physicians in the Greater Toronto Area (GTA) are U of T graduates (excluding Toronto LHIN)
- 55% of specialists who trained in Ontario did so at U of T Medicine
- 35% of family physicians who trained in Ontario did so at U of T Medicine

(Source: 2016 Ontario Physician Human Resources Data Centre)

U of T Medicine also makes a major contribution to Ontario's workforce in the regulated health professions. Of Ontario graduates in 2018, the majority of whom will practice in the province, U of T Medicine accounts for a major proportion:

- 56% of physician assistants
- 39% of speech-language pathologists
- 28% of physiotherapists
- 28% of occupational therapists (with 2018/19 expansion: 36%)

¹ The Toronto Central LHIN is responsible for planning, funding and integrating local health services in the central Toronto area.

Strengthening U of T's Brand

The Faculty of Medicine is an active partner in positioning U of T's reach and accomplishments with external audiences, including media, alumni and donors. In 2017/18, the Faculty produced 200+ original news, feature and opinion articles highlighting educational and research impact, many of which are selected by central units for wider audiences at utoronto.ca and beyond. The Faculty's curated Doctors' Notes column – published weekly in the *Toronto Star* since 2014 – demonstrates the societal impact of the University through a “news you can use” approach from our network of outstanding faculty across the clinical, basic sciences and rehabilitation sectors.

Medicine's communications strategies not only reflect the priorities of the Faculty's 2018–23 Academic Strategic Plan – strengthening an ecosystem of collaboration, catalyzing groundbreaking research, and achieving excellence through equity – but also ensure amplification of the University's brand as a national and global leader. In 2018, for example, U of T Medicine secured a [New York Times op-ed](#) by Professor Danielle Martin following a special issue of [The Lancet](#), led by U of T faculty and focused on Canada's health system and global health impact, including contributions by Prime Minister Justin Trudeau and Minister of Indigenous Services Dr. Jane Philpott.

Through its integrated digital, print and event strategies, the Faculty explores bold, topical issues in health that are paying off in greater alumni and donor engagement. The Faculty has cultivated a working relationship with *Globe and Mail* columnist Andre Picard to host our UofTMed Talks event series for donors; and the Faculty's alumni magazine was the only non-commercial finalist at Canada's 2017 National Magazine Awards in the category of best editorial package for a provocative issue on physician mental health. A survey last year of *UofTMed* magazine readers showed 40% read every issue; 80% say the magazine makes them feel “proud to be a U of T alumnus.”

The Faculty of Medicine has seen great success during the Boundless Campaign. We surpassed our original \$500M goal quite early and announced an expanded \$600M goal. By the campaign end on December 31 2018 the Faculty had raised more than \$637M towards the University's \$2.4B Campaign Goal.

About the Faculty of Medicine

Departments, Institutes, Centres and Degree Programs

Second in size only to the Faculty of Arts and Science, the U of T Faculty of Medicine is comprised of 26 departments and institutes across 3 sectors (see I, II and III below), and 13 research centres (see IV below). In addition to the MD Program, the Faculty of Medicine offers a wide range of degree programs across the life sciences and rehabilitation sciences, including Masters (both Professional and Thesis-based), PhDs, and Bachelors (physician assistant and medical radiation sciences). The Faculty is also deeply engaged in undergraduate life sciences teaching for degree programs offered by the Faculty

of Arts and Science. The Faculty of Medicine is also the administrative home of six collaborative specializations that provide an additional multidisciplinary experience for students enrolled in an approved U of T degree program. (See Section 4 for further details on academic units and programs.)

Figure 1.1.1: Faculty Departments and EDUs

I. DEPARTMENTS:

A. Basic Sciences

[Biochemistry](#)

[Immunology](#)

[Laboratory Medicine and Pathobiology](#) (also Clinical)

[Medical Biophysics](#)

[Molecular Genetics](#)

[Nutritional Sciences](#)

[Pharmacology & Toxicology](#)

[Physiology](#)

B. Clinical

[Anesthesia](#)

[Family and Community Medicine](#)

[Medical Imaging](#)

[Medicine](#)

[Obstetrics & Gynaecology](#)

[Ophthalmology & Vision Sciences](#)

[Otolaryngology - Head & Neck Surgery](#)

[Paediatrics](#)

[Psychiatry](#)

[Radiation Oncology](#)

[Surgery](#)

C. Rehabilitation Sciences

[Occupational Science & Occupational Therapy](#)

[Physical Therapy](#)

[Speech-Language Pathology](#)

DEGREE PROGRAMS:

MSc, PhD

MSc, PhD

MSc, PhD

MSc, PhD

MSc*, MHSc, PhD

MSc, PhD

MSc, PhD

MSc, PhD

BSc* (Physician Assistant)

BSc* (Medical Radiation Sciences)

MScOT*

MScPT*

MHSc*

II. Extra-departmental Unit (EDU): As**

[Donnelly Centre for Cellular & Biomolecular Research](#)

[Institute of Biomaterials and Biomedical Engineering](#)

III. EDU:Bs

[Institute of Medical Science](#)

MSc, MHS, PhD, MScBMC*
(Biomed Comms)

[Rehabilitation Sciences Institute](#)

MHS, PhD

IV. EDU:Cs

[Banting and Best Diabetes Centre](#)

[Centre for Ambulatory Care Education](#)

[Centre for Collaborative Drug Research](#)

[Centre for Faculty Development](#)

[Centre for Interprofessional Education](#)

[Centre for Quality Improvement & Patient Safety](#)

[Global Institute for Psychosocial, Palliative and End-of-Life Care](#)

[Heart & Stroke / Richard Lewar Centre of Excellence in Cardiovascular Research](#)

[Joannah & Brian Lawson Centre for Child Nutrition](#)

[McLaughlin Centre](#)

[Tanz Centre for Research in Neurodegenerative Diseases](#)

[Transplantation Institute](#)

[Wilson Centre for Research in Education](#)

*denotes an accredited program. See **Appendix 1**.

** *further information on Extra-departmental Units* EDU-A and -B units serve some of the same roles as departments in terms of appointing faculty. Directors are appointed under the University's [Policy on Appointment of Academic Administrators](#)). EDU-Cs are outside that policy and are usually established in partnership with affiliated hospitals.

Faculty, Learners and Staff

With over 8,000 faculty members, Medicine has the largest number of faculty of any division at U of T. By way of comparison, Harvard Medical School (including dental medicine), has over 11,400 faculty members; Johns Hopkins School of Medicine, 4,100 faculty.

Medicine is home to more than 1,400 undergraduate students (1,049 of whom are in the four-year MD Program), as well as over 3,600 post MD residents and fellows, and another 2,500 graduate life sciences students. In addition, more than 40,500 learners participated in 385 accredited continuing professional development events and courses offered at U of T Medicine in 2017/18. There are 871 staff members across the Faculty.

Figure 1.1.2: Total Faculty, Learners and Staff

Faculty	Dec 31, 2011	Jul 31, 2017
Total Faculty	6,826	8,141
Female	44%	47%
Male	56%	53%
Total Clinical Faculty	4,674	6,140
Full Time	2,296	2,999
Part Time	1,198	1,558
Adjunct	1,180	1,583
Total Appointed Faculty	309	237
Tenure Stream	192	158
Non-Tenure Stream	85	47
Teaching Stream	32	32
Total Status Only / Adjunct Faculty	309	237
Status Only	1,640	1,505
Adjunct	202	259
Learner Enrolment	2009–2010	2017–2018
Medical Students (MD)	904	1,049
MD/PhD Program	42	69
Medical Radiation Sciences	370	292
Physician Assistant Program	24	56
Postgrad Clinical MD Trainees (Residents)	1,766	2,096
Postgrad Clinical MD Fellows	1,130	1,557
Graduate – Masters (MSc)	865	947
Graduate – Professional Master's	818	552
Graduate – Doctoral (PhD)	1,145	1,001
Post-Doctoral Fellows (on campus)	272	283
Continuing Education Registrants	28,693	40,505
Administrative Staff		
Total	887	871
Female	72%	72%
Male	28%	28%

Equity, Diversity and Inclusion

The Faculty of Medicine is committed to the principles of equity, diversity and inclusion (EDI) in all that we do. This includes recruiting learners, faculty, and staff who reflect the diversity of our society; maintaining an environment of equity and fairness where all can work and learn; and assuring that our programs and curricula prepare our graduates to meet the needs of the diverse communities they will serve in their careers in Canada and around the world. The Faculty has a history of innovative EDI programming, particularly in our MD Program, including the Summer Mentorship Program, Indigenous and Black Student Application Programs, and the Community of Support (see further details in sections 1.2 and 2.1).

In 2016, the Dean appointed Professor Lisa Robinson as the Faculty's first Chief Diversity Officer to champion our commitment to the principles of EDI. Since that time, Prof. Robinson has been sought after as a speaker and presenter on issues of EDI throughout the Faculty, the University, and at our affiliated hospitals. A Diversity Strategist was hired in 2017 to help design and implement EDI efforts across the Faculty. The 2017-18 strategic planning process reaffirmed the Faculty's commitment to equity and diversity, and in late 2018 Prof. Robinson's role became Associate Dean, Inclusion and Diversity, with a mandate to continue to work with the Diversity Office team to collaboratively build alliances and develop strategic partnerships to promote the diversity of faculty, learners and staff across the Faculty.

1.2 Milestones Since 2010 External Review

Since 2010 the Faculty of Medicine has undergone leadership renewal, and has made a number of key advances in academics and equity, accreditation and curriculum, as well as funding, administration and infrastructure improvements. Among the highlights:

Academics and Equity

Mississauga Academy of Medicine opened, expanding MD Program by 54 students

The Mississauga Academy of Medicine was successfully launched in September 2011. The subsequent accreditation review of the MD Program in 2012, which included a site visit to the Mississauga Academy by the reviewers, confirmed the success of the new academy. The review panel was highly laudatory of all aspects of the satellite, including the infrastructure and faculty development of the newly appointed part-time faculty at Trillium/Credit Valley Hospital (now Trillium Health Partners).

Indigenous Student Application Program launched for MD Program (first intake Aug 2012)

Indigenous Peoples of Canada (First Nations, Inuit, and Métis) were one of the three groups of students

identified for priority attention in the [Faculty of Medicine Diversity Statement](#). Approved by Faculty Council in November 2011, the Indigenous Student Application Program (ISAP) was developed to promote and support Indigenous student entry into the medical school. Through the ISAP, applicants who self-identify as Indigenous are invited to participate in a welcoming and culturally safe admissions process. (See Section 2.1.3 for additional detail.)

Black Student Application Program launched for MD Program (first intake into MD Program Aug 2018)

First approved in February 2017 and launched in March 2017, the Black Student Application Program (BSAP) is in its first full cycle of implementation. The aim of this application program is to increase and support Black medical student representation at the University of Toronto. Through BSAP we hope to break down some of the barriers that might impede black students from applying and nurture an inclusive environment that is welcoming to all. There were 14 students in the 2018 incoming class from BSAP applicants, from 17 offers made.

The admission requirements for all students are identical in Grade Point Average (GPA) and Medical College Admissions Test (MCAT) scores. What differs for those applying through BSAP is the requirement to submit a personal essay and to have representation from black health leadership in admissions file review and interviewing. There are no fixed seats or quotas. (See Section 2.1.3 for additional detail.)

Expansion of MSc (Occupational Science and Occupational Therapy) to the Mississauga Campus

In February 2018, Faculty Council approved the proposal to offer the MScOT at both the University of Toronto Mississauga (UTM), Terrence Donnelly Health Sciences Complex (TDHSC) and the St. George campus. The enrolment expansion addresses current and anticipated future demographic needs for more occupational therapists in Ontario.

Medical Psychiatry Alliance created

The Medical Psychiatry Alliance aims to integrate mental and physical health care, training and research to better serve patients with complex mental illness. The first of its kind in Canada, the alliance involves the Faculty of Medicine's Department of Psychiatry, the Centre for Addiction and Mental Health (CAMH, Canada's largest academic psychiatric hospital), the highly specialized Hospital for Sick Children, and Trillium Health Partners, a community-based hospital network. This innovative partnership, founded in 2013, was made possible by a \$20 million gift from an anonymous donor, a commitment of \$20 million from the Ministry of Health and Long-Term Care, and a commitment of \$20 million from the four founding institutions.

Accreditation and Curriculum

MD Program accredited

The Faculty of Medicine engaged in a two-year preparation for the Committee on Accreditation of Canadian Medical Schools/Liaison Committee on Medical Education (CACMS/LCME) accreditation process that included a detailed self-study, extensive database compilation, an independent medical student survey, and analysis of the curriculum and student experience. Following a site visit in May 2012, the program was fully accredited for 8 years. The next site visit is scheduled to take place in May 2020.

Foundations curriculum launched in MD Program

The introduction of Foundations is one of the most significant changes the program has made to the way it delivers medical education over the past two decades. The inaugural offering of Foundations Year 1 was successfully delivered in 2016-17, followed by Foundations Year 2 in 2017-18. A feature of the curriculum is the integration of basic science, psychosocial concepts, and clinical concepts; basic science and psychosocial content is closely integrated with the relevant clinical skills, which promotes learning in context and retention of learning. (See Sections 2.1.1 and 2.1.4 for additional detail.)

Postgraduate medical education program accredited

The accreditation visit for the Faculty of Medicine's Postgraduate Medical Education Program took place from April 7-12, 2013. All Postgraduate programs are currently accredited by the Royal College of Physicians and Surgeons of Canada.

Launch of Competency Based Education for residency programs

In 2017, the Faculty's first two competency-based postgraduate programs were fully launched in conjunction with the national rollout, using the new Royal College Competence By Design (CBD) standards: Otolaryngology – Head & Neck Surgery, and Anesthesiology. Seven more CBD postgraduate programs were launched in 2018.

Department of Family & Community Medicine (DFCM) recognized by WHO

In 2018, the DFCM was named an official World Health Organization (WHO) Collaborating Centre on Family Medicine and Primary Care, the first Family Medicine residency program in North America, and only second in the world, to receive this global designation. Note: in 2015, the Department of Nutritional Sciences was also designated as a WHO Collaborating Centre.

Funding, Administration and Infrastructure

Boundless fundraising campaign launched at U of T

The University of Toronto unveiled Boundless, the largest fundraising campaign in Canadian university history, in 2011. With a historic \$2-billion goal (which was subsequently increased to \$2.4-billion), the campaign aimed to expand U of T's global leadership capacity across critical areas of knowledge and help develop the talent, ideas and solutions for the defining challenges of our time. The Faculty of Medicine's divisional goal was \$500 million (subsequently increased to \$600 million). (See Section 4.3.3 for more detail.)

Faculty Office of Communications established

In response to the 2010 external review, an office of communications was established to support the Dean's strategic priorities and decanal portfolios. After some streamlining and restructuring, the unit now focuses on promoting the Faculty's impact to external and internal audiences, minimizing risks to reputation and developing systems and standards for department-based communicators. (See Section 4.3.4 for more detail.)

Dean Young begins first term in January 2015

The Faculty's strategic priorities were updated in the context of: the appointment of a new Dean; other leadership transitions within the Faculty and the University; President Meric Gertler defining the University's [Three Priorities](#); and changes in the political landscape at all levels of government. The Dean reorganized portfolios to consolidate postgraduate medical education and continuing professional development under one Vice Dean. In addition, a Chief Diversity Officer was named to provide leadership on diversity initiatives across the Faculty of Medicine. A Vice Dean Partnerships role was created to lead the Faculty's outward-facing relationships, including with the affiliated hospitals, Canadian and international institutions and organizations, and with all levels of government.

Community preceptor funding launched

The Faculty of Medicine has clinical teaching sites throughout the Greater Toronto Area and beyond, creating both challenges and opportunities in attracting, retaining, monitoring, developing the academic careers of, and valuing community preceptors. The Faculty responded to these challenges with the development in 2012 of Integrated Medical Education (IME) to establish a sustainable framework for producing health care professionals. In just two years' time, the IME initiative: established a new system for payment of clinical preceptors; addressed gaps in policies and procedures; managed rapid growth in undergraduate and postgraduate positions; and linked newly appointed clinical faculty to professional development supports.

Dalla Lana School of Public Health (DLSPH) became separate Faculty

Alongside a transformative donation to the School of Public Health, the academic and administrative leadership of the Faculty of Medicine worked closely with the leadership of the Dalla Lana School of Public Health (DLSPH) and the central administration to prepare for the School to emerge as a separate Faculty as of July 1, 2013. The Faculty of Medicine's previous levels of research funding, faculty numbers, enrolment, etc., changed accordingly. (Details are provided in the relevant sections of this document.)

Inaugural Staff Impact Awards

The Staff IMPACT Awards program was launched in 2013 to honour staff whose work and dedication have helped to make the Faculty of Medicine the celebrated school that it is today.

Laboratory infrastructure renewal

In 2015, the decanal team began work on a comprehensive plan to address some of the key issues facing the basic science sector, including infrastructure renewal, recruitment, enrolment, and fundraising. The plan involved a project to relocate 30 Principal Investigators to new space in the MaRS2 Tower adjacent to campus. Planning continued into 2016 with a federally funded infrastructure renewal plan for the 1960s era Medical Sciences Building. The federal Strategic Investment Fund, announced in 2016, saw a total of ~\$40M (\$20M federal funding and \$20M Faculty match) allotted for renovation projects in the Medical Sciences Building (MSB) over a two-year timeframe. As a result of this significant project, one quarter of all the research space in MSB was renovated, with a dramatic shift in the quality of research space in a short period of time. (See Section 5.1 for additional detail.)

Strategic recruitment of international MD students initiated

In 2016, for the first time, a campaign was targeted at recruiting international students to the MD Program. Six international students were accepted for the 2018-19 academic year.

New Academic Strategic Planning process launched

Beginning in late 2017, more than 400 faculty, staff, students, alumni, and key collaborators were engaged in a process to develop a new academic strategic plan. Developed through a series of consultations, interviews and focus groups from January to June 2018, the plan was approved by Faculty Council in October 2018 and provided the foundation for the development of the self-study. The final [2018–2023 Academic Strategic Plan](#) was distributed – in print and online – in January 2019.

1.3 Description of Self-Study Process

This self-study of the Faculty of Medicine has been prepared as part of the University of Toronto's process for reviewing its academic programs and units (University of Toronto Quality Assurance Process, or UTQAP). The external review has been timed to precede the end of the first term of Dean Trevor Young on December 31, 2019. The previous external review was conducted in 2010, and informed the development of the Faculty's Academic Strategic Plan, 2011–2016.

Typically the development of a new academic strategic plan follows, and is informed by, a division's external review. In this case, however, due in part to the timing of Dean Young's appointment at the mid-point of the UTQAP review period, the development of the Faculty's academic strategic plan began in late 2017 and culminated in the preparation of the self-study document.

The Academic Strategic Plan was developed through broad consultations, beginning with the appointment of a Strategic Planning Steering Committee made up of representatives from leaders in basic sciences, clinical medicine, rehabilitation sciences, students, and partners from the Toronto Academic Health Science Network [[See Appendix 2](#)]. This group helped to identify topics of inquiry and key targets for our initial stakeholder consultation.

Between January and March of 2018, the Faculty of Medicine hosted 14 focus groups with existing committees and teams from across the Faculty, and members of the Steering Committee reached out to key partners from across our network and into the international community of academic health science institutions to gather input and perspectives about how the Faculty is perceived today and what key issues demand attention in planning for the next 10-15 years. These conversations included more than 400 faculty, learners, staff, academic and clinical partners, innovation leaders and patients and focused on the full scope of the Faculty of Medicine – basic sciences, clinical medicine, and rehabilitation sciences, encompassing all aspects of teaching, research, and administration.

From that process a five-year Academic Strategic Plan was drafted, fine-tuned through consultations, and passed by Faculty Council in October 2018. Coincident with, and informed by this process, the preparation of the self-study document got underway in spring 2018, led by Prof. Salvatore Spadafora, Vice Dean, Post MD Education at the request of the Dean. The self-study highlights major initiatives undertaken in the Faculty, and specifically the MD Program, and comments on the achievements and challenges faced through those initiatives. The various chapters in this document address the Terms of Reference provided by the Office of the Vice-Provost, Academic Programs, including: the quality, size and scope of undergraduate and graduate academic activities and the student experience; the Faculty's research activities; organizational and financial structures; physical, research and programming infrastructure; internal and external relationships; and student and faculty diversity.

Faculty and administration leaders were responsible for completing drafts of the sections of this MD Program self-study report that correspond with their respective portfolios. The MD Program sections were largely informed by the Interim Accreditation Review (IAR) that the MD Program engaged in over the 2016–2017 academic year, which culminated in a site visit with an external reviewer in March 2017.

Approximately 80 faculty members (including Chairs, decanal representatives and education leaders), 60 students and 12 administrative staff participated in the March 2017 IAR site visit. Prior to the site visit, faculty leaders and administrative staff completed a Data Collection Instrument (DCI), which included a survey of medical students in all four years of the program, and engaged in a comprehensive self-study of all aspects of the MD Program. The self-study exercise included the formation of six internal working groups populated by faculty, staff and students.

The MD Program's next full accreditation review is scheduled to take place in 2019–20. The student voice is particularly important to the accreditation process. Preparations for that review include an Independent Student Analysis (ISA) by our medical students. This ISA is informed by a student-led survey that features 58 core questions, as well as additional University of Toronto specific items. Work on the ISA by our medical students was initiated in September 2018.

As was the case with the ISA, the full accreditation review will include the completion of a Data Collection Instrument (DCI) by faculty leaders and administrative staff, followed by a self-study exercise supported by a series of working groups. Those working groups will be populated by faculty, staff and students. Following submission by the program of its self-study report, an on-site visit will be conducted by a team of medical educators from peer medical schools across Canada. The visit will take place over several days, during which the visiting team will meet with groups of students, faculty, and staff to assist in determining compliance with accreditation standards.

2. ACADEMIC PROGRAMS

2.1 MD Program

Academic Leadership

Vice Dean, MD Program: Professor Patricia Houston

2.1.1 Program Description

Enrolment

With an annual entry class of 259 domestic students (set by the Province) and up to 10 supernumerary international students, the University of Toronto MD Program is the largest in Ontario and one of the largest in Canada. Our MD/PhD program is the largest of its kind in Canada. Further enrolment and student demographic information is provided in Section 2.1.3 Admissions.

Structure and Curriculum: Overview

The MD Program curriculum consists of 147 weeks of instruction over four years and is designed to prepare graduates to be competent for entry-level postgraduate medical education programs (residency):

Foundations	Year 1	36 weeks
	Year 2	36 weeks
Clerkship	Year 3	50 weeks
	Year 4	25 weeks

The program length complies with the [Committee on Accreditation of Canadian Medical Schools](#) (CACMS) and [Liaison Committee on Medical Education](#) (LCME) requirement that a medical education program must include at least 130 weeks of instruction.

Foundations (Years 1 & 2)

The overarching goal of the first two years of the MD Program – called Foundations (previously known as Preclerkship) – is to begin the process of supporting students’ acquisition of the breadth of competencies and knowledge required for life-long practice, and in particular to prepare them for workplace-based learning in Clerkship (Years 3 & 4). The curricular revision of Preclerkship as Foundations is one of

the most significant changes the program has made to its delivery of medical education over the past two decades. The inaugural Foundations Year 1 was successfully delivered in 2016-17, followed by Foundations Year 2 in 2017-18. A feature of the curriculum is the integration of basic science, psycho-social concepts and clinical concepts; basic science and psycho-social content is closely integrated with the relevant clinical skills, which promotes learning in context and retention of learning.

The Foundations curriculum is composed of six courses (three in Year 1 and three in Year 2), four longitudinal components, and longitudinal themes. The weekly curriculum is organized to include the equivalent of a full-day of unscheduled time, which provides students with time for self-study and other activities such as clinical shadowing. In addition to offering students a highly integrated curriculum with clinical content from the beginning of medical school, the Foundations curriculum provides students with early exposure to patients and learning in community settings, extensive use of online materials to support learning, and a programmatic assessment model designed to support learning.

The inaugural (and subsequent) delivery of the Foundations curriculum involves intensive quality improvement exercises to ensure that students have the best possible learning experience and are well prepared for Clerkship.

Further detail regarding the Foundations curriculum is provided in Section 2.1.4.1 Foundations Curriculum (Years 1 & 2).

Clerkship (Years 3 & 4)

Clerkship comprises the last two years of the MD Program. Clerkship is an integrated learning experience that enables students to further develop the knowledge, skills and professional attitudes introduced in Foundations. This is achieved through practical application in clinical settings as part of a healthcare team, both in hospitals and at community-based clinics and doctors' offices.

Year 3 of Clerkship begins with a two-week Transition to Clerkship (TTC) course. Following TTC, students complete a series of core clinical rotations of varying lengths in each of Anesthesia, Emergency Medicine, Family and Community Medicine (including Dermatology), Internal Medicine, Obstetrics and Gynaecology, Ophthalmology, Otolaryngology, Paediatrics, Psychiatry, and Surgery. The Year 3 curriculum also includes a longitudinal Portfolio course that focuses on students' professional development, as well as a series of core learning sessions (introduced in 2018-19) that focus on patient safety, career planning, resilience and wellness, and medical complexity.

In the fourth and final year of the MD Program, students have the opportunity to pursue elective experiences, which allow them to gain exposure to areas of expertise beyond the scope of the core clinical rotations and further enhance their training in sub-disciplines within the major medical specialties. Year 4 ends with Transition to Residency (TTR), a 12-week course that helps ensure our students are well

prepared for the workplace-based learning of residency. The Portfolio sessions, described above, also continue during the TTR weeks.

Further detail regarding the Clerkship curriculum is provided in Section 2.1.4.2 Clerkship Curriculum (Years 3 & 4).

MD/PhD Program

The [MD/PhD Program](#) trains physician scientists who are well prepared for both research careers and clinical practice. Candidates for admission to the MD/PhD Program must be accepted by both the MD Program and the PhD program in which they intend to carry out their graduate studies. While MD/PhD students can pursue their PhD in any graduate department or institute within the School of Graduate Studies at the University of Toronto, the majority of MD/PhD students are enrolled in Faculty of Medicine graduate programs.

Regardless of their PhD program, students start the MD/PhD Program with the first year of medical school (Foundations Year 1). Second year marks the beginning of formal registration in graduate school and commencement of the PhD. Students remain in the graduate phase for four to five years, depending on the research topic selected and the outcome of their scholarly work. Following successful completion of their thesis, students then return to complete the remaining three years of the MD Program.

Additional Educational Opportunities

Included below is a summary of selected additional educational opportunities available to medical students that complement the goals and objectives of the MD Program.

- **Master of Science (MSc) in Health Policy, Management and Evaluation with a Concentration in System Leadership and Innovation (SLI)**

Our Leadership Education and Development (LEAD) Program began in 2011 as an innovative, interdisciplinary partnership between the MD Program, U of T's Rotman School of Management, the School of Public Policy and Governance, and the Institute of Health Policy Management and Evaluation (IHPME). The LEAD Program was very successful, but was limited to nine MD students from each MD Program cohort and graduates of the program did not receive a separate credential despite completing graduate-level work. Effective 2016-17, the program was reconfigured as a [System Leadership and Innovation \(SLI\) concentration in the MSc in Health Policy, Management and Evaluation](#).

The SLI concentration allows medical students and residents to obtain a non-thesis MSc with a focus on the key aspects of physician leadership for system innovation, including leadership

and motivation, strategic thinking and planning, research methods for evaluating health system innovation and policy analysis, and techniques for system change. The part-time format allows MD students to complete the program and receive a separate MSc credential without having to step away from the MD Program. Since its inception in 2016-17, a total of 39 MD Program students have registered in the SLI concentration, including 5 who graduated from SLI in November 2018.

- **Computing for Medicine Certificate**

Computing for Medicine (C4M) was introduced in September 2016 as an extra-curricular experience available to first- and second-year medical students in the first offering and now only to first-year medical students. Given the lack of preparation of future doctors in computer literacy, C4M is designed to provide a hands-on experience for medical students to learn basic computing skills, including coding.

Coordinated jointly between the MD Program and the Department of Computer Science, Faculty of Arts & Science, C4M was developed to provide an introductory computing-for-medicine experience to first-year MD students with little to no computer programming experience. In January 2018, C4M was formally classified as a Category 3 not-for-credit certificate, which enables medical students to include it on their CVs as a University approved extra-curricular experience. The academic lead for C4M recently published in [Academic Medicine](#) on the outcomes of the pilot project.

- **Master of Engineering (MEng) in Biomedical Engineering**

Offered by the Institute of Biomaterials and Biomedical Engineering (IBBME), the [MEng in Biomedical Engineering](#) is a professional graduate degree program that focuses on the design, development and commercialization of biomedical devices. It is most suitable for students interested in an industry-based career. Students may also enrol in an MD-oriented version of this program, which can be completed on a part-time basis. MD students can apply to this part-time option in the fall term of Year 1 of the MD Program, with the MEng course work starting in the winter term of Year 1. Eight students were admitted into the MEng program for January 2017, with completion by the end of the 2018 fall term. Three MD students were admitted for January 2018 entry and are engaged in MEng coursework. We are in the process of accepting students for January 2019 entry.

The MEng curriculum consists of courses structured into three pillars (biomedical engineering technology, biomedical sciences, and commercialization & entrepreneurship) and an internship. All students in the MEng have the opportunity to take on design challenges and meet the growing demands of this industry through the internship. Internship examples include:

- “Cost-effective, 3D-printed assistive devices for persons with disabilities” at [3D4MD](#).
- “Functional prototyping of knee prosthetics using additive manufacturing techniques” at [LegWorks Inc.](#)
- “Tissue microstructure of surgical specimens depicted with Optical Coherence Tomography (OCT)” at [Perimeter Medical Imaging](#).

- **Graduate Diploma in Health Research (GDipHR)**

First-year medical students also have the opportunity to conduct a research project mentored by a University of Toronto faculty member through the Graduate Diploma in Health Research (GDipHR), which is offered by the Institute of Medical Science in the Faculty of Medicine. The Diploma is designed for future physicians who are interested in contributing to health-related studies in their future careers and those wanting to pursue leadership roles in health research. For medical students who have not had any previous research experience, the Diploma provides graduate-level training and an additional University credential without prolonging the time required to receive the MD degree. For medical students who completed graduate research training before starting the MD program, the GDipHR enables them to remain current in research and explore new areas and approaches while completing their MD in the standard four academic years.

[Additional educational opportunities](#) available to medical students include service learning opportunities organized through the student-led [Medical Society](#), as well as observership experiences with Inner City Health Associates Physicians, a group of more than 90 physicians working in over 50 shelters and drop-ins across Toronto, and opportunities with a national program that prepares francophone physicians.

Teaching Sites

On-campus teaching for the MD Program is conducted at both the downtown St. George campus and the west-end suburban Mississauga (UTM) campus during the first two years of the program. Lectures are video-conferenced between the two sites.

In Clerkship, MD students have the opportunity to learn in many clinical settings that reflect the practice of medicine. Clinical teaching is provided in 30+ affiliated clinical teaching sites, composed of the University’s full, associate and community-affiliated hospitals and health-care sites, as well as non-hospital clinical sites. Thanks to this array of clinical teaching sites students are provided with opportunities for learning experiences in a large variety of social contexts.

The Medical Academies

A unique feature of the U of T MD Program is its [academy system](#). The four academies – FitzGerald, Mississauga, Peters-Boyd, and Wightman-Berris – comprise clusters of the University’s full, associate and community-affiliated hospitals and other health-care sites. MD students are assigned to an academy as part of the admissions process, with each academy providing its students with a clinical home in an affiliated teaching hospital for the duration of the MD Program. Each academy offers a unique combination of educational settings based on the strengths of their member hospitals, while at the same time maintaining a consistent high standard of curriculum delivery. The academies are led by Directors, who work closely together and coordinate the provision of core curriculum for the MD Program.

Leadership & Governance

The Vice Dean, MD Program is responsible for oversight of the MD Program and MD/PhD program (the latter in conjunction with the Director, Physician Scientist Training Programs). A team of senior [academic and administrative leaders](#) is responsible for the management of the MD and MD/PhD programs, while [program governance](#) is supported by a robust committee structure that includes active participation by [student leaders](#).

2.1.2 Objectives

MD Program Educational Goals and Competency Framework

Over the 2017-18 academic year, the MD Program refreshed its overarching education goals in a consultative process with faculty, learners and staff. These refreshed [MD Program education goals](#), which were approved by the MD Program Executive Committee in June 2018 and are currently tracking for Faculty Council approval in early 2019, articulate the program’s aspiration to prepare graduates who are:

- Clinically competent and prepared for life-long learning through the phases of their career;
- Ethical decision-makers dedicated to acting in accordance with the highest standards of professionalism;
- Adaptive in response to the needs of patients and communities from diverse and varied populations;
- Engaged in integrated, team-based care in which patient needs are addressed in an equitable, individualized and holistic manner;
- Reflective and able to act in the face of novelty, ambiguity and complexity;
- Resilient and mindful of their well-being and that of their colleagues; and

- Capable of and committed to evidence-informed practices and scholarship, and a culture of continuous performance improvement.

In order to support achievement of these goals, the MD Program curriculum is governed by a [competency framework](#) that is grounded in the seven Royal College of Physicians and Surgeons of Canada CanMEDS roles: Medical Expert, Communicator, Collaborator, Health Advocate, Leader, Scholar and Professional. The MD Program competency framework is the outcome of a comprehensive review of the previous program objectives. That review was initiated in spring 2014, culminating in approval of the program’s revised competency framework by Faculty of Medicine Faculty Council in February 2016. See [Appendix 3](#) for the MD Program’s 2016-17 Interim Accreditation Review, which lists the CanMEDS roles, the program’s key and enabling competencies, and the outcome measures associated with each enabling competency.

The program learning outcomes articulated in the MD Program competency framework are consistent with and address expectations related to the Ontario Council of Academic Vice-Presidents’ (OCAV) Undergraduate Degree Level Expectations for honours bachelor’s degrees. The competencies expressed in the MD Program competency framework according to the seven CanMEDS Roles are, in general, most closely related to the six OCAV DLE competency areas as follows:

CanMEDS Role	OCAV DLE Competency Areas
Medical Expert	<ul style="list-style-type: none"> ● Depth and breadth of knowledge ● Knowledge of methodologies ● Application of knowledge ● Awareness of limits of knowledge
Communicator	<ul style="list-style-type: none"> ● Communication skills
Collaborator	<ul style="list-style-type: none"> ● Communication skills ● Autonomy and professional capacity
Leader	<ul style="list-style-type: none"> ● Knowledge of methodologies ● Application of knowledge ● Awareness of limits of knowledge ● Autonomy and professional capacity
Health Advocate	<ul style="list-style-type: none"> ● Knowledge of methodologies ● Application of knowledge ● Awareness of limits of knowledge ● Autonomy and professional capacity
Scholar	<ul style="list-style-type: none"> ● Knowledge of methodologies ● Application of knowledge ● Awareness of limits of knowledge ● Autonomy and professional capacity
Professional	<ul style="list-style-type: none"> ● Application of knowledge ● Awareness of limits of knowledge ● Autonomy and professional capacity

MD Program Strategic Planning

Developed over the 2013-14 academic year through consultations with faculty, staff and students, and reaffirmed by the MD Program Executive Committee in 2016-17, the MD Program has identified four priority areas, each of which includes a series of strategic objectives:

Priority Area	MD Program Strategic Objectives
Diversity	<ul style="list-style-type: none"> ● Enhance admissions processes to most effectively balance consideration of both academic and non-academic qualities and characteristics ● Maximize opportunities for qualified learners from diverse backgrounds to gain admission to the program
Curriculum Innovation	<ul style="list-style-type: none"> ● Develop and implement competency-based program objectives ● Develop and implement approaches to learner assessment that support achievement of competencies ● Support students at key transition points from admission through to residency ● Provide clinically-relevant and adaptive curricular pathways and programmatic options
Learner Experience	<ul style="list-style-type: none"> ● Cultivate an integrated culture of wellness ● Provide effective academic support and career management opportunities and services ● Enable appropriate professional development throughout the learning continuum ● Effectively monitor and improve the learning environment and address the adverse effects of the hidden curriculum
Teaching & Partnerships	<ul style="list-style-type: none"> ● Facilitate and support opportunities for learning experiences in a variety of settings, including community-based hospitals and agencies ● Provide development opportunities for faculty and staff that support innovations in program delivery ● Encourage and support individual interest in the collective administration, governance and delivery of undergraduate medical education

These priority areas and strategic objectives have provided a roadmap for strategic planning within the MD Program, particularly with respect to the identification, prioritization and tracking of specific strategic initiatives.

The MD Program completed an [Interim Accreditation Review](#) in 2016-17. Growing out of that review, the program identified four areas for improvement – curriculum mapping, student assessment, program evaluation, and career counselling. These four areas have informed specific initiatives that the program is focusing on in preparation for its full accreditation review in 2019–20 (see Section 2.1.10 Quality Enhancement for additional detail).

MD Program Financial Planning

Over the past two years, the MD Program has undertaken an extensive review of resource allocation and overall spending with a goal of greater accountability through the responsible and prudent use of financial resources. As a result of this exercise, we were able to reduce unnecessary expenses, revise our organizational structure, and enhance revenue generation. At the same time, consultations with the Office of the Dean resulted in an increase in the MD Program's base budget that more accurately reflects the costs of delivering a program that provides students with the best possible educational experience. We have also made great progress with financial transparency by fostering a culture of financial awareness and literacy with senior management (faculty and staff) (see Section 4.3.2 Financial Management for additional detail).

As we plan for the next five years, our goal will be to continue to manage our financial resources in a sustainable way and have a balanced budget. We will achieve this through careful prioritization of spending based on necessity and regular review and adjustment of structure, resource allocation and spending.

Consistency with Faculty of Medicine's Vision and Academic Plan

The MD Program education goals and competency framework are informed by, and reflect, a social accountability imperative and commitment to collaboration that focuses on the health needs of Canadians. They are consistent with the guiding vision of the Faculty of Medicine (articulated as part of the development of the [Faculty of Medicine Academic Strategic Plan 2018–2023](#)):

Our learners, graduates, faculty, staff and partners will be an unparalleled change force for new knowledge, better health and equity.

We will cultivate and bring to life ideas that impact scholarship and society through unprecedented collaboration drawing in the diverse voices of our research, learning and clinical network.

Although the MD Program's four priority areas and corresponding strategic objectives were developed in the context of a previous Faculty academic plan, the themes or principles that underpin those priority areas and strategic objectives (i.e. collaboration, equity and innovation) align, or are consistent with, the three domains of strategic focus identified in the Faculty's Academic Strategic Plan 2018–2023:

- Ecosystem of collaboration
- Excellence through equity
- Groundbreaking imagination

Further, most if not all of the strategic objectives identified under the MD Program's four priority areas are informed by, and reliant on, the two enablers identified in the Faculty's Academic Strategic Plan

2018–2023:

- Infrastructure, policies and technology that compel collaboration and support sustainability
- Supporting health and well-being in everything we do

Consistency with University's Mission

University of Toronto President Meric Gertler has articulated the following [three priorities](#) for the University, which are grounded in, and build upon, the University's [Towards 2030 plan](#):

1. Leverage our urban location(s) more fully, for the mutual benefit of University and City
2. Strengthen and deepen key international partnerships by means of a well-defined strategic focus
3. Re-imagine and reinvent undergraduate education

Again, the MD Program education goals and competency framework are informed by, and reflect a social accountability imperative that focuses on the health needs of Canadians, while our priority areas and strategic objectives articulate our commitment to strengthening and deepening our partnerships as well as curriculum innovation.

2.1.3 Admissions

Admission Overview

The MD Program aims to select candidates who demonstrate the potential to become the next generation of physicians and Canada's future healthcare leaders. While academic excellence is a top priority, as articulated in [U of T's mission](#), the MD admissions process also actively seeks and admits top applicants from across and outside of Canada who will make the most empathetic, reflective, and ethical physicians and reflect the diversity of our society.

The MD Program's annual admission targets are 259 domestic students and up to 10 supernumerary international students.

Admission Requirements

The [admissions requirements](#) for the MD Program consist of academic requirements and prerequisites as well as non-academic requirements, as follows:

Academic requirements:

- Completion of at least 3 years (or 15 full-course equivalents) of undergraduate study toward a Canadian university bachelor's degree by June 30 of application year
- Or, completion of a non-medical bachelor's degree equivalent to a four-year bachelor's degree in Canada
- GPA: minimum GPA of 3.6 for undergraduate and 3.0 for graduate applicants
- MCAT: minimum score of 125 in each of the 4 sections
- Prerequisites: Completion of two full-course equivalents (FCEs) in Life Sciences and one FCE in Social Science, Humanities, and/or Language.

Non-academic requirements (evaluated according to the [four attribute clusters](#): Professional, Communicator/Collaborator/Manager, Advocate, and Scholar):

- Autobiographical Sketch and Statements
- 4 Brief Personal Essays
- 3 Letters of Reference
- (Grad applicants only) CV, Grad supervisor's Letter

Alternative Admission Pathways

U of T is committed to better reflecting the society we serve, and to ensuring inclusion and equity are essential components of how we define and foster excellence throughout the Faculty. Three alternative admission pathways to the MD Program include the [Indigenous Student Application Program \(ISAP\)](#) (first entry in 2012), the [Black Student Application Program \(BSAP\)](#) (first entry in 2018), and the [MD/PhD Program](#).

As documented in the 2015 Truth and Reconciliation Report, Indigenous people in Canada have been historically oppressed and excluded from advanced education, and they remain highly underrepresented in the practice of medicine in Canada. In addition, people of Afro-Caribbean heritage make up approximately 8% of the Greater Toronto Area population, and yet this group remains underrepresented among physicians.

The goal of the Black and Indigenous application pathways is to increase and support Indigenous (First Nations, Inuit, and Métis) and Black medical student representation at the University of Toronto MD Program. Through these pathways, the MD Program hopes to break down some of the barriers that might impede Black and Indigenous students from applying and nurture an inclusive environment that is

welcoming to all. Applicants in these pathways need to meet all of the academic requirements, while also needing to complete additional steps, as summarized below. There are no fixed seats or quotas and academic standards are identical to the general admission stream.

- [The Black Student Application Program \(BSAP\)](#) is an optional application stream for Black applicants who self-identify as Black African, Black Caribbean, Black North American, multi-racial students who have, and identify with their Black ancestry, etc. Applicants applying through BSAP must submit the following additional materials along with all other admission requirements:
 - Students can choose to apply through BSAP by self-identifying on the [OMSAS](#) application.
 - Applicants will be required to submit a BSAP Personal Essay highlighting why they have chosen to apply through this application stream. This essay must be 250 words or less.
- [The Indigenous Student Application Program \(ISAP\)](#) is an optional application stream for applicants who identify as Indigenous (First Nations, Inuit, and Métis). What differs for those applying through the ISAP is the requirement to submit a personal essay and to have representation from Indigenous health leadership in their admissions file review and interviewing. Applicants applying through ISAP must submit the following additional materials along with all other admission requirements:
 - An ISAP Personal Essay explaining their community connectedness or intended future community involvement. This essay must be 250 words or less.
 - Self-declared Aboriginal status via the [OMSAS](#) application.
 - Proof of Aboriginal ancestry.

Admission Process

Admission to the MD Program includes a file review, followed by an interview of those candidates selected on the results of the file review, culminating in a ranking and offer of admission. All applications are reviewed in a holistic manner with a goal of inviting 600 candidates to Modified Personal Interviews (MPIs).

File Review:

- All applications (approximately 3,000 annually) are screened by MD Program Admissions Office personnel to ensure that they are complete and meet the minimum academic standards (minimum GPA, MCAT, prerequisites, reference letter objectivity, etc.). Applications from candidates with non-objective references are not considered.

- All Academic Explanations Essay responses submitted by applicants with extenuating circumstance(s) are reviewed by a panel comprised of the Director, MD Admissions and Student Finances, the Associate Registrar, Admissions & Registration, and select members of the MD Admissions Committee on a case-by-case basis. Special considerations are applied to applicants' academic assessments, where applicable, following a guideline developed based on previous cycles' decisions.
- Approximately 2,000 applicants' files proceed to in-depth File Review, which includes multiple independent reviews of applicants' non-academic requirements by 600+ raters. Each of the three non-academic components (i.e. autobiographical sketch, personal essay, and reference letters) are reviewed by two raters (one faculty/physician and one student/resident/community member) such that an applicant's non-academic components are reviewed by a total of six independent raters. The raters are assigned using a randomization tool. Prior to the file review assignment, all raters' conflict of interest data are reviewed and any raters with conflicts are precluded from the process to control for biases.
- A scoring rubric developed for the file review process is used to select 600-640 applicants to attend the Modified Personal Interviews (MPIs).

Modified Personal Interviews (MPIs):

- The MPI format consists of four independent interviews assessed by four different, independent interviewers using a scoring rubric specifically developed for the MPI process. Each interview is approximately 12 minutes in length.
- MPIs are held over 5.5 days between February and April of an application cycle.
- In 2018, 220 raters interviewed approximately 640 applicants.

Ranking:

- An MD Admission Committee meeting is held at the end of April where all interviewed applicants are ranked according to a scoring rubric that includes all the elements listed above to fill 259 domestic seats and up to 10 supernumerary, international seats.

The above process is supported by 700+ raters, who are recruited from the University of Toronto's medical, education, and general communities. Raters are required to disclose all potential conflicts of interest at the time of their registration. All disclosed conflicts are reviewed by a panel comprised of the Director, MD Admissions and Student Finances, a medical student member of the MD Admissions Committee, and the Associate Registrar, Admissions & Registration. Raters with direct conflicts are excluded from the review process to maintain the integrity and objectivity of the rating process.

Outreach/Recruitment

In keeping with the educational goals outlined in 2.1.2, the MD Program has an active outreach/recruiting strategy that includes:

- The [Summer Mentorship Program](#) (SMP), an ‘early exposure’ outreach program established in 1994. It provides Black and Indigenous high school students with an opportunity to explore health sciences at the University of Toronto over four weeks in July. Currently offered to 60-70 students annually, the program helps students discover university education and professional careers in the health sciences, get hands-on experience through experiments, lectures and special projects, and connect with mentors. Based on responses from 59% of SMP graduates between 1994–2015 (n=466), 91 % of SMP alumni have completed or are currently pursuing post-secondary education, with 26% in a health sciences field and 6% in an MD Program.
- [Community of Support](#) (CoS) is a collaborative initiative to increase the number of students from underrepresented groups in the health professions. Specific CoS opportunities include a free [MCAT prep course](#) for high potential, low-income students and a Summer Application Support Initiative that matches students with mentors who can help with medical school applications. About 80 CoS participants have gone on to study medicine across North America.
- A vibrant social media strategy, including active Twitter, Facebook, Instagram and YouTube accounts aimed at informing students directly about opportunities to advance their education and experience.
- Active, in-person recruiting information sessions on University of Toronto campuses, and at Ryerson University, York University (both in Toronto) and other selected campuses elsewhere in Canada and the US.
- An online presence with web seminars regarding the University of Toronto medical school, including participation in Skype information sessions with various premedical societies across Canada and the US, and participation in the annual AAMC Virtual Medical School Fair.
- An [admissions-focused website](#) with various recruiting tools such as information videos, and links to admissions materials.

Admission, Registration, Attrition and Completion Data

The MD Program has a large and highly competitive applicant pool, as well as a consistently high rate of acceptance of offers (yield).

Figure 2.1.1: MD Student Applications, Offers and Registrations 2011–2018

(includes applications, offers and registrations through all admission pathways)

	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Applications	2956	3052	3153	3463	3488	3121	3167	3262
Offers	334	327	338	336	327	319	310	301
Registrations	262	259	259	259	260	259	261	254
Yield	78.4%	79.2%	76.6%	77.1%	79.5%	81.2%	84.2%	84.2%

Figure 2.1.2: MD Student Grade Level Admissions

(includes applications, offers and registrations through all admission pathways)

	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Registrations	262	259	259	259	260	259	261	254
Entering GPA	3.88	3.90	3.92	3.94	3.96	3.95	3.95	3.96

Admission Year	% of Entrants with Graduate Degree
2011	37.0%
2012	36.0%
2013	27.0%
2014	25.5%
2015	20.0%
2016	26.3%
2017	25.7%
2018*	12.2%

Figure 2.1.3: Percentage of MD Entrants with Completed Graduate Degrees

**The significant drop from 2017 to 2018 in the percentage of MD entrants with completed graduate degrees may be an isolated incident. However, factors and data related to the following are being monitored: changes to the way that GPAs are calculated into the academic score; the shifting graduate program market (more applicants with course-based vs. research-based Master's); modernization of the graduate review process; and changes to admissions counselling practices.*

Figure 2.1.4: MD/PhD Student Applications, Offers and Registrations 2014–2018

	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Applications	151	193	169	178	131
Offers	10	13	10	15	9
Registrations	8	13	6	14	8

Figure 2.1.5: ISAP Student Applications, Offers and Registrations 2014–2018**

	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Applications	17	14	11	12	16
Offers	5	4	2	4	5
Registrations	3	3	2	2	2

Figure 2.1.6: BSAP Student Applications, Offers and Registrations**

	Fall 2018
Applications	92
Offers	17
Registrations	14 (+1 deferral)

** As noted earlier (Alternative Admission Pathways, p.26) efforts continue to increase and support the participation of underrepresented groups in the MD Program.

Figure 2.1.7: International Student Applications, Offers and Registrations

	Fall 2017	Fall 2018
Applications	23	38
Offers	3	6
Registrations	2	5 (+ 1 deferral)

Figure 2.1.8: MD and MD/PhD Program Registrants (2011-12 to 2018-19)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
MD	964	994	1022	1036	1042	1046	1065	1049*
MD/PhD	43	43	42	51	56	59	69	66*

*As of October 2018

Figure 2.1.9: MD Program Attrition Rates

Admission Year	# of students who registered in the following year	# of students not registered in the following year	Attrition rate
2011	249	10	3.9%
2012	251	8	3.1%
2013	247	12	4.6%
2014	257	2	0.1%
2015	259	1	0.4%
2016	250	9	3.5%
2017	250	11	4.2%

Figure 2.1.10: MD Program Completion Rates

Admission Year	# degree completed	# degree not completed	Percent completion*
2010	243	7 (4 withdrew)	97.2%
2011	254	5 (2 withdrew)	98.1%
2012	251	8 (2 withdrew)	96.9%
2013	243	16 (1 withdrew)	93.8%
2014	236	23 (2 withdrew)	91.1%

*This includes students who did not match through Canadian Resident Matching Service (CaRMS) and pursued an MD Program Extended Clerkship (see Section 2.1.9 Quality Indicators – Residency Match for additional detail).

2.1.4 Curriculum and Program Delivery

2.1.4.1 Foundations Curriculum (Years 1 & 2)

Foundations Overview

The overarching goal of the first two years of the MD Program is to begin the process of supporting students' acquisition of the breadth of competencies and knowledge required for life-long practice, and in particular to prepare them for workplace-based learning in Clerkship (Years 3 & 4). The Foundations curriculum provides educational experiences that prioritize preparation for future learning both alongside and over and above immediate performance. A feature of the curriculum is the integration of basic science, psycho-social concepts and clinical concepts; basic science and psycho-social content is closely integrated with the relevant clinical skills, which promotes learning in context and retention of learning.

In alignment with the MD Program’s [education goals and competency framework](#), the Foundations curriculum teaches students how to use resources effectively, invent strategies to learn effectively, and solve problems in practice. It enables students to become excellent physicians who are both efficient and innovative at the same time, such that they are able to apply an efficient solution to a routine problem but at times be creative and innovative to meet a patient’s needs. The Foundations curriculum also offers explicit teaching of competencies pertinent to developing cognitive capacities such as cognitive science, affective regulation, and self-care.

To reinforce the alignment of curricular design with best evidence, the structure and delivery of the curriculum is informed by theories that promote expertise development, including the early experience of productive failure, acquisition of integrated knowledge, and exposure to complexity and variation that are critical for the development of adaptive expertise necessary for the provision of quality patient care. The curriculum is also supported by an approach to assessment that provides students with multiple, robust, reliable, and comprehensive pieces of information that spur reflection and growth, rather than infrequent, high-stakes summative tests.

Foundations Structure and Content

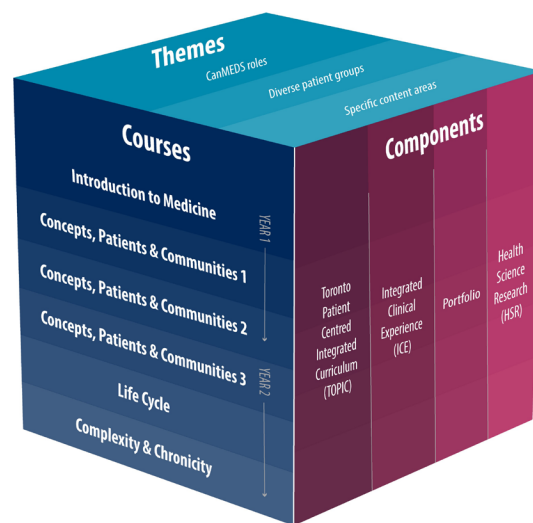
There are three major dimensions to the Foundations curriculum and [schedule](#): courses, components, and themes.

[Year 1 Courses](#)

- Introduction to Medicine (weeks 1 through 11): An introduction to the basic and social sciences relevant to medicine, to cognitive science, to clinical skills and community health.
- Concepts, Patients and Communities 1 (CPC1) (weeks 12 through 25): An instruction on health and the diagnosis and treatment of disease relevant to all of the body’s systems, including a consideration of all of the major curricular themes. CPC1 is divided into two sections: host defense and oxygen delivery.
- Concepts, Patients and Communities 2 (CPC2) (weeks 26 through 36): A continuation of CPC 1. CPC2 covers metabolism and homeostasis.



Foundations Curriculum



Year 2 Courses

- Concepts, Patients and Communities 3 (CPC3) (weeks 37 through 52): A continuation of CPC1 and 2. CPC3 includes body systems that are responsible for movement, sensation, cognition and behaviour in humans, encompassing both normal and diseased states.
- Life Cycle (weeks 53 through 61): An instruction on health and disease from conception, antenatal development, birth, infancy, childhood, adolescence, aging, and for patients who are dying.
- Complexity and Chronicity (weeks 62 through 72): A consolidation of the program with emphasis on chronic disease management, and complex problems with preparation for Clerkship.

Components

- Toronto Patient-Centred Integrated Curriculum (TOPIC): In TOPIC, content is delivered through lectures, workshops, eLearning materials, and anatomy labs, as well as case-based learning (CBL) sessions. In CBL, students work through a patient case in small groups of 8 – 10 students in two sessions each week: the first one is on their own; the second is with a faculty tutor. Over the 72 weeks, the cases introduce students to all aspects of clinical medicine. Each case describes a medical problem in a patient (or occasionally a family) and offers students the opportunity to learn material in a clinically relevant way while introducing them to the scientific and humanistic foundation for the theory and practice of medicine.

Learning about the cases is supported through carefully selected eLearning materials. Each week is introduced by a half-day during which a small number of lectures provide context for the issues addressed during the week. Another half-day consists of expert-led seminars or workshops, which serve to provide further context and content. Every few weeks, there is a multi-disciplinary summary lecture to help pull it all together for students.

Many of the week's include specific instruction on the longitudinal thematic issues (described below), such as medical ethics, leadership and collaboration with other health professionals.

- Integrated Clinical Experience (ICE): ICE occupies two half-days per week. One half-day provides students with instruction in groups of six on how to take a patient's history and perform a physical examination.

The second half-day for ICE provides students with opportunities for early clinical exposure in a variety of settings, include doctors' offices, hospitals, community health agencies and home care visits. Throughout the Foundations curriculum, students are able to prepare for Clerkship by spending time in clinical placement shadowing opportunities.

- Portfolio: Students spend a half-day every three to four weeks in a small group with a faculty tutor.

Portfolio focuses on two types of activities:

- Students reflect on their previous experiences and their experience as first- and second-year medical students and the resulting effects on their professional development.
- Guided self-assessment: students compile their formal assessments and reflections and develop an individualized learning plan related to those assessments to help ensure students are staying on track, and receiving help where it is needed.
- Health Science Research (HSR): HSR provides students with lecture, tutorial and eModule-based learning on two major topics:
 - How to participate in health research projects.
 - How to apply the findings of health research to patient care.

First year MD students also have the opportunity to conduct a research project mentored by a University of Toronto Graduate Faculty researcher through the [Graduate Diploma in Health Research](#) (GDipHR).

Themes

Multiple [themes](#) that support longitudinal, integrated teaching in areas that cut across the curriculum are embedded in the Foundations curriculum and taught throughout all four years of the MD Program. These thematic areas are coordinated by designated faculty leads, with teaching carried out by a variety of teachers. The themes can be grouped into three major categories: related to priority population groups, to CanMEDS roles, and to specific content areas.

Content Areas

Please see [Appendix 4](#) for a listing of the major content areas covered in the Foundations curriculum.

Foundations Clinical and Service Learning Experiences

Included below is a summary of the required clinical and services learning experiences that take place as part of the Foundations curriculum.

Integrated Clinical Experience (ICE) Clinical Skills: ICE is the component in which students learn clinical skills, in addition to their participation in other clinical and community-based educational activities. Clinical skills teaching is scheduled for one half-day per week for the entire two years of the ICE. To support this teaching, students are assigned to a variety of clinical settings. The clinical skills and health care setting learning in ICE correlate with the curricular content in the concurrent TOPIC

and Portfolio components. In first year, curricular content focuses on general history and physical exam skills. In second year, curricular content builds on previously learned skills to enable the development of more advanced skills in history-taking and physical examination. As well, there are blocks of sessions devoted to specialized learning in geriatrics, paediatrics, psychiatry, and other specialty areas. Specific skills are taught in the following dedicated sessions: the musculoskeletal system; orthopaedics; the back examination; the breast examination; the peripheral vascular system; the neurological system; the acute abdomen; and the ophthalmological and otolaryngological examinations.

ICE Health in Community (HC): HC is a 2-year longitudinal experience that focuses on the social determinants of health, the role of the physician in society, and community engagement. The HC curriculum is delivered using multiple teaching modalities including tutorials, field experiences and readings. HC Year 1 is foundational, introducing students to the concepts of the social determinants of health, and familiarizing them with the complexities of health in the community. Students participate in two short-term community field experiences, which inform readings, reflections, discussions and presentations. In this experience, students have the opportunity to interact with members of the community in natural settings, to learn about their lifestyle, knowledge of health matters, their circumstance and their health concerns.

HC Year 2 centres on Community-Based Service-Learning (CBSL) placements, which connect students with community organizations for hands-on learning experiences. These CBSL placements allow students to pursue longitudinal experiential learning opportunities in diverse community settings. Students support the work of their community partners by developing a plan to participate, observe, contribute and advocate within an asset-based, community-led framework, with many opportunities to reflect and discuss their experiences with faculty and colleagues. The CBSL placements (and corresponding tutorial sessions) are supported by faculty tutors, who are paired with one of our community partner organizations. Returning tutors are paired with the same community organization year after year to help create enduring relationships.

ICE Enriching Educational Experience (EEE): EEE is a 2-year longitudinal experience that provides students with opportunities to address their career development needs in an integrative fashion within the Foundations curriculum. EEE is comprised of three main modalities: clinical experiences, reflective exercises, and career planning workshops and group sessions. As part of EEE, students are required to engage in a minimum of six half-days (or 24 hours) of clinical experience, reflect on those experiences with specific reference to career interests and goals, and integrate those experiences and reflections into flexible career action plans. Students are free to choose how they want to organize their clinical experiences. This provides students the flexibility to design a program that suits their personal and career interests, as well as some formative needs.

ICE Family Medicine Longitudinal Experience (FMLE): The Year 2 FMLE provides students an

opportunity for exposure to community-based primary care. Each student is matched for 1:1 teaching with a family physician and spends six half-days in clinic with their family physician preceptor, first observing and then participating in clinical encounters. Students have the opportunity to practice some clinical skills, and learn about the Family Medicine-based S.O.A.P. (“Subjective, Objective, Assessment, Plan”) note of clinical documentation and the use of Electronic Medical Records (EMR) in primary care.

In addition to the required clinical learning experiences summarized above, several departments partner with student groups to offer clinical longitudinal experiences for the purpose of career exploration. The participating departments include Family and Community Medicine, Paediatrics, Psychiatry, Medicine and Surgery. Students in these clinical longitudinal experiences spend between four and six half-days with a faculty member as he or she goes about a working day and may additionally participate in structured educational activities. Students have found these programs to be valuable for learning about specific clinical disciplines and potential career choices, as well as to solidify their learning of clinical content presented in the core curriculum. Currently, the only clinical longitudinal experience that is mandatory for students to complete is the FMLE described above. Any clinical longitudinal experiences offered by the participating departments will count toward a student’s EEE requirements.

Foundations Learning Modalities

In Foundations, students’ weekly teaching and learning experience occur using a variety of learning modalities that are selected based on the desired learning. Modalities that are used to meet the Foundations learning objectives include:

Independent Learning: Each week students are provided learning content that they are expected to learn on their own. This material has been specifically selected or designed to provide Foundations content required to effectively engage in subsequent learning tasks during the week.

Large Group Lectures: During the week teaching and learning also occurs in the form of large group lectures that are video-conferenced between the Medical Sciences Building at the St. George Campus and the Terrence Donnelly Health Sciences Building at the Mississauga Campus. Some, but not all, of these lectures are recorded for future viewing.

Small Group Learning/Discussions: To support guided discovery learning, a significant proportion of teaching and learning opportunities occur in small groups guided by a faculty member. Small groups are as tutorials, workshops, or seminars.

Anatomy Labs: Anatomy labs are scheduled throughout both years of the Foundations curriculum. Students are expected to prepare for the Anatomy lab with digital anatomy apps and videos, and attend anatomy labs at the two campuses to explore dissections, prosections, and anatomical models. Students meet in groups of 8-9 and learning sessions are guided by anatomy tutors.

Experiential Learning: There are opportunities throughout ICE for experiential learning, including interactions with standardized patients, real patients, and role-play (simulation of a health care provider encounter). This experiential learning supports context-specific skills development and enables the provision of feedback in a safe environment.

Further detail, including examples on how each modality is used in the Foundations curriculum, is provided in the [Educational Learning Modalities section](#) of the MD Program’s Academic Calendar.

Foundations Self-Learning Days

The weekly curriculum is organized to include the equivalent of a full-day unscheduled time, which provides students with time for self-study and other activities, such as clinical shadowing.

Year 1 sample timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Lecture	Anatomy Longitudinal Theme Lecture	Self-Learning Day	HSR/ Longitudinal Theme Lecture	ICE: Clinical Skills
PM	Case-based Learning (Student Led)	Anatomy/ Portfolio		Case-based Learning (Faculty Led)	Integrated Summary & Application Lecture
Please note: timetables will vary from week to week. This timetable is an illustrative example of a typical week in year one.					

Year 2 sample timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Anatomy/ Longitudinal Theme Lecture	Self-Learning Day	Case-based Learning (Faculty Led)	ICE: Clinical Skills	Lecture
PM	Workshops/ FMLE		Integrated Summary & Application Lecture/ Portfolio/HSR	ICE:HC/ICE:FMLE	Case-based Learning (Student Led)
Please note: timetables will vary from week to week. This timetable is an illustrative example of a typical week in year one.					

2.1.4.2 Clerkship Curriculum (Years 3 & 4)

Clerkship Overview

Clerkship is an integrated learning experience that enables students to further develop the knowledge, skills and professional attitudes introduced in Foundations. This is achieved through practical application in clinical settings as part of a health care team, in both hospital and community-based clinics and doctors' offices.

In alignment with the MD Program's [education goals and competency framework](#), the Clerkship curriculum is designed and delivered to prepare students to provide evidence-based and competent clinical care, be reflective, adaptive and ethical decision makers, and practice collaborative team-based care.

Clerkship Structure, Content and Delivery

Clerkship is 75 weeks long, delivered over 50 weeks in Year 3 and 25 weeks in Year 4.

Year 3 is comprised of a Transition to Clerkship (TTC) course, followed by a series of core clinical rotations of varying lengths in each of Anesthesia, Emergency Medicine, Family and Community Medicine (including Dermatology), Internal Medicine, Obstetrics and Gynaecology, Ophthalmology, Otolaryngology, Paediatrics, Psychiatry, and Surgery. Clinical skills learning in these core clinical rotations is supported by two integrated objective structured clinical examinations (OSCEs). A series of nine core-learning sessions that focus on patient safety, career planning, resilience and wellness, and medical complexity were introduced into the Year 3 Clerkship curriculum in 2018-19.

Year 4 is comprised of 13 weeks of self-directed elective experiences, and culminates in a 12 week Transition to Residency course.

Longitudinal Portfolio sessions run across Years 3 & 4.

Clerkship (Years 3 & 4)

Year 3 [50 weeks]									Year 4 [25 weeks]			
Transition to Clerkship (TTC), including Dermatology [2 weeks]	<i>Core clinical rotations: Students rotate in different order through six-week rotations then eight-week rotations or vice versa (show below in alpha order)</i>											
	six-week clinical rotations					eight-week clinical rotations					Electives [13 weeks]	Transition to Residency (TTR), including <u>Selectives</u> [12 weeks]
	Family Medicine	Obstetrics and Gynaecology	Paediatrics	Psychiatry	Anaesthesia Emergency Medicine Ophthalmology Otolaryngology	Surgery	Medicine					
	Portfolio [six sessions in Year 3 and three sessions in Year 4]											
Year 3 Core Learning Sessions [nine sessions held on three Portfolio days]												

Year 3 Curriculum and [Schedule](#)

- **Transition to Clerkship (TTC):** Delivered over the first two weeks of Year 3, TTC provides students with the opportunity to gain knowledge and skills that will help them to successfully move from Foundations to Clerkship. TTC focuses on developing competency in teamwork, managing and applying evidence, quality improvement and patient safety. The course also includes mandatory sessions on medical-legal aspects of professionalism, public health, and gender and cultural diversity. TTC core curriculum activities consist of both large and small group interactive learning sessions, and several required online learning modules. Also included in TTC are two full days of instruction in Dermatology involving: viewing a large number of patients with various skin findings; seminars; time to complete online learning modules; and a written examination.
- **Core clinical rotations:** The core clinical rotations constitute the heart of clerkship. There are two 24-week blocks, one of which includes eight weeks each of Surgery and Medicine, four weeks of Emergency Medicine, two weeks of Anesthesia, and one week each of Ophthalmology and Otolaryngology. The other 24-week block includes six weeks each of Psychiatry, Paediatrics, Obstetrics & Gynecology, and Family & Community Medicine. Each rotation includes substantial time spent learning in the context of providing care to patients, often as part of a multidisciplinary team, in a variety of settings including ambulatory clinics, hospital wards, the emergency department, the operating room, and the labour and delivery suite, among others.
- **Portfolio:** Portfolio in Clerkship is a longitudinal experience that runs over years 3 and 4. In Year 3, Portfolio is designed to facilitate students' professional development through guided reflection. It focuses on how the clinical activities and experiences relate to the six 'intrinsic' CanMEDS roles of Collaborator, Communicator, Leader, Health Advocate, Scholar and Professional. The goal of

the course is to promote greater professional self-awareness in each of these roles as students enter the clinical world. Students meet in small groups of up to eight, with one resident (Junior Academy Scholar) and one faculty member (Academy Scholar) to support them in reflecting on their experiences in the clinical setting, and the resulting effects on their professional development.

- **Core learning sessions:** Introduced into the Year 3 curriculum in 2018-19, the nine core learning sessions are focused in general on patient safety, career planning, resilience and wellness, and medical complexity. Building upon material covered in Foundations, they enable Clerkship students to come together as a large group to reconsider material informed by their independent clinical learning experiences. The sessions are delivered in a longitudinal fashion over three days (3x3). The topics and objectives of the individual core learning sessions align with the theme of the Portfolio day on which they are delivered.

Year 4 Curriculum and [Schedule](#)

- **Electives:** At the beginning of year 4, 13 weeks are allocated to elective experiences, where students are provided the opportunity to gain exposure to areas of expertise beyond the scope of the core Clerkship and to further enhance their training in sub-disciplines within the major specialties. Electives are organized so that by the time of graduation each student has had an elective experience in a minimum of three different disciplines, each of which takes place for a minimum of two weeks.
- **Transition to Residency (TTR):** TTR occurs during the final 12 weeks of the MD Program. It is designed to enable students to bring together, build upon and put into practice many of the concepts they have learned about functioning as doctors. Informed by two main themes (understanding the health care needs individual members of diverse groups within the Canadian population, and learning to use the health care system to meet those needs), TTR is comprised of two ‘campus weeks’, an eight-week Selective (clinical placement) period, and a two-week ‘Fusion’ period.
 - The two ‘campus weeks’ includes independent and classroom-based learning activities on topics related to health systems and populations including global health, refugee, immigrant and aboriginal health, poverty, geriatrics, LGBTQ health needs and disability. Practical sessions relevant to transition to postgraduate training such as medical-legal and licensure issues, complementary medicine, and safe handover are covered.
 - The eight-week Selectives period is designed to promote workplace-based learning and prepare students for the increased clinical responsibility of residency. Students are required to complete at least one Selective in a community setting, and one in either a Medicine- or Surgery-based area (a single Selective can satisfy both of those requirements). Students must have electives and selectives in at least three different CaRMS direct entry disciplines.

- The two-week ‘Fusion’ period brings students back together for a lecture review of clinical material to help them prepare for the Medical Council of Canada Part 1 Examination.
- **Portfolio:** The Year 4 Portfolio sessions run concurrent with TTR. Building upon the introductory experiences of the third-year Portfolio course, Year 4 Portfolio is designed to help students assess, discuss, and reflect on their overall evolution into newly graduating physicians. As in the previous year, students meet in small groups of up to seven or eight, with one resident (Junior Academy Scholar) and one faculty member (Academy Scholar) to support them in reflecting on their experiences in the clinical setting, and the resulting effects on their professional development. Students continue with the same group of peers that they worked with in third year, and for the most part work with the same Academy Scholars.

Required Clinical Experiences

The MD Program has [guidelines](#) that detail the principles, requirements and processes for the reporting and review of required clinical experiences in the core Clerkship rotations. In accordance with those guidelines, each core Clerkship rotation maintains and publishes a list of required encounters and procedures (see [Appendix 5](#)). These lists are reviewed annually by each course and updated as required, with central oversight by the Clerkship Director. At the start of each rotation, students are expected to familiarize themselves with the list of required encounters and procedures for that course, including the required number of each encounter and procedure and the level of student involvement required. All Year 3 clinical clerks are required to log the required experiences defined in each core clerkship rotation using an online system called ‘Case Logs’. In order to achieve credit in any core Clerkship rotation, students must complete, in full, all requirements on the encounter and procedure list.

2.1.5 Assessment of Learning

Assessment Overview

The MD Program has detailed [standards](#) for the grading and promotion of MD students, including guidelines for the assessment (and support) of students in academic difficulty.

Each course has standards of achievement for each type of assessment, as well as expectations with respect to satisfactory progress in/successful completion of the course. Marks for individual assessments serve as the basis for decisions about overall course standing and do not appear on transcripts or other documentation provided by the MD Program to external individuals or organizations. Final course grades are transcribed as “Credit (CR)”, “No Credit (NC)”, “In Progress (IPR)” or “Incomplete (INC)”.

The Foundations grading and promotion standards, and academic difficulty guidelines were developed and fully implemented at the same time as, and in alignment with, the Foundations curriculum and model of programmatic assessment (described below). Renewal of the Clerkship assessment framework over the next three years will include changes to the Clerkship standards and guidelines such that they too are more consistent with the principles and approaches of programmatic assessment.

Assessment of student professionalism is assessed throughout all four years of the MD Program following new [guidelines for the assessment of student professionalism](#) that were introduced in 2017-18. Further detail regarding the assessment of student professionalism is provided below.

Assessment Approach

In general, assessment of student learning throughout all four years of the MD Program is designed to ensure that students are proficient across the seven CanMEDS roles, as articulated in the programs' [competency framework](#), and are prepared for the Medical Council of Canada Part 1 Examination.

Within Foundations, assessment of student learning follows a programmatic assessment model that is aligned with a competency-based approach to medical education. Programmatic assessment shifts the purpose of assessment from assessment *of* learning to assessment *for* learning. This holistic approach to the design of assessment programs identifies each individual student's longitudinal competency development and learning outcomes through an entire education program. It is intended to optimize the quality and the value of feedback to students, high-stakes decision-making (for example, promotion and remediation) and quality assurance with the curriculum. Assessment tools, methods and processes are planned, arranged and coordinated to give the program a comprehensive and holistic picture of learner progress.

In general, programmatic assessment involves frequent lower-stakes assessments with feedback and individualized coaching designed to support learning. Having frequent, lower stakes assessments encourages students to use these as learning opportunities where they are practicing acquiring new material, retaining it, and calling it up when needed. At the same time, multiple data points over time and context build a realistic and defensible student performance profile where decisions about progress are based on many individual lower stakes assessments. These more frequent lower stakes assessments ensures that the program is better positioned to provide students with quality feedback to promote individualized student learning. Since assessments are mapped to objectives and competencies, students can use them to self-guide and to identify targeted areas for additional learning. The MD Program also uses the mapping to ensure that learning objectives and competencies are being assessed. **Appendix 3** includes the MD Program's 2016-17 Interim Accreditation Review that lists the CanMEDS roles, the program's key and enabling competencies, and the outcome measures associated with each enabling competency.

Programmatic assessment is generally composed of weekly feedback quizzes for students in Years 1 & 2, mastery exercises for students in Years 1, 2 & 3, and progress tests for students in Years 1, 2 & 3 with students in Year 4 having the opportunity to volunteer to complete the test.

While programmatic assessment was developed and fully implemented at the same time as, and in alignment with the Foundations curriculum, assessment within the Clerkship curriculum is in the early stages of moving towards the model of programmatic assessment. Over the next three years, the Clerkship assessment framework will undergo changes that will be consistent with the principles and approaches of programmatic assessment. In the meantime, assessment within Clerkship is informed by the MD Program's *expectations for the provision of narrative feedback*, which stipulates, "a narrative description of the student's performance should be included in every course or curricular theme. Any series of small group or one on one learning experiences should culminate in narrative feedback from the teacher(s). Such feedback may or may not be accompanied by a formal assessment, as deemed most appropriate for the course. Course Directors and thematic faculty leads are expected to review written descriptions and comments they receive about each student's performance. They are also expected to take every opportunity to share written narrative feedback with students in cases where this does not occur automatically (i.e. when it is not provided verbally or on an evaluation form that the student is able to access)."

In order to support programmatic assessment, students in Years 1, 2 & 3 have access to a Learner Chart, which is an electronic portfolio that chronicles and guides students' progress throughout the MD Program. The Learner Chart is populated with assessment information to provide a rich and holistic view of student progress. It also allows students to upload files that help tell their unique story of how they are demonstrating competency. The Learner Chart contains twice yearly progress reviews (documents that outline learning plans after disclosure with coaches to review assessment data), and Focused Learning Plans for students in academic difficulty. Students are able to filter by the CanMEDS roles linked to each type of assessment they have completed. The Learner Chart is also reviewed by student progress committees, including in relation to decisions regarding student academic progress decisions.

Further detail about the assessment of learning in Foundations and in Clerkship is provided below.

Assessment in Foundations (Years 1 & 2)

Written assessments

- **Weekly feedback quizzes:** Short take-home quizzes delivered online that students complete each week. These are formative and will help students examine how well they have learned the week's material. Questions are each linked to an end-of-week objective and each of these end-of-week objectives is linked to one or several program competencies. Students have access to a feedback report that outlines the learning objectives that they performed poorly on, which should

be used to guide their further studying.

- **Mastery exercises:** Mandatory invigilated written assessments delivered online that cover the material learned over 2-4 weeks with each question linked to an end-of-week objective and each of these end-of-week objectives linked to one or several program competencies. Students receive a feedback report that outlines the learning objectives that they performed poorly on, which should be used to guide their further studying. Mastery exercise scores inform an aggregate score within each course.
- **Progress tests:** These are comprehensive knowledge-based tests, which take place three times per academic year and assess a student's progress towards exit-level MD Program competencies. Separate preparation for the test is not required, instead students are encouraged to engage in the curriculum and stay up to date throughout the program. Following each test, students receive a report that outlines components of the test they answered correctly and the number of questions they were and were not sufficiently confident in answering. The report is designed to inform areas for improvement and to help prepare for the Medical Council of Canada Part 1 Examination.
- **Objective Structured Clinical Examination (OSCE):** OSCEs are station-based clinical skills examinations in which students rotate through a series of rooms. At each station, students are required to simulate a real clinical encounter with a Standardized Patient (an actor playing a patient) who is assigned a particular case, while being observed by a faculty examiner. Students are expected to complete specific tasks and, towards the end of each station, may be asked a small number of questions by the examiner. Students are given a global rating on each OSCE station. Examiners may also complete a checklist documenting the student's performance on all aspects of the station (for instance, their skills on certain maneuvers, their communication with the patient, etc.). OSCEs are considered to be more reliable than simple clinical oral examinations because they present each student with identical cases, and because the number of stations translates into assessment of a broader array of tasks and scenarios. A standardized marking scheme specific for each case is used.

Within Foundations, a final Year 1 OSCE occurs towards the end of the first year (in May), and a final Year 2 OSCE occurs right at the end of the second year.

Assessment forms

Forms completed by tutors or teachers provide feedback on various course and components elements. There are various types of evaluation forms, which are generally intended to assess Medical Expert competencies:

- **Case reports:** detailed reports of the symptoms, signs, diagnosis, treatment and follow-up of an individual patient. Case reports may contain a demographic profile of the patient, but usually describe an unusual or novel occurrence.

- Clinical performance assessment/ clinical encounter cards: short forms intended to provide formative feedback on elements of the Integrated Clinical Experience course component, based on a clinical encounter with a focus on the patient-centred aspects of care.

Written assignments

- Written assignments range in scope and purpose across the program. While the specific objectives of these assignments vary, they generally involve an assessment of the student's ability to communicate effectively in writing, including presenting their findings or argument in a logical, well-organized manner. They are intended to assess the Communicator role.

Oral presentations

- Oral presentations are a key component of small-group learning in the Foundations Curriculum, in particular in the ICE: Clinical Skills course component (as case reports), or in the ICE: Health in Community (HC) course component, in which they relate to the students' experiences in community field visits. Students also make presentations to their teachers and classmates in other settings such as in Portfolio sessions, Health Science Research sessions and Case-Based Learning tutorials. Oral presentations can be used to assess all CanMEDS roles.

Anatomy laboratory assessments

- These are assessments that focus on the Medical Expert role and occur in the form of bell ringers and take place in the laboratories where students go to multiple stations, view a specimen or image and identify structures or answer brief questions about function. Students are also required to complete Readiness Assessment Tests using the Audience Response System during anatomy labs.

Reflective practice

- Assessment in the program's longitudinal Portfolio course addresses competencies across all of the intrinsic CanMEDS roles during the four years of the MD Program. There are two summative assessment components in Portfolio – the process component and the written component. The process component includes small group meetings and individual progress review meetings. The written component includes thematic reflections and progress review reports. During the small group, students present to their portfolio group about an experience they have had relevant to the theme of the meeting. After the meeting, they submit a written reflection that is assessed by the Academy Scholars. In order to pass the process component, students must achieve satisfactory in at least five of the six small group meetings and attend the two progress review meetings in Years 1 to 3 and in at least two of the three meetings in Year 4. In order to pass the written component, students must receive satisfactory on all assessed reflections and on the progress review reports.

Assessment in Clerkship (Years 3 & 4)

The assessment system in Clerkship involves four categories of assessments:

1. Year 3 core clinical rotation assessments
2. Integrated OSCEs
3. Course-based assessments in Transition to Clerkship (TTC), Transition to Residency (TTR) and Portfolio
4. Progress tests

1. Year 3 core clinical rotation assessments

Each core clinical rotation has two kinds of assessment:

- Clinical performance evaluations, which address competencies across all of the CanMEDS roles.
- Mastery exercises: In each core clinical rotation there is a written assessment, consisting of either MCQ and/or short answer questions, designed to primarily address Medical Expert competencies. In the aggregate, these written assessments cover the breadth and depth of the clinical content required to demonstrate competence in the Medical Expert competencies related to knowledge of clinical medicine.

Several courses also include performance-based assessments: Family and Community Medicine requires students to complete four mini-CEX (clinical examination exercises); Medicine has a clinical skills examination; Obstetrics & Gynaecology has a problem-solving oral examination; Psychiatry has an OSCE; Surgery has a clinical skills-based oral examination. These assessments address competence in both Medical Expert and Communicator domains.

The Medicine and Family and Community Medicine courses include assessments designed to assess students' competence in the domain of evidence-based medicine. Family Medicine students have the option of choosing to do an advocacy project.

In order to receive credit for any of these courses, students must be successful in all of these assessment exercises.

2. Integrated OSCEs

Year 3 of Clerkship includes two integrated OSCEs (iOSCE): the first of these is halfway through Year 3, and the second just prior to the end of Year 3. In general, these assess the clinical skills competencies in the Medical Expert role, the Communicator role, and important aspects of the Professional role. They require the student to demonstrate competence across multiple disciplines, since the stations on the iOSCE can come from any one of the disciplines they have completed during the last 24 weeks, and can

involve integration across multiple disciplines, which in the case of the final iOSCE includes the entire Clerkship year. More specifically:

- The first iOSCE takes place at the mid-point of Clerkship Year 3, after 24 weeks. Six stations cover the content related to the disciplines the student has completed to that point in the program. For half of the students, this is Family & Community Medicine, Obstetrics & Gynaecology, Pediatrics, and Psychiatry. For the other half, this includes Anesthesia, Emergency Medicine, Medicine, Ophthalmology, Otolaryngology, and Surgery. This examination is summative, in that the score on the examination does count towards the final grade on the iOSCE course, which students must pass in order to graduate from the MD Program. However, this examination only counts 20% towards this grade, and so it can be considered to some extent to have a significant formative role.
- The second iOSCE consists of ten stations and takes place at the end of Clerkship Year 3, after 48 weeks. It covers in six stations the content of the disciplines in the final 24 weeks of the student's program; i.e., the disciplines not covered by the initial iOSCE. The other four stations cover integrated content and therefore may involve topics from any of the disciplines. This examination is summative, and counts for 80% of the grade of the iOSCE course. This examination addresses all of the CanMEDS roles.

3. Course-based assessments in Transition to Clerkship (TTC), Transition to Residency (TTR) and Portfolio

- **Transition to Clerkship (TTC):** The assessment program in the TTC course consists of several components. One mastery exercise is linked to the end-of-week objectives. Students also take part in three case-based exercises that are meant to be short reflections on key themes highlighted in the case so that students begin to develop self-directed, patient-focused, learning skills in a realistic timeframe.
- **Transition to Residency (TTR):** During TTR students complete two written assessments on health equity and health systems. Students also complete one oral presentation on a CanMEDS theme of their choice. Although the oral presentation score is summative, the students receive feedback following the presentation. Assessment during TTR also includes each supervising clinician completing a clinical performance evaluation form that is similar, but not identical, to the form completed for the Year 3 Clerkship courses. The key distinctions are a greater emphasis on several aspects of the intrinsic CanMEDS roles (i.e. Communicator, Collaborator, Leader, Health Advocate, Scholar), with rich descriptors of each level of competence. In addition, students receive an overall appraisal from their supervisor of their readiness to begin residency training, via a question that asks the supervisor to "Please rate this student's readiness to begin PGY1 training" using the following scale: "not at all ready", "nearly ready", and "definitely ready".
- **Portfolio:** Assessment in the Portfolio course addresses competencies across all of the intrinsic CanMEDS roles during the 4 years of the MD Program. As described above in the Assessment in Foundations section, there are two summative assessment components in Portfolio – the process

component and the written component. In order to pass the process component, students must achieve satisfactory in at least five of six small group meetings and attend two progress review meetings in Years 1 to 3 and in at least two of the three meetings in Year 4. In order to pass the written component students must receive satisfactory on all assessed reflections and on the progress review reports.

4. Progress tests

Year 3 students complete this mandatory invigilated assessment along with Year 1 & 2 students. Year 4 students have the opportunity to volunteer to complete the test. As described above in the Assessment in Foundations section, progress tests are comprehensive knowledge-based tests which take place three times per academic year and assess a student's progress towards exit-level MD Program competencies. Following each test, students receive a report that outlines areas for improvement in order to help them prepare for the Medical Council of Canada Part 1 Examination.

Assessment of Student Professionalism

The MD Program introduced a competency-based approach to student professionalism in 2017-18, including new [guidelines for the assessment of student professionalism](#).

Student professionalism is assessed throughout all four years of the MD Program. In selected teaching and learning settings where teachers are in a position to make meaningful observations about students' professional behaviour, including small group settings and clinical learning environments, supervising teachers complete competency-based student professionalism assessment forms. This assessment exercise provides an opportunity for teachers to indicate both strengths and areas for improvement with respect to professionalism. It also allows the program to monitor whether individual students are exhibiting a pattern of unprofessional behaviour, possibly across multiple courses or multiple learning contexts.

The professionalism assessment form is organized according to the following six professionalism domains, each of which includes a description of specific behaviours that characterize the respective domain:

- Altruism
- Duty: Reliability and Responsibility
- Excellence: Self-improvement and Adaptability
- Respect for Others: Relationships with Students, Faculty and Staff
- Honour and Integrity: Upholding Student and Professional Codes of Conduct
- Recognize and Respond to Ethical Issues in Practice

Satisfactory professionalism competency is a requirement to achieve credit in every course, and assessment of professionalism competency is included in every course. Satisfactory professionalism

competency is also required to progress from one year-level to the next and to graduate from the program. Details about what constitutes satisfactory professionalism competency, and procedures to address students who are identified as being in professionalism difficulty, are included in the MD Program's guidelines for the assessment of student professionalism.

2.1.6 Professional Development

The professional development of MD students is supported by a robust career advising system that provides formal and informal professional career support, education, guidance, and counselling at the St. George and Mississauga campuses.

Formal Professional Development Support

Curricular integration: Career planning/management is integrated into the program curriculum in both Foundations (ICE Enriching Educational Experience, described in more detail in section 2.1.4.a Foundations Curriculum) and Clerkship (within Transition to Clerkship, Core learning sessions and Transition to Residency, described in more detail in section 2.1.4.b Clerkship Curriculum). The curricular integration of career planning/management topics and content is overseen by the Director, Career Advising System, with input from dedicated faculty.

Extra-curricular career counselling: The Office of Health Professions Student Affairs (OHPSA), overseen by the Associate Dean, Health Professions Student Affairs, staffs three professional career counsellors, who provide individualized career counselling to students in all years of the MD Program, including students who did not match to a residency position. CaRMS-specific (i.e. residency match) guidance is provided by the career counsellors and other members of OHPSA with an emphasis on decision-making, strategy, preparing applications, and refining interviewing skills and strategy. (See Figures 2.1.11 and 2.1.12 for details on student satisfaction). Included below is a summary of the pre-match and post-match supports provided by OHPSA:

- Pre-match support: Individual pre-CaRMS supports/advising available, including CV and personal statement reviews/feedback, letter of reference toolkit, practice interviews, and workshops and presentations (e.g. writing engaging personal statements, holding engaging interviews).
- Support for unmatched students after first match: Group meeting with the Associate Dean, OHPSA counsellor and Postgraduate Medical Education representatives on match day; individual meetings with the Associate Dean, career counsellor and Director, Career Advising System within 24 hours to determine plan; release from clinical duties if applying to second iteration of the residency match; links provided to relevant faculty; short clinical experience arranged; opportunities for additional practice interviews and application supports; re-review of personal statements; personal safety

needs monitored by the Associate Dean and OHPSA personal counsellors.

- Support for unmatched students after second match: Individual meetings to plan next steps; review possible career changes in direction; offered option of MD Program Extended Clerkship (MEC), which consists of a series of electives conducted between May 1 to December 17 of the calendar year, organized in consultation with the OHPSA career counsellors and Electives Office in order to provide students with a broad array of elective experiences to fill gaps in their clinical knowledge and experience; support and advice regarding other options (e.g. pursuit of Master’s degree).

Informal Professional Development Support

MD students also receive informal advice from Course Directors, Academy Directors, faculty and community physicians, senior peers, residents, and academic leads through forums such as career nights and breakfasts, career panels, course and specialty information nights, shadowing, and mentorship, as well as direct supervision on rotations and electives. More specifically, advice about Electives is offered by the Director, Electives and the Electives Office from the beginning of Year 3 through the electives period in Year 4.

Student Satisfaction with Professional Development/Career Advising Supports and Programming

MD Program Elective Course Evaluations: Included below are professional development-related student satisfaction data from the U of T MD Program Elective course evaluations from 2016-17 and 2017-18 (5-point scale).

Figure 2.1.11: *Student Satisfaction*

	2016-17 (out of 5)	2017-18 (out of 5)
My elective experiences met my needs for career exploration	3.62	3.79

Association of Faculties of Medicine of Canada Graduation Questionnaire ([AFMC GQ](#)): Included below are data from the AFMC GQ regarding professional development/career advising supports and programming.

Figure 2.1.12: Professional Development/Career Advising

Please indicate your level of satisfaction with:		AFMC GQ U of T Mean (out of 4)	AFMC GQ National Mean (out of 4)
Career planning services	2018	2.63	2.82
Information about specialties	2018	2.68	2.85
Information about the changing workforce environment	2018	2.44	2.59
Guidance when choosing electives	2018	2.32	2.54

How to interpret and act on AFMC GQ student satisfaction data is complicated as student satisfaction with professional development/career advising supports and programming is often a proxy for, or a reflection of, student satisfaction with the outcome of the residency match process (i.e. CaRMS). That said, and as noted in section 3.1.10 Quality Enhancement, the MD Program’s future strategic directions with respect to professional development/career advising include:

- Fuller integration of career exploration into the core MD Program curriculum.
- Continuous improvements to pre- and post-residency match initiatives and programming.
- Development and offering of career events that show the full range of career possibilities, including outside of clinical practice.

2.1.7 Student Funding and Student Awards

Current MD student tuition fees are listed [here](#).

Ontario Student Assistance Program (OSAP)

For most MD students, the first source of funding is the applicable federal and/or provincial student assistance program. OSAP is the provincial student assistance program, which is available to Ontario residents. The vast majority of MD students are Ontario residents.

Figure 2.1.13: OSAP/Government Funding Received by MD Students (2011-12 to 2017-18)

Year	Value: Loans	Value: Grants	Number of recipients	Average amount received
2011-12	\$6,237,707	\$4,424,901	722	\$14,768
2012-13	\$5,998,300	\$5,321,700	772	\$14,663
2013-14	\$7,075,800	\$5,419,321	802	\$15,579
2014-15	\$6,566,252	\$5,331,823	788	\$15,099
2015-16	\$7,253,963	\$5,373,641	795	\$15,883
2016-17	\$5,996,193	\$5,540,862	814	\$14,173
2017-18	\$7,188,220	\$7,271,112	833	\$17,358

Faculty of Medicine Grants Program

The Faculty of Medicine Grants Program provides funding to U of T MD students who received government student loan funding (such as OSAP), but require additional assistance. Faculty of Medicine Grants are application-based to ensure that students with the most demonstrated financial need receive the highest level of financial support.

Figure 2.1.14: Faculty of Medicine Grants Received by MD Students (2011-12 to 2017-18)

Year	Value	Number of recipients	Average amount received
2011-12	\$4,828,948	711	\$6,791
2012-13	\$4,726,389	740	\$6,387
2013-14	\$5,343,480	789	\$6,772
2014-15	\$5,247,284	759	\$6,913
2015-16	\$5,616,833	804	\$6,986
2016-17	\$5,130,583	768	\$6,680
2017-18	\$5,020,183	777	\$6,461

MD Program Bursary Programs

The MD Program provides financial aid to students through the following two bursary programs, both of which are application-based to ensure that students with the most demonstrated financial need receive the highest level of financial support.

- **The MD Admission Bursary Program**, which supports students who might not otherwise apply for entry to the MD Program due to financial need. The program currently provides \$20,000 in funding during the first year of the MD program and recipients are able to re-apply for the bursary each year of the program for a total of \$80,000 in funding over the four years. During 2017/18 a

total of 42 students received funding through this program for a total cost of \$840,000. Starting in 2018-2019, the program changed to \$20,000 for the first year, and then \$10,000 per year (assuming successful reapplication) for years 2, 3, and 4. This allowed us to increase the number of students benefitting from this financial assistance and to maintain the recruitment incentive of this bursary program.

- **The MD Enhanced Bursary Program**, which assists students with the highest level of financial need. Students from all years of the MD program may apply for this type of funding. The funding may be renewed from year to year upon submitting a renewal application which is distributed each year. Funding amounts may be variable from student to student dependent on their individual circumstances. During 2017/18 a total of 58 students benefited from this funding and a total of \$290,000 was distributed through the program.

Figure 2.1.15: MD Program Bursaries Received by MD Students (2011-12 to 2017-18)

A. Admission Bursaries

Year	Value	Number of recipients	Average amount received
2011-12	\$120,000	6	\$20,000
2012-13	\$320,000	16	\$20,000
2013-14	\$560,000	27	\$20,740
2014-15	\$800,000	38	\$20,152
2015-16	\$830,000	38	\$21,842
2016-17	\$820,000	39	\$21,025
2017-18	\$840,000	42	\$20,000

B. Enhanced Bursaries

Year	Value	Number of recipients	Average amount received
2011-12	\$485,000	69	\$7,028
2012-13	\$544,000	60	\$9,066
2013-14	\$1,015,300	83	\$12,232
2014-15	\$565,500	75	\$7,540
2015-16	\$315,500	48	\$6,572
2016-17	\$277,500	49	\$5,663
2017-18	\$290,000	58	\$5,000

Final Year Medical Student Bursary Fund Program

The Final Year Medical Student Bursary Fund Program, which is funded by the Government of Ontario and operated by the Ontario Medical Association, provides high-needs students with a stipend of \$750 per month through the final twelve months of study in the MD Program.

Figure 2.1.16: Final Year Bursaries Received by U of T MD Students (2011-12 to 2017-18)

Year	Value	Number of recipients	Average amount received
2011-12	\$2,034,000	226	\$9,000
2012-13	\$1,962,000	218	\$9,000
2013-14	\$2,223,000	247	\$9,000
2014-15	\$2,295,000	255	\$9,000
2015-16	\$2,32,2000	258	\$9,000
2016-17	\$2,169,000	241	\$9,000
2017-18	\$2,412,000	268	\$9,000

Further detail regarding student funding is provided on the MD Program's [financial aid webpage](#).

Debt Management

Based on student feedback (including Association of Faculties of Medicine of Canada Graduation Questionnaire data), the MD Program has developed the following debt management activities and support:

- All admitted students are invited to attend a one-on-one meeting with dedicated financial aid staff in the Office of the Registrar and Enrolment Services;
- Presentation during orientation ('O week') regarding financial aid and awards;
- Visit to the Mississauga Academy of Medicine (MAM) each fall by financial aid staff;
- [Debt management web page](#) available on MD Program website, with links to resources;
- Financial information session held in fall for Year 3 students;
- Loan repayment/forgiveness session held for Year 4 students during Transition to Residency; and
- Students advised by email of any upcoming presentations or sessions.

Student Awards

A total of 155 [awards](#) are available to medical students; some awarded to multiple recipients. As detailed in [Appendix 6](#), there are 24 admission scholarships, 12 elective awards, 13 non-academic awards, 19 in-course scholarships, 16 scholarships by application, and 71 convocation awards. In all cases, students are informed of these awards via email.

Student Satisfaction with Financial Aid Services

Association of Faculties of Medicine of Canada Graduation Questionnaire ([AFMC GQ](#)): Included below are student satisfaction data from the AFMC GQ regarding financial aid services and educational debt management counselling.

Figure 2.1.17: *Financial Aid Services and Educational Debt Management*

Please indicate your level of satisfaction with:		AFMC GQ U of T Mean (out of 4)	AFMC GQ National Mean (out of 4)
Financial aid administrative services	2018	3.46	3.23
Overall educational debt management counselling	2018	3.16	3.06

How to interpret and act on AFMC GQ student satisfaction data is complicated as student satisfaction with financial aid services and educational debt management counselling is often a proxy for, or a reflection of, post-graduation debt loads. That said, and as noted in section 3.1.10 Quality Enhancement, the MD Program's future strategic directions with respect to financial aid services include:

- Further recalibration of grant and bursary programs to maximize financial support for students most in need,
- Explore socio-economic admissions barriers and possible strategies to address, and
- Develop online financial literacy module.

2.1.8 Academic Services and Personal Counselling

Academic Services

Included below is a summary of academic services developed specifically for MD students. The Associate Dean, Health Professions Student Affairs is responsible for oversight of these services.

- **Individualized academic coaching:** The Office of Health Professions Student Affairs (OHPSA) houses a 1.0 FTE Academic Coach and Educational Consultant who has extensive expertise working specifically with students in clinical and professional programs. The Academic Coach and Educational Consultant is dedicated to working exclusively with learners within the Faculty of Medicine. Learners primarily self-refer for [individualized academic coaching](#), although they may be referred by faculty, course directors, the Associate Dean, OHPSA, etc. Between 2011 and 2017, an average of 69 unique learners (range: 29-90) were seen per year over an average of 130

sessions (range 46-154); 2016/17 saw a 32% increase in unique students over the previous year. The Academic Coach and Educational Consultant also acts as a consultant to the MD Program on best practices to support effective learning and enrich the learner experience.

- **SCORE (Structured Clinical Observation, Reflection and Evaluation):** SCORE provides learners in Years 1 to 4, and in the MD/PhD program who are returning to clinical practice, with additional practice and feedback on their skills in interviewing, communication, counseling and physical examinations. SCORE is supported by faculty or senior residents who act as cognitive and clinical skills coaches in consultation with the Academic Coach and Educational Consultant. Learners access SCORE by referral only.
- **AACE-IT (Achieve Academic and Clinical Excellence in Training):** AACE-IT provides additional support to learners who are experiencing academic challenges in Years 1 to 4. AACE-IT is supported by faculty or senior residents who act as cognitive and clinical skills coaches in consultation with the Academic Coach and Educational Consultant. Learners access AACE-IT by referral only.
- **PREP (Peer-facilitated Review Enrichment Program):** Through [PREP](#), the OHPSA offers Year 1 learners the opportunity to participate in small, innovative, interactive and collaborative learning communities facilitated by successful Year 2 medical students. Learners self-refer to PREP.
- **Academic E-Coach:** The [Academic E-Coach](#) is an online tool allowing MD learners to assess current learning strategies and effectively locate and employ appropriate resources to enhance academic performance.

Student Satisfaction with Academic Services

OHPSA Surveys: The OHPSA administers online surveys annually to assess learner satisfaction with its services, including its learner support programming. These are carefully reviewed and used to inform future service development and delivery. In 2016-17, the student survey indicated that 97% of respondents described their learner support experience as professional, 91% as supportive, and 75% as informative.

Association of Faculties of Medicine of Canada Graduation Questionnaire ([AFMC GQ](#)): Included below are student satisfaction data from the AFMC GQ regarding academic services.

Figure 2.1.18: Academic Services

Please indicate your level of satisfaction with:		AFMC GQ U of T Mean (out of 4)	AFMC GQ National Mean (out of 4)
Accessibility	2018	3.26	3.45
Academic advising/ counselling	2018	2.97	3.21

Focus groups held in the spring of 2018 revealed some confusion or uncertainty among medical students about the nature of the work done in, and the possible benefits to be derived from, academic coaching. The focus groups also revealed that medical students are not always aware of the range of supplemental learner support resources available to them, the distinctive role that each can play in fostering academic success, and the steps to take in order to access these supports. As noted in section 2.1.10 Quality Enhancement, the MD Program's future strategic directions with respect to academic services includes increasing awareness among MD students about the available academic support resources and the benefits of those resources. This will be supported through the coordination of resources within the academic coaching portfolio, as well as greater clarity regarding the pathways of access and referral to supplemental academic supports. This coordination and clarification will enable the creation of straightforward and transparent learning objectives, which will in turn enable consistent and meaningful methods for assessing whether the objectives are being met.

Personal Counselling

[Personal counselling](#) in the MD Program falls under the Health Professions Student Affairs portfolio. Students in the MD Program have access to personal counsellors to provide individual and couple counselling on both the St. George and MAM campuses. Sessions may take place face-to-face, by telephone, or via Skype.

If necessary, OHPSA can facilitate additional personal counselling services with other professionals, including psychologists and psychiatrists. OHPSA also has a close partnership with the University of Toronto [Health and Wellness Centre](#) to provide expedited psychiatric care when needed.

All personal counselling offices are off-site from the primary academic centres on both campuses to ensure confidentiality.

In all information about the availability of personal counselling, students are made aware that the service is strictly confidential. Students also sign a confidentiality agreement before beginning personal counselling sessions. In the first session, any concerns regarding confidentiality are addressed.

Information about the availability of personal counselling services is provided to students via a number of modalities, including the [SHINE](#) team (the Student Health Initiatives and Education team), which also takes an active role in promoting OHPSA services through presentations and social media.

The number of unique MD students seen by personal counselling has risen from 98 students in 2011–2012 to 228 in 2016-17. The numbers seen in 2012-13 to 2016-17 ranged from 172 to 228. The number of sessions conducted in 2011–2012 was 557, which steadily increased until 2015-16 (1,244 sessions). In 2016-17, the number of sessions conducted fell to 951 due to the hiring of a new personal counsellor and a different model of therapy implementation.

Wellness and Resilience Programming

In addition to personal counselling, the MD Program provides and supports the following wellness and resilience programs and activities:

- In 2016, OHPSA introduced a [resilience curriculum](#) that is integrated within the core Foundations curriculum. The resilience curriculum is now delivered in Years 1-3, with development of a Year 4 curriculum well underway. The curriculum consists of online modules, workshops in the fall and the spring, and Monologues in Medicine, which are comprised of student narratives of challenge and triumph in medical school and help break down the stigma that often affects students' willingness to reach out for help. Additionally, a review of all learning objectives was done in core curriculum to look at integration of self-care and resilience within the core curriculum.
- The “Check Your Pulse” (CYP) program engages Year 1 students by reaching out to them to see how they are transitioning to medical school. The “Wellness in Transition” (WIT) program engages students as they enter clerkship to address any anticipated challenges. Both CYP and WIT are delivered by OHPSA.
- OHPSA, in collaboration with the SHINE team, offers workshops and seminars on issues related to student well-being and resilience throughout the academic year.

Student Satisfaction with Personal Counselling Services and Wellness/Resilience Programming

OHPSA Surveys: In the 2016–2017 OHPSA student survey, 96% of respondents rated their experience with personal counselling as professional; 95 % as supportive; and 88 % as informative. 87% indicated they would use the services again.

Workshop Evaluations: Included in the following table are data from the Resilience Curriculum Workshop Evaluations, 2017-18.

Figure 2:1.19: Resilience Curriculum Workshop Evaluations

	“Workshop objectives as stated were met” (out of 5)	“Facilitator encouraged participant interaction” (out of 5)	“Please rate your overall satisfaction with the workshop” (out of 5)
Year 1 Sept 1	4.63	4.85	4.54
Year 1 Nov 10	4.53	4.76	4.40
Year 2 Oct 30	4.48	4.80	4.31
Year 2 Nov 6	4.49	4.82	4.42

Association of Faculties of Medicine of Canada Graduation Questionnaire ([AFMC GQ](#)): Included below are student satisfaction data from the AFMC GQ regarding counselling and health-related services.

Figure 2.1.20: *Counselling and Health-Related Services*

Please indicate your level of satisfaction with:		AFMC GQ U of T Mean (out of 4)	AFMC GQ National Mean (out of 4)
Personal counselling	2018	3.11	3.29
Student health services	2018	3.14	3.21
Student mental health services	2018	3.05	3.15

Focus groups conducted on both campuses over the past several years revealed that medical students at MAM feel they are not getting adequate accessibility to personal counselling at the Mississauga campus. The MD/PhD students reported that their needs are unique and requested more personal counselling services directed to their needs.

As noted in section 3.1.10 Quality Enhancement, the MD Program’s future strategic directions with respect to personal counselling services and wellness/resilience programming includes:

- Development and implementation of an integrated mental health and resilience agenda, on a continuum with PGME, to set the foundation for physician wellness and resilience,
- Introduction of the Year 4 resilience curriculum in 2019–20,
- Increase in availability of personal counselling at the Mississauga Academy of Medicine, and
- Development of personal counselling services that better support the specific needs of MD/PhD students.

2.1.9 Quality Indicators

Accreditation

Canadian MD programs are accredited through a partnership between the [Committee on Accreditation of Canadian Medical Schools](#) (CACMS) and the [Liaison Committee on Medical Education](#) (LCME). Full accreditation reviews of each medical school occur on an eight year cycle. The U of T MD Program’s last full accreditation review was in 2011-12, resulting in [full accreditation status](#) for the maximum allowed term of eight years (2012–2020) and a finding of full compliance with all accreditation standards.

As part of the MD Program’s 2012 full accreditation review, the CACMS-LCME identified the following several notable strengths:

- Strong institutional support for education demonstrated by effective leadership at all levels,
- A supportive culture for excellence in education evidenced by substantial financial investments,
- A strong Academy structure providing an educational home base for smaller groups of students, supported by the leaders of the Faculty of Medicine’s affiliated hospitals, and
- Effective use of “human, physical, financial and organizational resources to create a culture of healthy competition around excellence in education and research among its students, teachers and affiliated partners”.

The MD Program engaged in an [Interim Accreditation Review \(IAR\)](#) over the 2016-17 academic year. The IAR is an important component of continuous quality improvement in medical education. The interim review normally takes place at approximately the half-way point between full accreditation visits. The MD Program’s IAR culminated in a site visit by an external reviewer held over March 28–29, 2017. The following program strengths were identified as part of the IAR process:

- Bold, value-based and innovative leadership.
- National leader in medical education, with the program’s diversification efforts and Foundations curriculum being two highlights.
- The concepts behind, planning, and implementation of the Foundations curriculum, including the attentive responsiveness of the curriculum planners and leaders, was particularly notable.
- Our longitudinal integrated clerkship was also seen as innovative, particularly in a large urban clinical setting, running concurrently with a traditional, block Clerkship.

Growing out of the IAR, the MD Program identified four areas for improvement – curriculum mapping, student assessment, program evaluation, and career counselling – that require some attention. These four areas for improvement have informed specific initiatives that the program is focusing on in preparation for its full accreditation review in 2019–20 (see Section 2.1.10 Quality Enhancement).

MD Program Course and Teacher Evaluations

Each year the MD Program’s Program Evaluation Committee evaluates all MD Program courses. Course directors are required to submit annual reports. The committee reviews the reports, provides course directors with feedback and advises on required changes. The appropriate curriculum directors are responsible for monitoring follow-up. Several outcome measures are highlighted as key indicators, including:

- End of course ratings by students,
- Teacher performance as rated by students (TES),
- Student performance, including course pass rates and [Medical Council of Canada Qualifying Examination \(MCCQE\) Part 1](#) results, and
- Student satisfaction on the Association of Faculties of Medicine of Canada Graduation Questionnaire ([AFMC GQ](#)).

Course evaluation outcome measures for 2015-16, 2016-17 and 2017-18 are provided in the following two tables, one for Foundations (Years 1 & 2) and one for Clerkship (Years 3 & 4).

Figure 2.1.21: Course Evaluations – Preclerkship / Foundations

Preclerkship (P) / Foundations Courses (F)		Overall Course Rating (out of 5)			Teacher Evaluation Score (TES) (out of 5)		
		15-16	16-17	17-18	15-16	16-17	17-18
STF 111Y	(P) Structure and Function	4.22	N/A	N/A	4.06	N/A	N/A
MNU 111Y	(P) Metabolism and Nutrition	4.03	N/A	N/A	4.07	N/A	N/A
BRB 111Y	(P) Brain and Behaviour	4.24	N/A	N/A	4.09	N/A	N/A
ASC 111Y	(P) The Art and Science of Clinical Medicine 1	4.58	4.48*	4.30*	4.54	4.65*	4.61*
ASC 211Y	(P) The Art and Science of Clinical Medicine 2	4.17	4.23	4.02*	4.41	4.47	4.56*
FME 211Y	(P/F) Family Medicine Longitudinal Experience	4.50	4.53	4.50*	4.78	4.72	4.76*
MMM211Y	(P) Mechanisms Manifestations & Management of Disease	4.18	4.22	N/A	4.10	4.24	N/A
CPP111Y	(P) Communities, Populations and Public Health	3.45	4.00*	3.97*	3.96	4.55*	4.51*
CPP211Y	(P) Communities, Populations and Public Health	3.52	3.75	3.48*	N/A	4.48	4.57*
HSR211Y	(P/F) Health Sciences Research	2.75	3.52	3.23*	4.27	4.30	4.36*
MED100	(F) Introduction to Medicine	N/A	3.97	3.99	N/A	4.34	4.39
MED110	(F) Concepts, Patients and Communities 1	N/A	4.29	4.02	N/A	4.39	4.42
MED200	(F) Concepts, Patients and Communities 2	N/A	N/A	3.96	N/A	N/A	4.38
MED210	(F) Life Cycle	N/A	N/A	3.85	N/A	N/A	4.33
MED220	(F) Complexity and Chronicity	N/A	N/A	3.66	N/A	N/A	4.44

*Indicates score based on Foundations component mapped to Preclerkship course.

Figure 2.1.22: Course Evaluations – Clerkship

Clerkship Courses	Rotation Assessment Score (out of 5)			Teacher Evaluation Score (out of 5)			Satisfaction (AFMC GQ) (out of 5)		
	15-16	16-17	17-18	15-16	16-17	17-18	'16	'17	'18
Transition to Clerkship	3.44	3.53	3.40	3.80	3.79	3.71	--	--	--
Anesthesia	4.07	4.16	4.08	4.19	4.38	4.39	3.68	--	--
Dermatology	4.36	4.23	4.25	N/A	N/A	N/A	--	--	--
Emergency Medicine	4.37	4.48	4.40	4.21	4.37	4.43	4.29	4.29	4.30
Family & Community Medicine	4.16	4.39	4.34	4.41	4.52	4.50	3.96	3.90	4.23
Medicine	4.10	4.20	4.24	4.37	4.52	4.56	4.31	4.35	4.36
Obstetrics & Gynecology	3.91	3.98	3.87	4.19	4.31	4.31	3.91	4.02	3.95
Ophthalmology	3.13	3.36	3.39	3.86	4.16	4.20	--	--	--
Otolaryngology	3.63	3.77	3.78	4.10	4.29	4.35	--	--	--
Paediatrics	4.18	4.29	4.19	4.28	4.44	4.44	3.85	4.04	4.18
Psychiatry	4.13	4.13	4.12	4.29	4.46	4.46	3.83	4.14	3.99
Surgery	3.50	3.88	3.78	4.25	4.43	4.47	3.43	3.64	3.66
Portfolio Year 3	3.63	3.67	3.69	4.34	4.59	4.55	--	--	--
Electives	N/A	N/A	N/A	4.50	4.56	4.68	--	--	--
Portfolio Year 4	3.74	3.77	3.77	4.62	4.48	4.58	--	--	--
Transition to Residency	N/A	3.62	3.76	4.05	4.00	4.11	--	--	--

MD Program Readiness Surveys

MD Program students are invited to complete two readiness surveys. The first is the Readiness for Clerkship survey, which is completed 6 months after beginning Clerkship. The second survey is sent six months after completing the MD Program if the graduate is completing postgraduate training in Canada. They consist of a series of 41-43 questions related to typical physician tasks. Respondents are asked to rate their level of confidence in performing each of these tasks using a 5-point scale. The responses to this self-reflection survey have been validated against external ratings by faculty. Included below are aggregate and question-specific data from these two surveys, 2013-14 to 2017-18, which are used to identify trends and inform the work of the Program Evaluation Committee.

Figure 2.1.23: Readiness Survey

	Average score of all readiness survey questions (out of 5)		
	2015-16	2016-17	2017-18
Readiness for Clerkship	3.63	3.48	3.52
Readiness for Residency	3.99	3.85	3.89

Figure 2.1.24: Readiness for Clerkship Survey

Readiness for Clerkship Survey	Mean by Year (out of 5)				
	13-14	14-15	15-16	16-17	17-18
1. Communicate respectfully and effectively with your patient and his/her family/support network	4.16	4.07	4.30	3.99	4.10
2. Identify if your patient is seriously ill and requires immediate assessment and treatment	3.5	3.47	3.46	3.26	3.33
3. Identify when your patient may not be mentally competent and his/her mental status should be assessed	3.66	3.38	3.42	3.28	3.41
4. Take a full medical history	4.05	3.68	3.98	3.73	3.99
5. Take an appropriate history of your patient's current problem	3.8	3.46	3.74	3.48	3.73
6. Formulate a problem list	2.91	2.95	2.95	2.95	2.82
7. Perform a full physical examination	3.49	3.48	3.60	3.49	3.57
8. Perform a focused physical exam relevant to your patient's current problem	3.39	3.44	3.57	3.43	3.54
9. Document the history and physical exam findings	3.91	3.67	3.87	3.61	3.86
10. Verbally present your findings to the resident or your preceptor	3.48	2.95	3.20	3.07	3.27
11. Interpret relevant key laboratory results obtained on your patient	2.71	2.74	2.95	2.68	2.64
12. Interpret (explain the meaning of) relevant imaging reports for the common health problems of your patient	2.48	2.67	2.56	2.54	2.54
13. Explain the underlying pathology and pathophysiology of your patient's key problems	3.02	3.11	2.99	2.92	2.93
14. Demonstrate a clear understanding of anatomy in the context of physical exams and interventions	3.09	3.22	3.19	3.01	2.88
15. Propose a differential diagnosis consisting of more than one reasonable alternative (based on Hx, PE, Lab, and other tests)	3	2.91	3.01	2.77	2.85
16. Communicate difficult or bad news to your patient	3.14	3.05	3.04	2.95	2.93
17. Identify appropriate medications based on the health problems of your patient	2.89	2.68	2.76	2.63	2.42

Readiness for Clerkship Survey	Mean by Year (out of 5)				
	13-14	14-15	15-16	16-17	17-18
18. Explain the choice of medication based on mechanism of action and the health problems of your patient	2.82	2.73	2.68	2.68	2.62
19. Propose a basic short-term management plan for your patient's major problems	3.05	2.88	2.86	2.87	2.64
20. Explain the short-, intermediate- and long-term management plans that were developed for your patient	3.05	2.87	2.88	2.86	2.63
21. Identify the specific physical and psychosocial needs of your patient	3.82	3.55	3.47	3.41	3.34
22. Advocate for access to required health and social services based on your patient's needs	3.28	3.26	3.31	3.17	3.05
23. Incorporate the concept of making patient care decisions based upon efficient and equitable allocation of health care resources in the management plan for your patient	3.19	3.1	3.21	3.04	2.95
24. Demonstrate compassion for and interest in your patient	4.84	4.58	4.60	4.33	4.63
25. Show personal commitment to honouring the choices, rights, and confidentiality of your patient	4.67	4.54	4.47	4.40	4.58
26. Act only within the limits of your competence	4.53	4.51	4.46	4.41	4.58
27. Disclose errors or adverse events to the health care team or your preceptor in a full, honest, and timely manner	4.48	4.47	4.31	4.25	4.42
28. Respond to pages, patient, and team needs in a timely manner	4.46	4.47	4.35	4.31	4.19
29. Arrange for care of your patient during absences to ensure continuity of care	4.21	4.15	3.84	3.80	3.76
30. Communicate respectfully and effectively with your peers, residents, and faculty	4.73	4.47	4.66	4.45	4.73
31. Communicate respectfully and effectively with other health care professionals	4.71	4.48	4.60	4.32	4.66
32. Prevent or resolve conflicts with members of the health care team	4.13	4.25	4.03	3.98	4.00
33. Listen to and act on feedback	4.47	4.37	4.50	4.24	4.52
34. Identify gaps in your knowledge and skills related to the care of your patient	3.93	3.99	4.07	3.86	4.06
35. Take steps to correct gaps in knowledge and skills	4.03	3.92	4.10	3.80	4.00
36. Pursue opportunities to learn technical procedures needed for the diagnosis and management of your patient's health problems e.g. injections, draw blood (arterial and venous), start an IV, airway insertion and suturing.	3.36	3.42	3.66	3.50	3.55
37. Retrieve and critically evaluate relevant information for the purposes of patient care, scholarly inquiry, and self-directed learning	3.76	3.73	3.82	3.72	3.74

Readiness for Clerkship Survey	Mean by Year (out of 5)				
	13-14	14-15	15-16	16-17	17-18
38. Educate your patient and his/her family/support network about his/her health problems and management plan	3.56	3.55	3.64	3.53	3.45
39. Facilitate the learning of your peers	3.96	3.96	4.06	3.80	3.96
40. Manage your time effectively in a clinical setting	3.61	3.47	3.55	3.41	3.25
41. Maintain your health and well-being, and know when and how to seek help	3.76	3.43	3.67	3.39	3.08
42. Prescribe nutrition management	N/A	N/A	2.99	2.92	2.69

Figure 2.1.25: Readiness for Residency Survey

Readiness for Residency Survey	Mean by Year (out of 5)				
	13-14	14-15	15-16	16-17	17-18
1. Communicate and collaborate effectively with your patient and his/her support network in the planning and delivery of care	4.21	4.08	4.17	4.16	4.15
2. Identify if your patient is seriously ill and requires immediate assessment and treatment	3.80	3.82	4.05	3.74	3.76
3. Identify when your patient may not be mentally competent and perform a mental status exam	4.00	3.75	3.89	3.61	3.71
4. Take a full medical history	4.64	4.49	4.60	4.59	4.39
5. Take an appropriate history of your patient's current problem	4.56	4.32	4.45	4.35	4.41
6. Formulate a problem list	3.82	3.84	3.86	3.84	3.81
7. Perform a full physical examination	4.35	4.14	4.23	4.19	4.30
8. Perform a focused physical exam relevant to your patient's current problem	4.29	4.04	4.23	4.17	4.39
9. Document the history and physical exam findings	4.60	4.53	4.51	4.46	4.54
10. Verbally present your findings to the senior resident or your preceptor	4.33	4.13	4.30	4.10	4.22
11. Interpret relevant key laboratory results related to your patient	3.70	3.53	3.73	3.59	3.52
12. Interpret (explain the meaning of) relevant imaging reports for the common health problems of your patient	3.56	3.33	3.70	3.41	3.37
13. Perform technical procedures needed for the diagnosis and management of your patient's health problems e.g. injections, draw blood (arterial and venous), start an IV, airway insertion and suturing.	2.50	2.46	2.61	2.61	2.44
14. Select appropriate diagnostic tests in a resource effective and ethical manner	3.44	3.43	3.47	3.28	3.15

Readiness for Residency Survey	Mean by Year (out of 5)				
	13-14	14-15	15-16	16-17	17-18
13. Explain the underlying pathology and pathophysiology of your patient's key problems	3.56	3.64	3.45	3.38	3.22
14. Demonstrate a clear understanding of anatomy in the context of physical exams and interventions	3.71	3.46	3.45	3.44	3.61
17. Formulate a differential diagnosis, and identify the most probable diagnosis	3.59	3.43	3.48	3.45	3.46
16. Communicate difficult or bad news to your patient	3.98	3.75	4.00	3.68	3.69
19. Select appropriate medications based on the health problems of your patient	3.22	3.18	3.43	3.29	3.00
18. Explain the choice of medication based on mechanism of action and the health problems of your patient	3.41	3.37	3.45	3.28	3.15
21. Develop a short-term management plan for your patient	3.73	3.61	3.65	3.50	3.37
22. Develop an intermediate- and long-term management plan for your patient	3.28	3.25	3.26	3.08	3.00
21. Identify the specific physical and psychosocial needs of your patient	3.92	3.97	3.93	3.77	4.04
22. Advocate for access to required health and social services based on your patient's needs	3.73	3.68	3.56	3.36	3.64
25. Make decisions related to the care of your patient based upon an efficient and equitable allocation of health care resources	3.64	3.66	3.55	3.41	3.42
24. Demonstrate compassion for and interest in your patient	4.55	4.75	4.81	4.62	4.70
25. Show personal commitment to honouring the choices, rights, and confidentiality of your patient	4.70	4.78	4.72	4.62	4.72
26. Act only within the limits of your competence	4.46	4.55	4.59	4.39	4.50
29. Disclose errors or adverse events in a full, honest, and timely manner	4.32	4.22	4.33	4.31	4.38
28. Respond to pages, patient, and team needs in a timely manner	4.43	4.63	4.60	4.36	4.26
31. Ensure adequate medical follow-up is arranged and provide continuity of care for your patient	4.08	4.22	4.23	3.92	4.04
32. Collaborate and communicate effectively with other physicians and health professionals in the planning and delivery of care	4.45	4.28	4.29	4.11	4.36
33. Demonstrate respectful attitudes towards and interactions with other physicians, and other health care professionals	4.78	4.76	4.80	4.53	4.81
32. Prevent or resolve conflicts with members of the health care team	4.43	4.29	4.26	4.23	4.27

Readiness for Residency Survey	Mean by Year (out of 5)				
	13-14	14-15	15-16	16-17	17-18
33. Listen to and act on feedback	4.39	4.53	4.62	4.29	4.49
34. Identify gaps in your knowledge and skills related to the care of your patient	3.95	3.93	4.20	4.10	4.00
35. Take steps to correct gaps in knowledge and skills	3.87	4.01	4.25	4.08	4.11
37. Retrieve and critically evaluate relevant information for the purposes of patient care, scholarly inquiry, and self-directed learning	3.84	3.93	4.06	3.94	4.09
39. Educate your patient on health promotion and disease prevention strategies	3.95	4.07	4.16	3.97	4.17
38. Educate your patient and his/her family/support network about his/her health problems and management plan	4.11	4.08	4.13	4.06	4.13
41. Facilitate the learning of your peers, other physicians and health professionals	3.84	3.96	3.91	3.82	3.92
40. Manage your time effectively in a clinical setting	3.65	3.75	3.74	3.75	3.72
41. Maintain your health and well-being, and know when and how to seek help	3.49	3.87	3.83	3.56	3.74
42. Prescribe nutrition management	N/A	N/A	2.90	2.90	2.96

Medical Council of Canada Qualifying Examination Part I

The [MCCQE Part I](#) is a summative examination that assesses the critical medical knowledge and clinical decision-making ability of a candidate at a level expected of a medical student who is completing his or her medical degree in Canada. This examination is a written examination consisting of a number of multiple-choice questions and short-answer type clinical decision-making questions and is taken by medical students during their final spring term in the MD Program. Adjusted scores are provided for first-time takers, including sub-scores for various different disciplines. Included below are MCCQE Part 1 results of first-time takers during the three most recently completed academic year.s

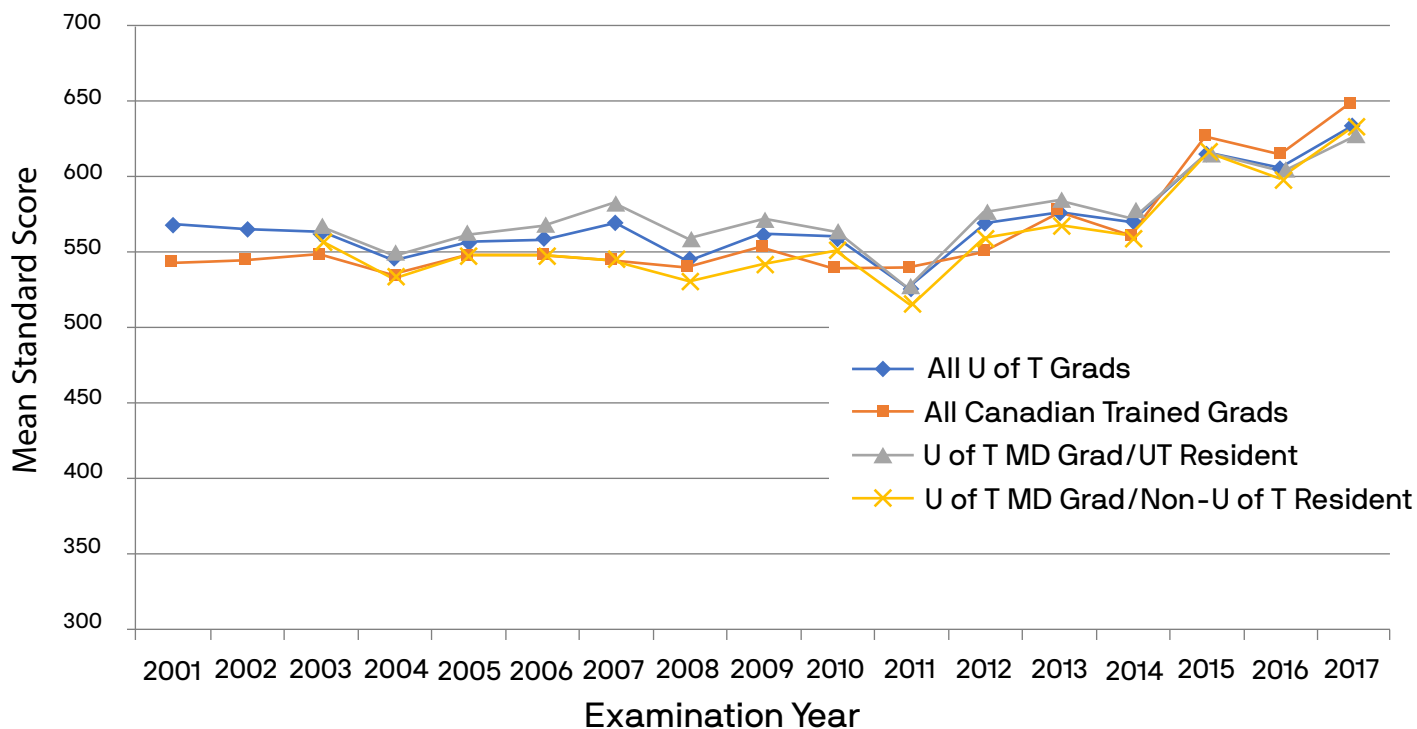
Figure 2.1.26: MCCQE Part 1 Results

MCCQE Part 1 results of first-time takers during the three most recently completed academic years							
Campus	Academic Year	No. Examined	Percent Passing	U of T Mean Total (Score and Standard Deviation)		National Mean (Total Score and SD)	
				Score	SD	Score	SD
St. George	2012-13	218	99%	551	N/A	543	N/A
	2013-14	246	99%	533	N/A	526	N/A
	2014-15	199	94%	533	72	542	72
	2015-16	201	97%	545	70	548	68
	2016-17	188	96%	546	70	546	69
Mississauga	2014-15	52	92%	525	70	542	72
	2015-16	53	100%	547	58	548	68
	2016-17	52	94%	552	66	546	69

Medical Council of Canada Qualifying Examination Part II

The [MCCQE Part II](#) assesses the MD Program graduate's core abilities to apply medical knowledge, demonstrate clinical skills, develop investigational and therapeutic clinical plans, as well as demonstrate professional behaviours and attitudes at a level expected of a physician in independent practice in Canada. The examination is an OSCE format assessment. Scores are provided for graduates of the MD Program regardless of whether they continue their postgraduate training at the University of Toronto or elsewhere in Canada.

Figure 2.1.27: MCCQE Part II: University of Toronto, 2001 – 2017 Overall Final Score



MD Program Progress Tests

As noted in Section 2.1.5 Assessment of Learning, the MD Program introduced progress testing in conjunction with the implementation of its programmatic assessment model. Progress tests are comprehensive knowledge-based tests that assess a student’s progress towards exit-level MD Program competencies. Separate preparation for the test is not required, instead students are encouraged to engage in the curriculum and stay up-to-date throughout the program. Following each test, students receive a report that outlines which components of the test they answered correctly and the number of questions they were and were not sufficiently confident in answering. The report is designed to inform areas for improvement and to help students prepare for the Medical Council of Canada Part 1 Examination. Progress test outcomes are also used to inform curriculum enhancements by the MD Program to help ensure that students are well positioned to write the MCC Part 1 Examination.

Included in the following table are data from the progress tests written between January 2017 and May 2018, organized by graduating class. In general, the average progress test score across all competencies should be higher for students further along the continuum of the MD Program curriculum and as they advance through the MD Program curriculum.

Figure 2.1.28: Progress Test Results

	Average progress test score across all competencies				
	Jan 2017 (test 1)	May 2017 (test 2)	Nov 2017 (test 3)	Jan 2018 (test 4)	May 2018 (test 5)
Graduating classes of 2018 and 2019 *	55.5	66.23	51.67	74.55	63.93
Graduating class of 2020	41	49.48	41.15	57.44	53.46
Graduating class of 2021	n/a	n/a	34.24	44.96	42.72

*A small number of these two graduating classes completed the new, optional progress tests, and not all of the participants completed all five progress tests.

Residency Match

The vast majority of students in the U of T MD Program pursue postgraduate training (i.e. residency) in Canada. Medical students apply to Canadian residency programs through the [Canadian Resident Matching Service](#) (CaRMS).

Graduates of the U of T MD Program are matched in the first iteration of the match process at a rate consistent with the national average. A high percentage (i.e. > 90%) of the U of T MDs who match in the first iteration do so to their first choice CaRMS entry-level discipline (e.g. Internal Medicine, Family and Community Medicine, General Surgery, etc.).

As documented in an Association of Faculties of Medicine of Canada (AFMC) [report](#), the number of unmatched medical students has grown significantly in recent years, particularly in Ontario and Quebec. Thanks to the Ontario government's temporary expansion of available residency positions [announced in April 2018](#), 16 U of T MD students who remained unmatched after the second iteration in 2018 were able to secure residency positions. The Faculty of Medicine will continue to lobby through the AFMC, and the MD Program has and will continue to review and enhance its pre- and post-match supports, as noted in Section 2.1.6 Professional Development and Section 2.1.10 Quality Enhancement.

Figure 2.1.29: CaRMS First Iteration Match Results, 2011 to 2018

		Number Matched	Total Participation	Percent Matched
2018	U of T	247	277	89.2
	National	2701	2923	92.4
2017	U of T	237	257	92.2
	National	2704	2893	93.5
2016	U of T	241	262	92.0
	National	2737	2904	94.2
2015	U of T	249	261	95.4
	National	2729	2862	95.4
2014	U of T	231	247	93.5
	National	2693	2847	94.6
2013	U of T	209	216	96.8
	National	2565	2695	95.2
2012	U of T	212	223	95.1
	National	2511	2672	94.0
2011	U of T	211	223	94.6
	National	2389	2528	94.5

Figure 2.1.30: U of T First Iteration Match Rate by CaRMS Discipline Choice Rank

	1st Choice	% Matched to 1st Choice	2nd Choice	3rd Choice	4th Choice	5th Choice or Lower	Total
2018	227	91.1%	17	3	0	0	247
2017	218	92.0%	18	1	0	0	237
2016	224	92.9%	17	0	0	0	241
2015	227	91.2%	21	1	0	0	249
2014	215	93.1%	15	1	0	0	231
2013	199	95.2%	10	0	0	0	209
2012	192	90.6%	19	1	0	0	212
2011	197	93.4%	13	1	0	0	211

Figure 2.1.31: U of T CaRMS Second Iteration Match Results, 2011 to 2018

		Number Matched	Total Participation
2018	U of T	9	28
	All applicants	150	1153
2017	U of T	8	21
	All applicants	155	1208
2016	U of T	6	21
	All applicants	162	1224
2015	U of T	6	15
	All applicants	143	1301
2014	U of T	6	19
	All applicants	164	1557
2013	U of T	4	10
	All applicants	207	1504
2012	U of T	7	13
	All applicants	111	177
2011	U of T	11	14
	All applicants	118	170

Clinical Learning Environment

The MD Program is committed to providing students with a welcoming and supportive clinical learning environment. In order to evaluate the clinical learning environment, a series of learning environment questions have been included in the end-of-rotation evaluation form for each of Year 3 core clinical rotations. Included below are data from those evaluation forms, 2015-16 to 2017-18.

Figure 2.1.32: Year 3 Core Clinical Rotation Course Evaluations: Learning Environment

Question	Year 3 Clinical Rotation	Score (out of 5)		
		2015–2016	2016–2017	2017–2018
I was made to feel welcome during the rotation by other health professionals	Anesthesia [ANS 310Y]	4.23	4.32	4.23
	Emergency Medicine [EMR 310Y]	4.30	4.39	4.40
	Family and Community Medicine [FCM 310Y]	4.51	4.57	4.63
	Medicine [MED 310Y]	4.34	4.35	4.41
	Obstetrics and Gynecology [OBS 310Y]	3.90	4.04	3.90
	Ophthalmology [OPT 310Y]	3.92	4.09	4.09
	Otolaryngology [OTL 310Y]	4.13	4.21	4.22
	Paediatrics [PAE 310Y]	4.39	4.46	4.44
	Psychiatry [PSS 310Y]	4.43	4.46	4.44
	Surgery [SRG 310Y]	4.09	4.25	4.21
I was made to feel welcome during the rotation by the attending doctor(s)	Anesthesia [ANS 310Y]	4.38	4.30	4.22
	Emergency Medicine [EMR 310Y]	4.47	4.48	4.54
	Family and Community Medicine [FCM 310Y]	4.50	4.60	4.60
	Medicine [MED 310Y]	4.45	4.46	4.51
	Obstetrics and Gynecology [OBS 310Y]	4.06	4.19	4.07
	Ophthalmology [OPT 310Y]	3.76	3.98	4.03
	Otolaryngology [OTL 310Y]	4.18	4.18	4.25
	Paediatrics [PAE 310Y]	4.42	4.48	4.48
	Psychiatry [PSS 310Y]	4.48	4.51	4.55
	Surgery [SRG 310Y]	4.19	4.29	4.22
I was made to feel welcome during the rotation by the resident(s)	Anesthesia [ANS 310Y]	4.36	4.39	4.37
	Family and Community Medicine [FCM 310Y]	4.49	4.61	4.65
	Medicine [MED 310Y]	4.58	4.55	4.59
	Obstetrics and Gynecology [OBS 310Y]	4.36	4.45	4.39
	Ophthalmology [OPT 310Y]	4.04	4.14	4.24
	Otolaryngology [OTL 310Y]	4.12	4.22	4.25
	Paediatrics [PAE 310Y]	4.41	4.51	4.48
	Psychiatry [PSS 310Y]	4.52	4.55	4.58
	Surgery [SRG 310Y]	4.18	4.31	4.24
	Emergency Medicine [EMR 310Y]	4.46	4.51	4.53

Question	Year 3 Clinical Rotation	Score (out of 5)		
		2015–2016	2016–2017	2017–2018
The academic workload in this course was manageable for me	Anesthesia [ANS 310Y]	4.23	4.32	4.23
	Emergency Medicine [EMR 310Y]	4.43	4.41	4.43
	Family and Community Medicine [FCM 310Y]	4.43	4.50	4.57
	Medicine [MED 310Y]	3.85	3.90	3.98
	Obstetrics and Gynecology [OBS 310Y]	4.18	4.22	4.13
	Ophthalmology [OPT 310Y]	3.88	3.81	3.93
	Otolaryngology [OTL 310Y]	4.10	4.17	4.14
	Paediatrics [PAE 310Y]	4.33	4.42	4.31
	Psychiatry [PSS 310Y]	4.27	4.21	4.29
	Surgery [SRG 310Y]	3.86	3.93	3.95
The overall education to service ratio was appropriate	Paediatrics [PAE 310Y]	4.25	4.36	4.29
	Surgery [SRG 310Y]	3.90	4.06	3.91
	Anesthesia [ANS 310Y]	4.32	4.31	4.24
	Emergency Medicine [EMR 310Y]	4.37	4.42	4.41
	Family and Community Medicine [FCM 310Y]	4.34	4.50	4.49
	Medicine [MED 310Y]	4.05	4.18	4.24
	Obstetrics and Gynecology [OBS 310Y]	4.04	4.16	3.95
	Ophthalmology [OPT 310Y]	3.71	3.77	3.82
	Otolaryngology [OTL 310Y]	4.06	4.12	4.11
	Psychiatry [PSS 310Y]	4.27	4.26	4.31
The overall learning environment and atmosphere is a supportive one	Anesthesia [ANS 310Y]	4.33	4.29	4.22
	Emergency Medicine [EMR 310Y]	4.45	4.47	4.52
	Family and Community Medicine [FCM 310Y]	4.49	4.54	4.57
	Medicine [MED 310Y]	4.39	4.46	4.50
	Ophthalmology [OPT 310Y]	3.74	3.92	3.99
	Paediatrics [PAE 310Y]	4.37	4.48	4.43
	Psychiatry [PSS 310Y]	4.45	4.49	4.50
	Surgery [SRG 310Y]	4.06	4.20	4.10
	Obstetrics and Gynecology [OBS 310Y]	4.08	4.19	4.06
	Otolaryngology [OTL 310Y]	4.12	4.18	4.23

Education Scholarship

The MD Program is committed to supporting and disseminating education scholarship. The program’s [2017-18 Scholarly Activities Report](#) provides details regarding education scholarship workshops, poster presentations, oral presentations and publications given and published, as well as education honours, and awards and grants received by MD Program leaders, teachers and administrative staff. The program’s commitment to education scholarship is also expressed in and through its relationship with The Wilson Centre, a research centre jointly supported by the U of T and University Health Network (UHN) focused on advancing healthcare education and practice through research. This relationship includes the ongoing involvement of Wilson Centre education scientists in MD Program education reforms in order to help ensure that changes to the program’s curricular content, modes of delivery and approaches to student assessment are informed by education scholarship.

2.1.10 Quality Enhancement

The following is a summary of MD Program strengths and future directions, organized according to the sections of the MD Program portion of this self-study report:

	Strengths	Future Directions
Program Objectives	<ul style="list-style-type: none"> ● Aspirational education goals ● Comprehensive competency framework ● Alignment of MD Program education goals and competency framework with University mission and Faculty of Medicine academic plan 	<ul style="list-style-type: none"> ● Development and implementation of a more aligned and continuous quality improvement-informed approach to (and culture of) curriculum planning, curriculum delivery, student assessment, and program evaluation
Admission	<ul style="list-style-type: none"> ● Highly competitive applicant pool ● Consistently high yield rate ● Robust and holistic admission process, including approaches to mitigate rater bias ● Active outreach programming ● ISAP and BSAP alternative admission pathways ● A Diversity Mentorship Program that pairs Year 1 and 2 medical students from equity seeking groups with faculty physician mentors who can help support their educational and professional growth 	<ul style="list-style-type: none"> ● Better alignment of admission criteria with program’s educational goals and competency framework ● Consideration of validity and reliability of non-academic/non-cognitive admission measures ● Post-admission supports for ISAP and BSAP students ● Further outreach with students from traditionally under-represented populations

	Strengths	Future Directions
Curriculum and Program Delivery	<ul style="list-style-type: none"> ● Innovative Foundations curriculum informed by/aligned with program's education goals ● Early clinically-relevant and small group learning experiences ● Opportunities for clinical learning in an enormous variety of clinical settings (30+affiliated clinical teaching sites) ● Transitions courses (TTC and TTR) that focus on ensuring that students are well prepared to progress along the continuum of medical education ● Large and dedicated group of teachers ● Core health science research within the MD Program curriculum and opportunities for additional research experiences via the Graduate Diploma in Health Research and MD/PhD program 	<ul style="list-style-type: none"> ● Fuller integration of public health in Foundations curriculum ● Fuller integration of health science research in Foundations ● Continuation of quality improvement exercises to ensure Foundations students have the best possible learning experience and are well prepared for Clerkship ● Fuller vertical integration between Foundations and Clerkship ● Fuller horizontal integration across Clerkship, including among the core clinical rotations ● Greater opportunities for longitudinal learning experiences in Clerkship (e.g. via patient panels) ● Improve response rate and scores of teacher and course evaluations by students ● Expand Faculty Development offerings ● Recognize and support teaching ● Update student mistreatment reporting process, including annual reporting
Assessment of Learning	<ul style="list-style-type: none"> ● Implementation of programmatic assessment, including the Learner Chart, student progress review processes and coaching, and academic decision-making in Foundations ● Implementation of a competency-based approach to the assessment of student professionalism ● Introduction of processes and standards to support development of quality of exam questions ● Shift from paper-based to online exams in Clerkship 	<ul style="list-style-type: none"> ● Development and implementation of evidence-based standard setting method for written assessments ● Development and implementation of work-place based assessment, particularly in Clerkship, that aligns with EPAs ● Enhance processes and standards to improve and maintain quality of exam questions ● Development and implementation of a plan for improved qualitative data that supports assessment of learning and academic decision-making ● Renew student progress review processes and academic decision-making in Clerkship, including a shift in approach that places a greater emphasis on coaching

	Strengths	Future Directions
Professional Development	<ul style="list-style-type: none"> ● Career exploration embedded into the core MD Program curriculum, Years 1 through 4 ● Dedicated electives infrastructure, guidance and supports ● Robust pre- and post-residency match initiatives and programming ● Well-articulated extended Clerkship option for students who do not match to a residency position 	<ul style="list-style-type: none"> ● Fuller integration of career exploration into the core MD Program curriculum ● Continuous improvements to pre- and post-residency match initiatives and programming ● Development and offering of career events that show the full range of career possibilities, including outside of clinical practice
Student Awards and Student Funding	<ul style="list-style-type: none"> ● Faculty of Medicine grants and MD Program bursaries that are application-based to more effectively support students with the most demonstrated financial need ● A significant number of donor-funded student awards 	<ul style="list-style-type: none"> ● Further recalibration of grant and bursary programs to maximize financial support for students most in need ● Explore socio-economic admissions barriers and possible strategies to address ● Develop online financial literacy module
Academic Services and Personal Counselling	<ul style="list-style-type: none"> ● Individualized and group-based academic services designed specifically for medical students ● 'In-house' personal counsellors ● Wellness and resilience programming, including resilience curriculum that is integrated within the core MD Program curriculum 	<ul style="list-style-type: none"> ● Increase awareness among students about the available support resources and the benefits of those resources ● Development and implementation of an integrated mental health and resilience agenda, on a continuum with PGME, to set the foundation for physician wellness and resilience ● Introduction of the Year 4 resilience curriculum in 2019–20 ● Increase availability of personal counselling at the Mississauga Academy of Medicine ● Development of personal counselling services that better support the specific needs of MD/PhD students

2.2 Other Undergraduate and Graduate Education Programs

2.2.1 Graduate Education

Academic Leadership

Vice Dean Graduate and Academic Affairs: Professor Allan Kaplan

Since the last external review, U of T's Graduate and Life Sciences Education (GLSE) has developed many new innovative programs for graduate and undergraduate education. Some of these followed the recommendations of the [Dean's Task Force on Innovation and Transformation in Graduate Education](#), which was released in fall 2013. Under the leadership of the current Vice Dean Graduate and Academic Affairs, who took over this role in July 2014, and in addition to providing rigorous research training, GLSE has focused on graduate professional development for students to prepare them for the private and public sector job markets, and for academia. Building on new technologies and emerging fields in medicine and health sciences, GLSE has developed four new Professional Master's programs:

- MHS in Translational Research – to teach graduate students the ability to translate basic science discoveries to positively impact human health
- MHS in Medical Genomics – to train professionals to be able to integrate and interpret genetic and genomic data that is driving a new era of healthcare and patient management.
- MHS in Medical Physiology – to teach professionals how to interpret large amounts of physiologic data that is increasingly being generated from physiologic wearables.
- MHS in Laboratory Medicine – to train clinical embryologists to work in Assisted Reproductive Technology clinics and laboratories and to train pathology assistants in the preparation and interpretation of pathologic specimens.

The Vice Dean has overseen the expansion of graduate student enrolment; most notably this includes the establishment of another training site for Occupational Science and Occupational Therapy (OS&OT) at the Mississauga Campus (UTM) of U of T. The Department of OS&OT enrolled its first cohort of 40 students at UTM in September 2018.

There has also been an enhanced focus on recruiting international graduate students; a model for this is the joint graduate program between the Department of Molecular Genetics and Zhejiang University. A detailed description of a number of new GLSE strategic initiatives is described below.

Graduate Programs

There are currently 13 departments and institutes (EDU-Bs) in the Faculty that offer graduate training:

1. Basic Sciences (8)

- i. Biochemistry
- ii. Immunology
- iii. Laboratory Medicine and Pathobiology (LMP)
- iv. Molecular Genetics
- v. Medical Biophysics
- vi. Nutritional Sciences
- vii. Pharmacology and Toxicology
- viii. Physiology

2. Translational Science (1)

- i. Institute of Medical Science (IMS) – EDU-B

3. Rehabilitation Sciences (4)

- i. Occupational Science/Therapy (OS&OT)
- ii. Physical Therapy
- iii. Speech Language Pathology
- iv. Rehabilitation Sciences Institute – EDU-B

For a detailed description of these Departments, see [Appendix 7](#).

Collaborative Specializations (previously Collaborative Programs)

The Faculty of Medicine promotes intellectual breadth, multidisciplinary research and wide interaction among their students through participation in the rich array of collaborative specializations available at the University of Toronto. Collaborative specialization students complete their Master's or doctoral degree requirements, plus the requirements of the collaborative specialization, which often consist of seminar course and major project or thesis in the area of research. Collaborative specializations allow students the opportunity to focus on their research while collaborating with others who are conducting research in related areas.

The Faculty of Medicine is the lead faculty for the following Collaborative Specializations*:

1. Biomedical Toxicology
2. Cardiovascular Sciences
3. Developmental Biology
4. Musculoskeletal Sciences
5. Neurosciences
6. Resuscitation Sciences

For a detailed description of these Collaborative Specializations, see [Appendix 8](#). *Note that two Collaborative Specializations (Health Care, Technology and Place, and Human Development) are closing as soon as the current cohorts of students have graduated.

Governance

The Vice Dean Graduate and Academic Affairs is responsible for overseeing the University of Toronto Quality Assurance Process (UTQAP) reviews of existing degree granting programs and collaborative specializations, as well as reviews of EDUs and UTQAP appraisals of proposed new programs. In addition, the Vice Dean oversees the approval of all curricular changes in existing courses. As part of internal governance, the Vice Dean chairs the Curriculum Committee and sits on the Education Committee, as well as on Faculty Council of the Faculty of Medicine. (See Section 4.2 for additional information on units and reviews.)

Enrolment and Graduation Statistics

Applications/Acceptances (see Figures 2.2.1.1 to 2.2.1.6)

Since 2013/14, the Faculty of Medicine has seen a 36.1% increase in the number of MSc domestic applications across its graduate units, with the highest number of applications received this past fall 2018 (n = 1447). This has been offset by an 8% decrease in the number of PhD domestic applications over the last four years and a slight decrease of 1% in domestic Professional Master's programs. The former is likely due to the restructuring of CIHR grants, thereby making the prospect of funding unstable and temporarily discouraging Principal Investigators (PIs) to commit support to new doctoral stream students for 6-7 years. The latter is due to three Professional Master's programs transferring from the Faculty of Medicine to the Dalla Lana School of Public Health (i.e. MHS in Bioethics, Master of Health Informatics, and MHS in Health Policy, Management and Evaluation). Overall, the Faculty of Medicine has seen a 9.3% increase in domestic applications.

Within the last four academic years, there has been a significant increase in the number of PhD and MSc international applications and subsequently, offers to these applicants. For fall 2018, the Faculty of Medicine received 215 applications in comparison to 164 in 2013 – a 29.2% increase in five years. The biggest increase in international applications is in PhD applications (31.1% increase), followed by MSc applications (28.3% increase). The Faculty has made significant gains as highlighted below:

- PhD International acceptances have increased by 171.4% relative to fall 2013, primarily due to the lowered tuition at domestic rates for this subset of students as of fall 2018.
- Substantial increases in the number of offers made across all degree programs (PhD, MSc and Professional Master’s).
- Fall 2018 is a stellar year in terms of the number of international students accepting our offers; the highest in the last four years.

Figure 2.2.1.1: Five-year Summary of Domestic PhD Applications, Offers and Acceptances in Graduate Students in the Faculty of Medicine, 2013/14 to 2018/19

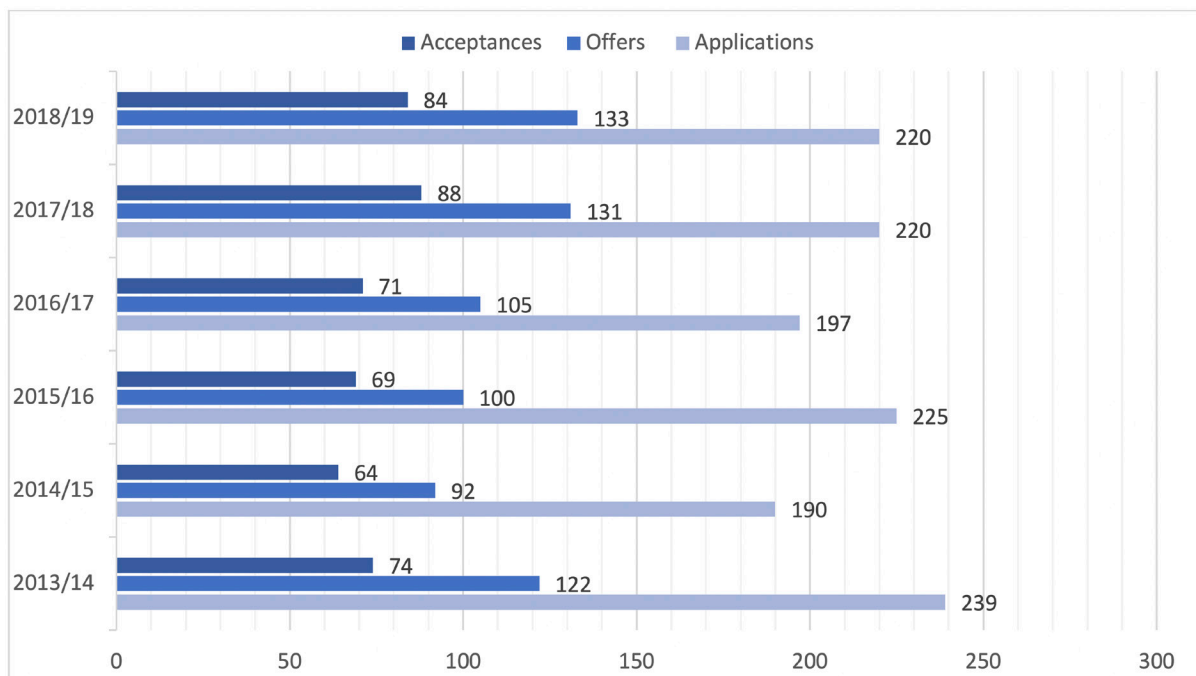


Figure 2.2.1.2: Five-year Summary of Domestic MSc Applications, Offers and Acceptances in Graduate Students in the Faculty of Medicine, 2013/14 to 2018/19

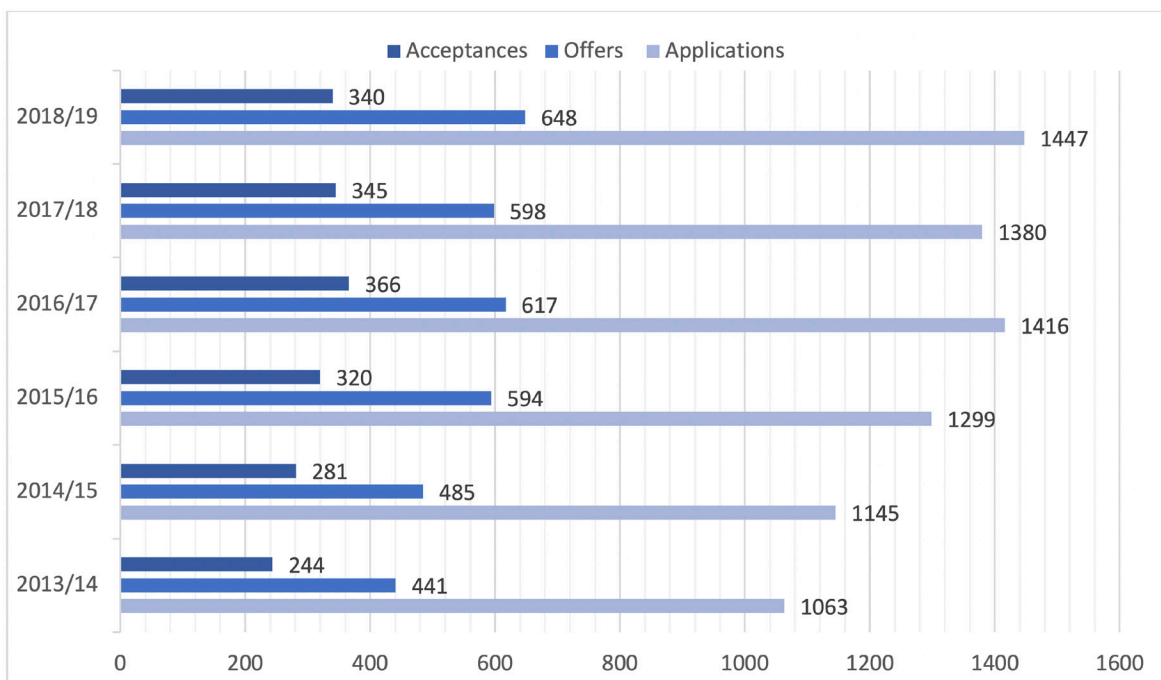


Figure 2.2.1.3: Five-year Summary of Domestic Professional Master’s Applications, Offers and Acceptances in Graduate Students in the Faculty of Medicine, 2013/14 to 2018/19

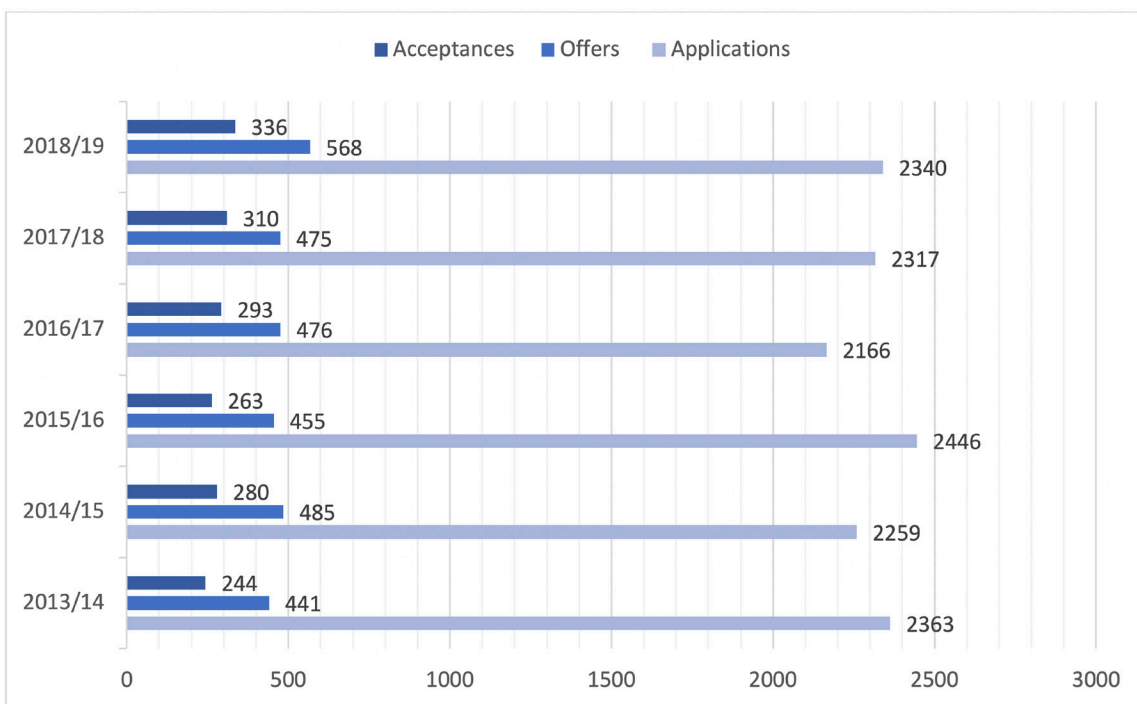


Figure 2.2.1.4: Five-year Summary of International PhD Applications, Offers and Acceptances in Graduate Students in the Faculty of Medicine, 2013/14 to 2018/19

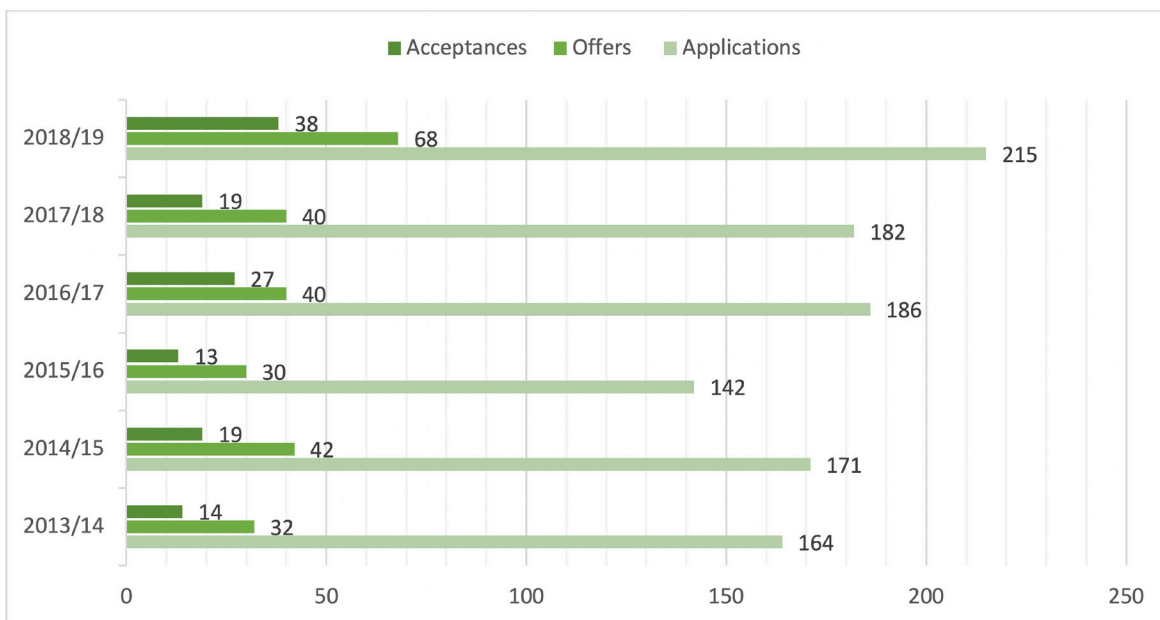


Figure 2.2.1.5: Five-year Summary of International MSc Applications, Offers and Acceptances in Graduate Students in the Faculty of Medicine, 2013/14 to 2018/19

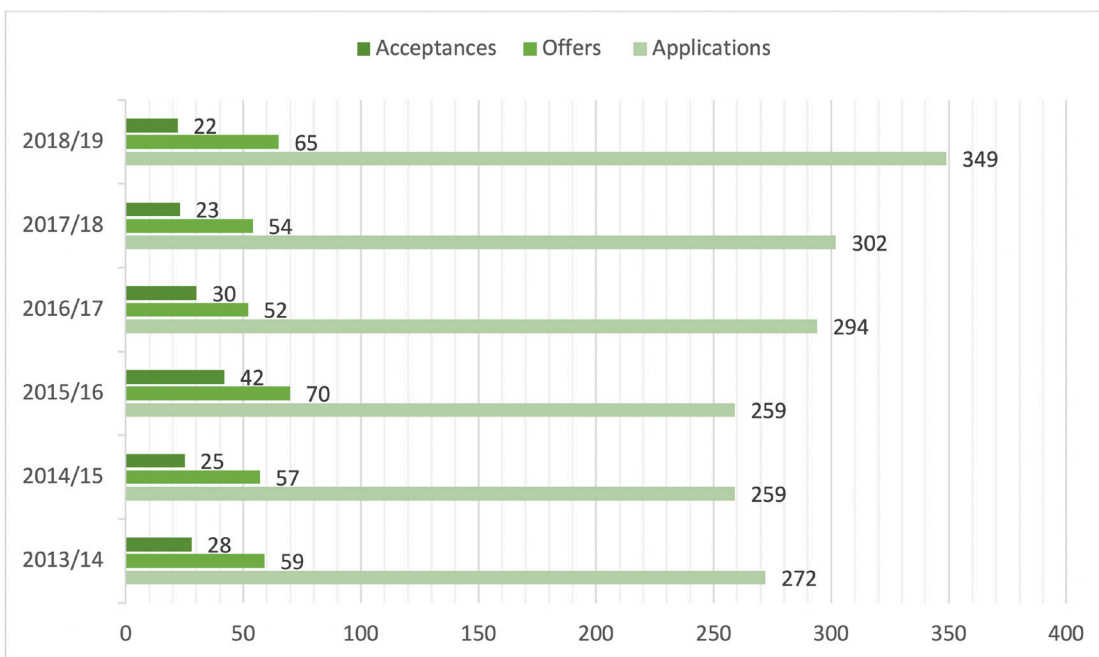
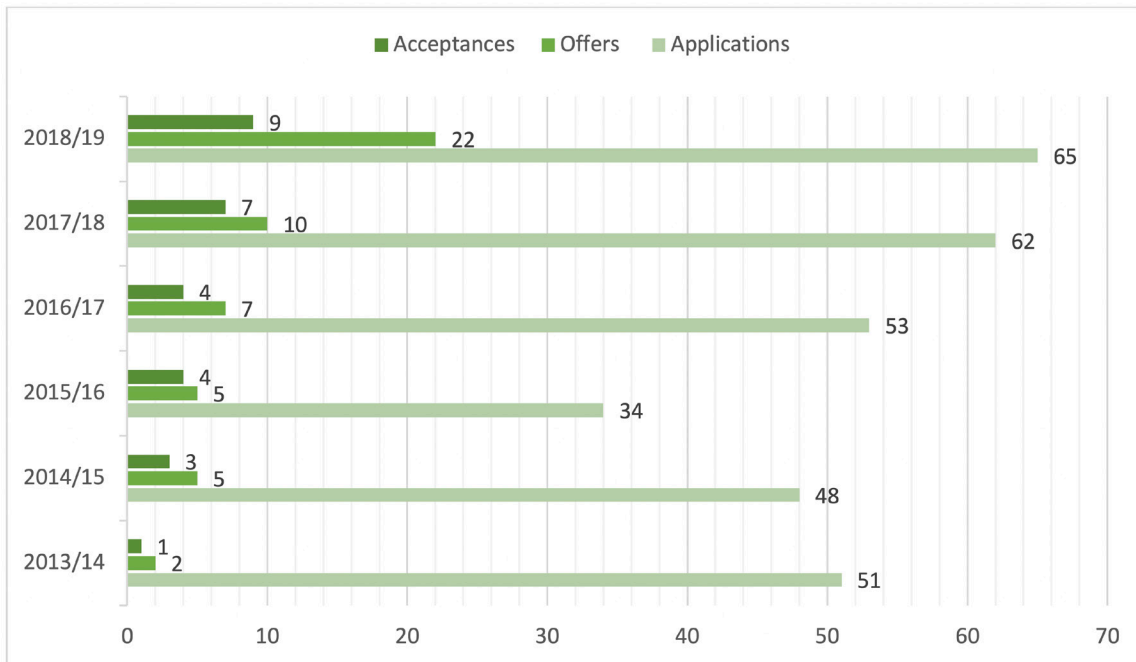


Figure 2.2.1.6: Five-year Summary of International Professional Master’s Applications, Offers and Acceptances in Graduate Students in the Faculty of Medicine, 2013/14 to 2018/19



Enrolment (see Figures 2.2.1.7 to 2.2.1.9)

Student enrolment in graduate studies in the Faculty of Medicine has grown by 13.4% since fall 2013. The biggest increase was in the MSc programs (27.5%), followed by Professional Master’s (PMAS) programs (16.0%) and PhD programs (2.0%). When stratifying the data by domestic vs. international, the largest increase in student population since fall 2013 is among international PhD students (28.8%), followed by MSc domestic students (30.3%).

Figure 2.2.1.7: Total Headcount in MSc programs in the Faculty of Medicine, Fall 2013 to Fall 2017.

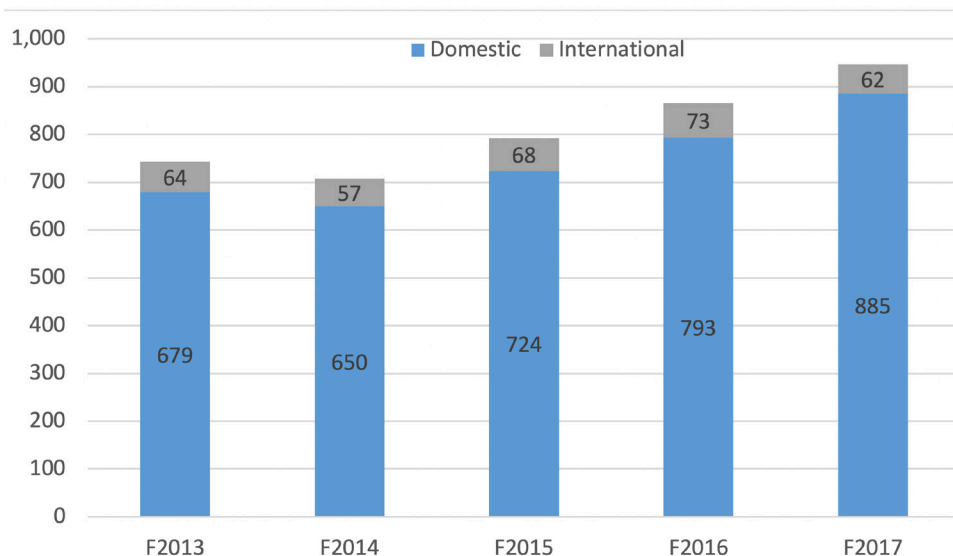


Figure 2.2.1.8: Total Headcount in PMAS programs in the Faculty of Medicine, Fall 2013 to Fall 2017.

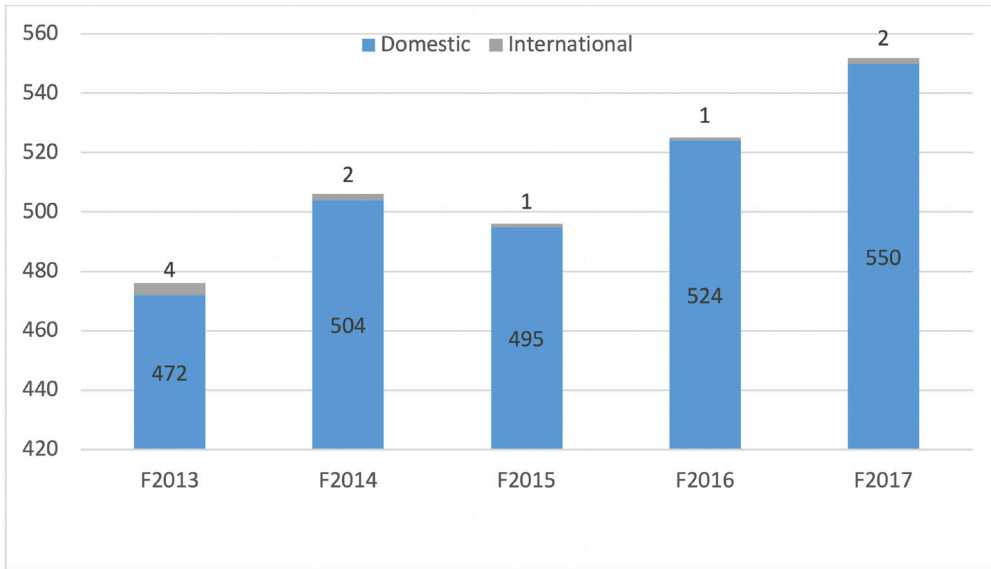
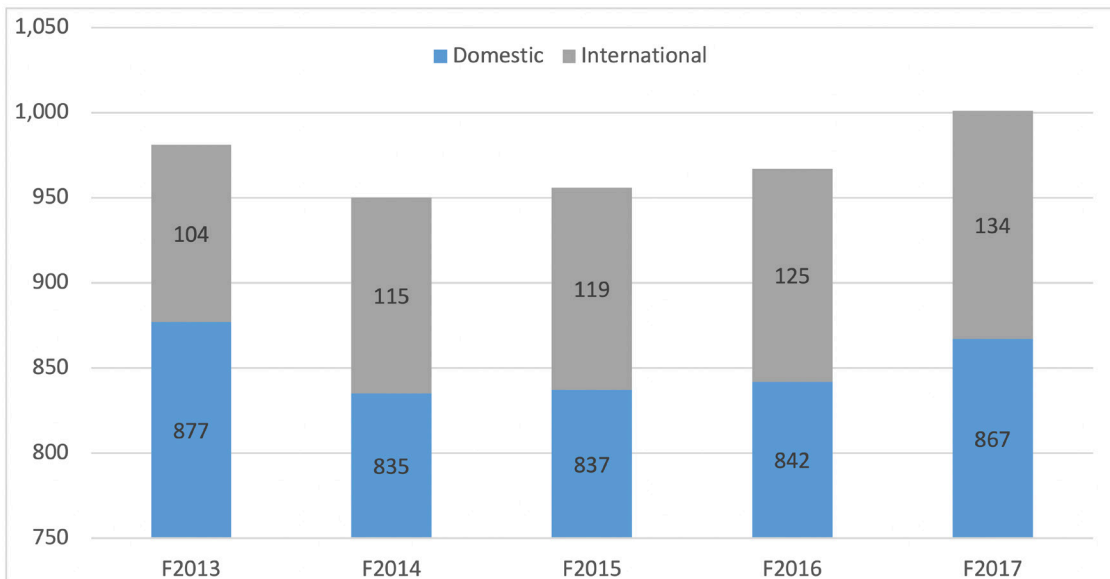


Figure 2.2.1.9: Total Headcount in PhD programs in the Faculty of Medicine, Fall 2013 to Fall 2017.



The Student Experience

(Selected Results from the Canadian Graduate and Professional Study Survey 2016)

The University of Toronto is one of many Canadian universities that participate in the Canadian Graduate Professional Student Survey. Beginning in 2007, this survey is administered every three years and collects valuable information on student satisfaction and experience. In its most recent iteration

(2016), a total of 50 Canadian universities participated with more than 140,000 responses. With the assistance of the U of T Planning and Budget Office, data for the Faculty of Medicine were extracted from the 2016 survey.

PhD

Approximately 85% of respondents in the Faculty of Medicine graduate programs were satisfied with their relationship with faculty members, compared with 80% across the entire University. Comparable satisfaction rates were reported on the quality of teaching (Medicine 81%, U of T 83%). Just over 73% in Medicine ranked the intellectual quality of their fellow students as Very Good or Excellent, similar to the result across the University (72%). The intellectual quality of their faculty members within Medicine and across the University was ranked as Very Good or Excellent (Medicine 88%, U of T 87%). The majority of doctoral students in Medicine (79%) ranked the quality of academic advising and guidance as Good, Very Good or Excellent, relative to 75% for the University as a whole. Faculty of Medicine PhD students were slightly more satisfied with the guidance their faculty supervisor provided in formulating a research topic (77%), as opposed to 73% of PhD respondents at U of T. Approximately 91% of PhD respondents in Medicine and across the university felt their supervisor provided constructive feedback on their work. Overall, 87% of PhD respondents Agreed or Strongly Agreed that their supervisor performed his/her role well, a similar finding among all PhD respondents at U of T.

MSc

Among MSc respondents, 92.9% and 83.9% ranked the intellectual quality of their faculty and students as Very Good to Excellent, respectively. Similar to their PhD counterparts, 87% were satisfied with the relationship with their faculty. Slightly over 94% strongly agreed or agreed that the feedback received from their supervisor was constructive and 90% felt their supervisor performed well. Approximately 90% of MSc respondents were satisfied with the academic program they were in at the University of Toronto.

Professional Master's (PMAS)

Similar results were found among respondents in our Professional Master's program. This subset of students ranked their relationship with faculty members the highest at 90.8%. Since there is no lab work in Professional Master's programs, PMAS students spend more time with faculty and their peers. Based on this survey, the majority of the PMAS respondents were satisfied with the intellectual quality of their faculty (97%), peer students (98.5%), quality of graduate education (89.3%), and quality of instruction in courses (87.7%). Approximately three-quarters of these respondents rated the relationship between their program content and their professional goals as Very Good to Excellent. Just fewer than 90% were satisfied with the Professional Master's program they were registered in at the Faculty of Medicine.

Progress on Strategic Directions

1. Education Innovations 2014–2018

In response to the 2013 Report of the Task Force on Innovation in Graduate Education (GLSE) established a new position: Director of Mentorship and Graduate Professional Education. Since 2015 GLSE has instituted the following new educational programs, under the leadership of the Director, Dr. Nana Lee:

For a detailed description of, and feedback about these programs, as well as time to completion data, see [Appendix 9](#).

a. Faculty Development: Graduate Professional Development (GPD)

During the 2016/17 and 2017/18 academic year, GLSE hosted monthly, two-hour faculty development workshops, all designed with the goal of decreasing times to completion with topics outlined in tables I and III and their impact summarized in tables II and IV of [Appendix 9](#)). In summary, out of 124 faculty who responded to the feedback question, 98% found the workshops helpful. Out of 113 responses, 97% would recommend the workshop to peers. Most of the workshops provided ample time for discussion and sharing of best practices with summaries for next steps and impact take-aways. GLSE anticipates holding another series of workshops in the 2018/19 year with new and review topics while holding a year-end symposium with all departmental coordinators of GPD to discuss best practices and lessons learned from the last three years.

b. GPD and Mentorship for Graduate Trainees

Dr. Lee also led GPD workshops for graduate students which covered topics of:

1. Skills, values and interest reflection with the Science Careers individual development plan, setting SMART goals, and mentorship;
2. Tools for meaningful engagement, such the golden circle, designing your life, growth mindset theory; and
3. Strategic marketing in landing the career.

Topics of conversation at the one-on-one consultations included big picture plans, struggles with graduate school, implementing IDPS, finding the hidden job markets, networking, resume-writing, among others. Of the workshop activities and from those who responded (n=53), 98% found the workshop helpful and 100% would recommend to their peers. With the one-on-one consultations, of those who provided feedback, 93% found the meetings helpful.

GLSE hopes to provide similar programming for the next academic year, with the feedback

provided and new ideas implemented from professional development conferences attended by Dr. Lee and/or Dr. Kaplan this year which included Stanford University's Design Studio, American Association of Medical Colleges Graduate Research Education and Training Annual Meeting, Graduate Career Consortium, and Canadian Association of Graduate Schools.

Another future project for the 2018–2019 academic year includes a new PhD Leaders program which will provide selected PhD students with leadership, communication and entrepreneurial training with monthly two-hour workshops until graduation, mentors within and outside academia, and the empowering skills to create individual, experiential learning opportunities. It is anticipated that these initiatives, by providing clearer paths for students to careers outside of academia, will also lead to reduced time to degree completion.

2. Student Well-Being

Mental health and student well-being is a high priority for the Faculty. A number of initiatives established since 2015 have addressed this issue:

a. Leave of Absence Program (LOA)

In 2015, GLSE established a program to provide financial support for students who, for medical or other reasons, needed to take a LOA. The University policy is to suspend student stipends during the time that students are on a LOA. This made it very difficult financially for students to take a leave when they needed to. As a result, they often remained in their programs but in a nonproductive state, prolonging time to completion. The Faculty has instituted a stipendiary program (the only university division to do so) and since 2015, 26 students have received support from GLSE to take a needed LOA, the majority for mental health reasons.

b. Student Benefits

Prior to 2017, the University suspended benefits to students while they were on a LOA, including access to mental health counselling. The University changed this policy in 2017 so that student benefits are now maintained while on a LOA.

c. Embedded Counselors for Graduate Students in the Faculty of Medicine

As of Sept 2018, and through support from the Provost's Office, GLSE provides access for all GLSE students to counsellors at the Medical Sciences Building three days per week and at 500 University Avenue four days per week. In addition, a counsellor specifically for GLSE students is available one evening a week at the Health and Wellness Offices.

d. Monthly Lunches

The Vice Dean hosts monthly lunches for students providing them with an informal nonjudgmental forum in which to raise any issues of concern related to their graduate training.

All of these initiatives help to promote graduate student well-being in the Faculty of Medicine.

3. Quality Assurance Initiatives

Since 2014, a number of quality assurance initiatives have been implemented by GLSE. These include:

a. Course Evaluations

The Faculty has begun to systematically evaluate graduate courses that fit the template developed by the University. This work is ongoing.

b. Supervisory Evaluations

GLSE has developed an online supervisor evaluation system that will systematically provide online student evaluations of all graduate supervisors. This new system will be piloted in the fall of 2018, with the plan to implement it for all graduate supervisors in the fall of 2019. The main challenge will be to maintain anonymity as best we can to protect students from any recrimination by the supervisor if the review is negative. The Faculty of Medicine will be the first division in the University to implement this online system. It will be able to provide objective ratings to reward outstanding supervisors that can be used to support promotion, as well as to identify weak supervisors who can then be provided with appropriate remediation.

Graduate Student Funding

In 2000, the University of Toronto became the first Canadian institution to introduce a guaranteed minimum level of funding for all eligible doctoral stream graduate students. The University-wide minimum support level is \$15,000 plus tuition and fees, for a minimum of five years of doctoral stream study. In the Faculty of Medicine, each graduate unit has a clear, transparent funding policy that articulates the funding level, the duration of the funding guarantee and other arrangements. Sources of funding include internal and external awards (scholarships, fellowships) and stipends from supervisor's grants (all classified as T4A income). Research Assistantships, Teaching Assistantships and other funds arising from employment are not part of the funding package. Since 2006, the funding package (awards, fellowships, bursaries, student stipends), for registered students has been fully tax exempt (professional/clinical earnings are excluded).

In 2007, the eight Basic Science and IMS graduate units developed an inaugural harmonized base funding agreement with the Vice Dean. The minimum 2018/19 stipend is set at \$27,124.52 for MSc students (\$18,635 living allowance plus tuition fees) and \$29,195.52 for PhD students (\$20,706 plus tuition fees). Next to U of T's Rotman School of Management, this is the highest level of support of any division in the University. The 2018/19 Agreement recently simplified the top-up practices where all awards that require student application are eligible for a top-up. Effective September 2018, the top-up amounts are as follows:

Award Amount	Top-Up
\$0.00 to \$2,000	There will be no top-up but the student gets to keep the award(s), up to a combined maximum of \$2,000. The amount of the award will not be deducted from the base funding.
Between \$2,001 to \$15,000 (cumulative awards)	Award goes towards the base funding and the student receives a \$2,000 top-up over their base funding.
Over \$15,000 (cumulative awards \$15,001 and up)	Award goes towards the base funding and student receives a \$4,000 top-up over their base funding.

Within an academic year, the total top-up maximum is \$4,000. The agreement has just been re-negotiated to strongly recommend graduate units and supervisors do not exceed the base funding amount for their students. Doing so undermines the spirit and purpose of the agreement. This also clarified the exclusion of graduate students who receive funding over and above the base funding when registered in the Physician Scientist Training Programs (i.e. MD/PhD and CIP) and MD Research Fellowship Training program.

In 2005, the Faculty of Medicine developed a web-based graduate student-supervisor agreement and financial tracking system (Graduate Student Information System – GradSIS), a first of its kind at the University of Toronto. Following a faculty-wide template, each department has developed a student-supervisor agreement form, which articulates the department's funding policies, including the annual minimum stipend and the duration of the guarantee (typically five years for PhD). The document outlines student and supervisor responsibilities, and relevant University policies and procedures, including Research Ethics, Safety, Sexual Harassment and Intellectual Property. In this manner, the Faculty has some assurance that both students and supervisors are informed of these important policies and procedures. The need for early discussion of intellectual property issues is highlighted.

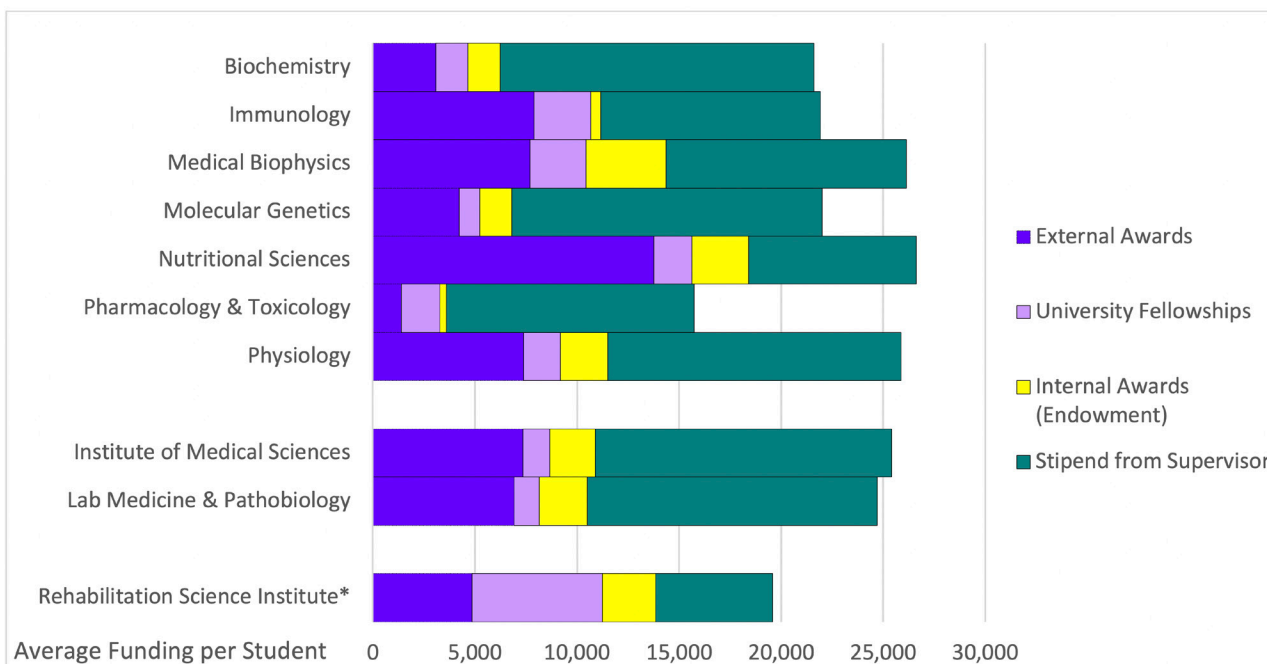
Each student's funding package is itemized including the source(s) of the funds. All university-based student awards (scholarships, bursaries, including U of T Fellowship, Ontario Graduate Scholarship, Canadian Institutes of Health Research, Social Sciences and Humanities Research Council, National Science and Engineering Research Council, etc.) are managed and paid through the university-wide Repository of Student Information system (ROSI). GradSIS has been linked to ROSI so that student award payments are updated onto the student's GradSIS record, daily. Thus, we are able to monitor and track student funding effectively.

In July 2017, to replace GradSIS, the GLSE launched a new web-based graduate student management system, the Graduate Education Management System (GEMS), the new application solution for graduate student, supervisor and graduate unit agreement and financial tracking system. The GEMS design solution includes additional and new functions that were not part of GradSIS, including:

- Responsive design, fully functional on mobile devices;
- Optimized for modern high resolution smartphones and tablets;
- Optimized for several desktop browsers: Chrome, Firefox, Safari, and IE10+;
- Secure with the U of T web-based Single Sign-on (SSO) system: UTORid;
- Robust search capabilities;
- Responsive and intuitive and easy to use.

Figure 1 provides, by department, the average annual funding package for doctoral stream students for 2017-18, indicating the source: (1) external awards, (2) U of T funded fellowships, (3) internal awards funded through endowments, and (4) stipends from supervisor’s grants. Stipends for clinician scientists, enrolled primarily in IMS and LMP, have been excluded from this data, as they are significantly higher than typical MSc/PhD students.

Figure 2.2.1.10: MSc/PhD Average Funding Package by Funding Source (2017/18).



*Rehabilitation Science Institute includes Rehabilitation Sciences and Speech-Language Pathology Data Source: Student Accounts Cube (fall 2017); GEMS (2017/18 Agreement Details Report); ROSI (2017/18).

MSc/PhD students in the Faculty of Medicine have been very successful in garnering major, external, competitive awards – provincially and nationally. In 2017/18, on average 26% of doctoral stream students

held such prestigious awards – roughly one third of students, depending upon the department.

For a detailed breakdown of major competitive awards held by FOM MSc/PhD students in 2017/2018, see [Appendix 10](#).

2.2.2 Undergraduate Life Sciences Education

In 2013 GLSE took responsibility from individual departments for the oversight of undergraduate education in Undergraduate Life Sciences Programs in the Faculty of Arts and Sciences taught by faculty from the Faculty of Medicine. This centralized approach to undergraduate education was meant to be more responsive to the undergraduate departments and students with a focus on recruitment strategies, summer research opportunities, student leadership awards, student engagement, career development, undergraduate faculty teaching awards, shadowing programs and other initiatives to reach out and assist undergraduate students.

- **Students and Courses Taught 2017/18**

1. Total Full Course Equivalents Taught: 154
2. Enrolment in A&S Courses taught by Medicine: 11,819

- **Departments Involved in Undergraduate Teaching**

1. Division of Anatomy (Department of Surgery)
2. Biochemistry
3. Immunology
4. Laboratory Medicine and Pathobiology
5. Molecular Genetics
6. Nutritional Sciences
7. Pharmacology and Toxicology
8. Physiology

- **Undergraduate Awards**

GLSE administers a large number of undergraduate awards to students and faculty. For a detailed description of these awards, see [Appendix 11](#).

- **Progress on Strategic Directions Since the Last Self-Study**

1. Student Engagement

- a. GLSE Undergraduate Shadowing Program

Graduate and Life Sciences Education is committed to organizing events that will help undergraduate students discern their future career paths. The program aims to give undergraduate students in the Life Sciences an opportunity to appreciate the innovative research conducted in the Faculty of Medicine. GLSE pairs senior undergraduate students from Life Sciences with graduate students. These graduate mentors provide an overview of the nature of their research and how it may relate to concepts that undergraduate students have learned in their lectures. Additionally, undergraduate students have an opportunity to shadow graduate students as they perform their experiments and daily tasks.

- b. GLSE Undergraduate and Graduate Student Ambassador Program

This program was launched in March 2015. GLSE Ambassadors are current students who have generously volunteered their time to answer questions (via email) from prospective undergraduate, MSc, and PhD students. They are also available to help current students transition into graduate school.

- c. GLSE Poster Competition

The GLSE Poster Competition was established in July 2016 to help promote student talent for the Annual Undergraduate Research Information Fair for undergraduate students considering graduate studies.

- d. Social Media

GLSE started an Instagram online community (@ScienceTOu) in 2018 for trainees and scientists to come together to discuss exciting topics. Students share aspects of research via engaging explanations and relatable anecdotes about lab life. This also includes fostering international collaborations between scientists, as well as international recruitment. Goals include the recruitment of new students, fostering community amongst current trainees, and broadening exposure of graduate education and research.

A GLSE YouTube Channel was established in March 2015.

e. Website

An example of engaging undergraduate and graduate students on our website is the “Meet the Lab Series”. This showcases outstanding undergraduate and graduate students’ research.

2. GLSE Recruitment

a. GLSE Recruitment Student Group

This group was established in September 2016. The group members deliver outreach recruitment activities to educate undergraduate students about the summer research opportunities and graduate programs (MSc & PhD) available throughout the Faculty of Medicine. Students receive a co-curricular record for this activity.

b. Graduate Recruitment Fairs

Since January 2013, GLSE has been hosting the Undergraduate Research Information Fair for students considering Graduate Studies. Exhibitors in attendance include undergraduate and graduate units, as well as hospitals, and the School of Graduate Studies. Typically more than 1,000 students visit this fair. In addition, GLSE has a captive audience of domestic and international students at U of T (across three campuses) and has organized a special event for these students to meet representatives from our course-based and professional programs that are offered in the Faculty of Medicine. GLSE also attends the Human Biology Graduate School Fair at the University of Toronto Mississauga, and the Graduate Professional School Fair at the University of Toronto Scarborough.

3. Workshops

Workshops teach best practice in applying to summer research, jobs and graduate school.

4. Teaching Seminar Series

In collaboration with Dr. Michelle Arnot (Pharmacology and Toxicology), Dr. Michelle French (Physiology), and Dr. Stavroula Andreopoulos (Biochemistry), a monthly Lunchtime Seminar Series was initiated for interested Basic Science faculty who teach and coordinate undergraduate and/or graduate courses. It is an opportunity to learn and share experiences and best-practices and strategies on topics associated with teaching.

5. Interactive Graduate School Webinar

GLSE invited undergraduate students thinking about graduate studies to explore its interdisciplinary MSc and PhD programs. Streaming was available (also via mobile device) for presentations by seven of the graduate departments. Videos of these sessions are also available on the GLSE website.

- **Future Directions:**

GLSE continues to undergo restructuring to create continuous improvement that reflects the strategic directions of the Faculty of Medicine, with the aim to link undergraduate to graduate education and to prepare students to become excellent candidates for graduate school or the private /public sector job market. In doing so, GLSE will continue to:

- a. Actively promote and identify new funding sources for mentored undergraduate research opportunities within the Faculty of Medicine.
- b. Develop sustainable seminars for undergraduate students to develop transferrable professional skills during their undergraduate program.
- c. Enhance undergraduate and graduate student engagement.
- d. Broaden exposure of undergraduate students to the graduate education/research that occurs across the Faculty of Medicine.
- e. Establish an online community by sharing aspects of research via engaging explanations and relatable anecdotes about lab life using social media platforms. This includes fostering international collaborations between scientists, as well as international recruitment.

2.2.3 Physician Assistant Professional Degree Program

Academic Leadership

Vice Dean Partnerships: Professor Lynn Wilson

Chair, Department of Family and Community Medicine: Professor Michael Kidd

Medical Director: Professor Leslie Nickell

Program Overview

Total Number of Students Registered 2018–2019: 56

The [Bachelor of Science, Physician Assistant program](#) is a full-time, professional, second-entry undergraduate degree. It is designed to meet the competencies outlined in the [National Competency Profile](#) as established by the Canadian Association of Physician Assistants. PAs are typically educated in the “medical-model” adapted from physician education plans. The BScPA program at U of T is modelled after the same competencies that are used for physician education: Medical Expert, Communicator, Collaborator, Health Advocate, Leader, Scholar and Professional.

A Consortium of PA Education (Consortium) governs the U of T BScPA program. The Consortium consists of U of T’s Faculty of Medicine, the Northern Ontario School of Medicine (NOSM), and The Michener Institute of Education at University Health Network (Michener). The three institutions collaboratively contribute to the development, administration and delivery of the U of T degree.

The BScPA program is based in the Department of Family and Community Medicine (DFCM) in the Faculty of Medicine, as the DFCM is most aligned with the generalist education that defines PA training.

Curriculum

The BScPA program is a distance and distributed education program with the majority of the program delivered online. While students carry out the online learning at home in first year, they are required to attend classes in person in Toronto (‘residential blocks’) for specific time periods to integrate interprofessional education and simulation-based learning for skills development and for hands-on assessments. The second year of the program is centered on clinical education, with clinical placements in both Northern and Southern Ontario.

Admissions, Enrolment and Graduates

Changes were made to the admissions criteria in 2015 to allow for a broader range of applicants and to

increase the applicant pool. The program goal continues to be to admit 30 students per year.

Figure 2.2.3: PA Applications and Admissions

	Jan 2010	Jan 2011	Jan 2012	Jan 2013	Jan 2014	Sept 2014	Sept 2015	Sept 2016	Sept 2017	Sept 2018
	160	152	236	215	259	244	413	388	515	433
Interviews	64	49	59	66	66	66	66	80	84	88
Offers	26	18	23	34	30	33	38	37	39	37
New Registrants	22	13	19	28	27	31	27	30	30	28
Acceptance Rate	85%	72%	83%	82%	90%	94%	71%	81%	77%	76%

The BScPA program has tracked the impact of its curriculum delivery model since its inception. Overall, 18% of BScPA graduates report they were influenced to find employment in an area of need (remote or underserved). Annually, 40-60% of graduates report finding employment in their “home” community, with 50% of all graduates employed in their home community.

2.2.4 Medical Radiation Sciences (MRS)

Academic Leadership

Vice Dean, MD Program: Professor Patricia Houston

Chair, Department of Radiation Oncology: Professor Fei-Fei Liu

Academic Director: Assistant Professor Cathryne Palmer

Program Overview

Number of Students Registered 2018–2019:	Radiological Technology:	116
	Nuclear Medicine:	52
	Radiation Therapy:	124
	Total	292

	Streams	Disciplines
Medical Radiation Sciences (MRS) Program [BSc Degree (U of T) and Advanced Diploma in Health Sciences (Michener)]	Nuclear Medicine & Molecular Imaging Technology stream	Nuclear Medicine Technology
	Radiation Therapy stream	Radiation Therapy Centre
	Radiological Technology stream	Radiological Technology

A second-entry professional program, the MRS is built on a collaborative and equal partnership between the Faculty of Medicine, and the Michener Institute of Education at UHN (Michener). This special partnership combines the strengths of the two institutions and makes full use of their complementary resources and expertise to offer both a BSc Degree (U of T) and an Advanced Diploma in Health Sciences (Michener). The completion of the BSc fulfils the requirement for entry and prepares students to engage in graduate studies. This collaboration has contributed to the exceptional level of program integration for the education of all three medical radiation science disciplines: i) radiological technology; ii) nuclear medicine technology and iii) radiation therapy. U of T, Department of Radiation Oncology has academic oversight for this program within the Faculty of Medicine.

Curriculum

This four-year undergraduate degree program is offered in three calendar years and is comprised of didactic, simulated and clinical courses. The integrated three-year curriculum aims to provide students a foundational core curriculum of broadly based theoretical and analytical knowledge along with discipline-specific courses and clinical practice activities for their professional responsibilities.

The clinical practicum components integrate and apply the material taught in lectures and labs, leading to the development of clinical competence. Each student is required to complete a minimum of 42 weeks of full-time clinical practice. The Nuclear Medicine & Molecular Imaging Technology stream has clinical placements throughout the province, as it is the only such training program in Ontario. The Radiation Therapy stream also has clinical placements throughout the province, while the Radiological Technology stream has clinical placements mainly in the Greater Toronto Area. The MRS Program has strategically aligned its clinical sites with the Faculty of Medicine's fully- and community-affiliated partner hospitals.

Admissions, Enrolment and Graduates

Enrolment for the MRS Program continues to be a strategic focus. A closer link to the Enrolment Services – Undergraduate Medical Education at the Faculty of Medicine has provided additional opportunities and strategies in recruitment initiatives, including a social media presence, which continues to gain momentum. The entire admissions process continues to be streamlined to provide a more coordinated approach between the University and Michener – focusing on improved customer service. Target enrolment numbers for each of the streams: i) Radiological Technology - 45; ii) Nuclear Medicine - 18;

and iii) Radiation Therapy - 45.

The Program has graduated over 1,300 students since its inception in 1998 with an average attrition rate of only 5%. For the graduating class of 2018, which started with an intake of 105 students in the fall 2015:

- 84% of students completed the program in the allotted 32 months of study
- 8.5% of students required a modification to the length of their studies
- 7.5% discontinued the Program

In 2002, the Department of Radiation Oncology in collaboration with the Institute of Medical Science (IMS) developed a Radiation Oncology MSc/PhD stream that would support the research training of radiation medicine professionals. Two Radiation Therapy graduates from the MRS undergraduate program have successfully defended their MSc thesis. One trainee advanced to complete his PhD, and is now the first practicing Clinical-Scientist Radiation Therapist in Canada, in the Radiation Medicine Program at the Princess Margaret Cancer Centre.

2.3 Post MD Education

Academic Leadership

Vice Dean Post MD Education: Professor Salvatore M. Spadafora

Associate Dean Postgraduate Medical Education (PGME): Professor Glen Bandiera

Associate Dean Continuing Professional Development (CPD): Professor Suzanne Schneeweiss

As described in greater detail in section 4.1.3, in January 2015 the role of Vice Dean, Post MD Education was created to combine Postgraduate Medical Education and Continuing Professional Development in one portfolio. Both PGME and CPD have Associate Deans that report to the Vice Dean. The focus was not only on the continuum of education, but also on leveraging resources and opportunities for both portfolios. This has resulted in an increased profile and investment in the area of CPD. The integration of the CPD and PGME Office portfolios into the Post MD Education portfolio has enabled implementation of a shared-services model, with savings being directed to the portfolio's strategic priorities.

The most recent annual reports for the Post MD Education Portfolio can be found at <https://annualreport.postmd.ca/>.

2.3.1 Postgraduate Medical Education

Postgraduate Medical Education at the University of Toronto is the largest PGME enterprise in Canada, composed of 79 accredited programs networked across the range of full and community-affiliated hospital sites. There are 2096 residents and 1557 fellows in the current cohort, with 27% international trainees. This past year, 900 visiting electives were hosted. The University of Toronto has Inter-University Affiliation Agreements with programs from many PGME programs in Canada. Match success in the first year cohorts of Canadian Medical Graduate (CMG) and International Medical Graduate (IMG) matches is usually 100% in the first round match of the Canadian Resident Matching Service (CaRMS). The University of Toronto has trained 35% of family physicians and 55% of specialists currently practicing in Ontario.

The Vice Dean, Post MD Education is responsible for oversight of the PGME portfolio in conjunction with the Associate Dean PGME. The [team](#) is responsible for the management of all aspects of the residency and fellowship programs, while program governance is supported by a robust committee structure that includes active participation by student leaders. The list of standing PGME committees and their structure is found [here](#).

Progress on Strategic Directions Since the Last Self-Study

The [5-year strategic plan for Postgraduate Medical Education](#), launched in 2012, was based on:

- The Faculty of Medicine's Strategic Academic Plan (2011–2016) which focused on integration with our partners, innovation in health and biomedical research, and the impact of education and research outcomes on society.
- Recommendations of the [Future of Medical Education in Canada – Postgraduate](#).
- The University of Toronto contribution to new graduate physicians entering practice in Canada and Ontario each year.

The plan, developed through individual interviews, focus groups, surveys and a town hall meeting with multiple stakeholders, focused on enabling and supporting our faculty and programs to meet or exceed best practices in the education of physicians as emerging leaders in health care and social accountability. The four emerging high-level directions were:

Strengthen each learner's experience across the medical education continuum;
Support and develop local, national and international leadership in evidence-based curricular innovation;
Recognize and support clinical teachers in the delivery of learner- and health-system focused education;
and Foster leadership in social accountability among PGME learners and faculty.

Each direction was supported by a series of tangible annual goals and refined through consultation with key stakeholders, and in light of ambient circumstances and recent accomplishments. Highlights of activities and goals attained over the 5-year period, organized under the original four strategic, are available [here: Status of Activities and Goals](#).

Milestones

- **May 2012:** Full accreditation of all Royal College of Physicians and Surgeons of Canada (RCPSC) and College of Family Physicians of Canada (CFPC) programs since 2013 external review through the Internal Review Process.
- **July 2014:** Report of the Gullane [Task Force on Best Practices in PGME Program Support](#).
- **July 2015:** Merger of CPD and PGME to become Post MD Education.
- **July 2016:** Reduction of 9 residency positions as part of provincial government 25-position reduction; Revision and implementation of eight online [mandatory training modules](#) for training in the CanMEDS curriculum - named PGCorEd.
- **July 2017:** Successful launch of Competency Based Education for 2 residency programs and another 7 programs July 2018.
- **2017:** Launch of the Program Administrators Advisory Committee (PAAC) with representation on PGME Advisory committee.
- **2017-18 academic year:** Shift to a new base/variable model of Ministry of Health and Long-Term Care (MOHLTC) funding to support residency training.
- **July 2018:** Successful transition to a mobile, workplace-based assessment IT platform (Elentra) to facilitate implementation of Competency Based Medical Education; Intake of 16 additional unmatched U of T medical students to 2018 PGY1 entry to residency; Preparation begins for an accreditation visit by the RCPSC and the CFPC in 2020 using completely new standards and a new accreditation process.

Strengths

Management of learner data: The PGME enterprise is a central repository for learner data for programs, hospitals, regulators, governmental ministries and agencies. Since the last review, the portfolio has developed and implemented a comprehensive, effective system for tracking over one million Medical Trainee Days (MTD) integrated with a provincial process. In addition, registration and credentialing data for affiliated hospitals, learner assessment data for PGME programs, and program evaluation data for hospital reporting are all centrally administered.

Collaborations across stakeholders: PGME has strong collaborations with key partners such as the Toronto Academic Health Science Network (TASHN), Hospital University Education Committee (HUEC),

the MOHLTC and the Council of Ontario Faculties of Medicine (COFM), as well as national stakeholders such as the RCPSC, CFPC, the Medical Council of Canada (MCC) and CaRMS. Excellent relationships exist with hospital administrative and site coordinator staff, as well as executive leadership teams. The recent inclusion of program administrative staff in a distinct committee that focuses on their personal development and PGME governance (Postgraduate Administrative Advisory Committee (PAAC)) shows great promise.

Development of best practices guidelines for local and national use: [Best Practices in Applications and Selection](#) (BPAS) guidelines have been adopted nationally with all schools needing to report on progress annually; and [Best Practices in Evaluation and Assessment](#) (BPEA) guidelines have informed the migration to Competency-Based Education programs and have been instrumental in influencing other schools' approaches.

Enhanced opportunities for co-curricular cross-program learning: These include, but are not limited to, the [Global Health Education Initiative](#) certificate program, which has 300 resident graduates in its 10 years of operation, the Medical Humanities Initiatives, the Chief Resident Leadership series, and innovative Clinician Investigator tracks.

Office of resident wellness services and supports to learners.

Opportunities

- Opportunities for educational innovation through tailored postgraduate experiences and collaboration with both clinical and non-clinical sectors (e.g. business, engineering, computing etc.).
- Continued development of a community of practice amongst program administrative staff across departments of the PAAC, including recognition of staff via the administrator excellence award.
- Continued collaboration on IT platforms with the MD Program and CPD to integrate, streamline and optimize user experience, strengthen assessment and feedback, and explore new techniques in learning analytics.
- Royal College Specialty Examination Affiliate Program (SEAP), allowing clinical fellows without primary certification to attain subspecialty affiliate status.
- Establishment of the Simulation Education Advisory Committee (SEAC) and plans for integration of the Faculty's simulation activity.
- Transition of the Toronto International Summit on Leadership Education for Physicians (TISLEP) to Sanokundu – Fostering Health Professional Leadership Education Worldwide.
- Build on pilot project to include all Program Directors in the Multi-Source Feedback process.

Future Directions in PGME

We anticipate further integration with all divisions on the Faculty’s education continuum with the MD Program and Continuing Professional Development (CPD), both in staffing, activities, IT platforms and learner support.

Key initiatives will include:

- Development of an Indigenous health curriculum in collaboration with MD and CPD portfolios,
- Ongoing preparations for accreditation visit in 2020,
- Ongoing launch of programs in new Competency-Based Education model,
- Integrated clinician scientist training program with continuity across MD/PG,
- Integration of the IT Elentra platform to allow a more seamless user experience from MD to PG,
- Integrated data acquisition and management for learner progress data across MD and PG, and
- Enhanced leadership programs for residents, fellows and junior faculty in education leadership.

2.3.2 Continuing Professional Development

The Vice Dean, Post MD Education is responsible for oversight of the CPD portfolio in conjunction with the Associate Dean CPD. The [team](#) is responsible for the management of all aspects of CPD while governance is supported by a robust committee structure that includes active participation by all clinical sectors of the Faculty of Medicine.

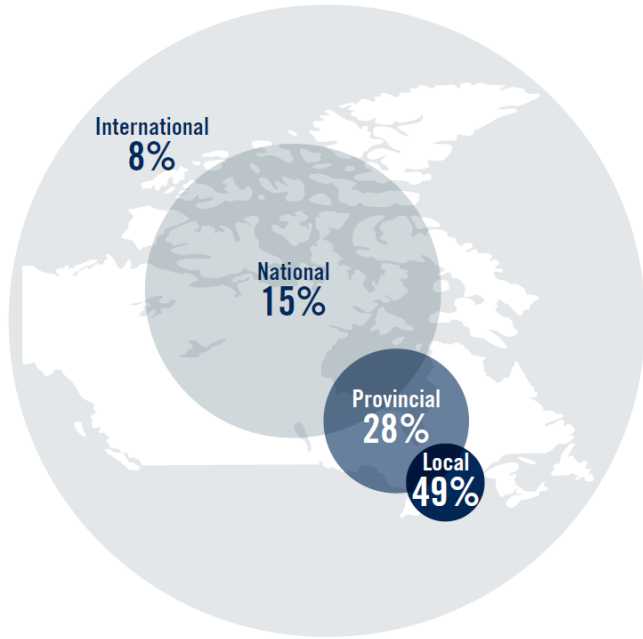
During 2017-18, CPD accredited 385 programs and enrolled 40,505 learners. The following table details the total number of accredited programs and enrolments from 2009–2018.

Figure 2.3.2: Program and Enrolment Statistics from 2009–2018

Year	Total accredited programs	Total enrolled learners
2009–2010	275	28,693
2010–2011	298	27,086
2011–2012	284	21,591
2012–2013	313	27,025
2013–2014	330	34,500
2014–2015	382	37,700
2015–2016	399	40,722
2016–2017	384	40,574
2017–2018	385	40,505

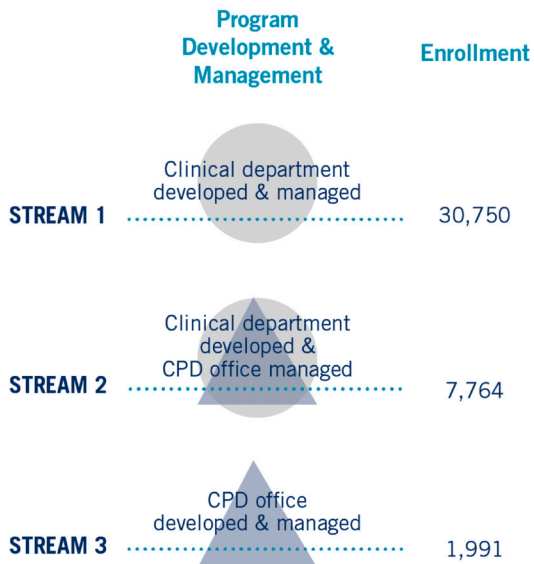
Learner Distribution Statistics

Programs managed by the CPD unit have local, provincial, national, and international reach. For example, in 2015-16, 49% of learners came from the Greater Toronto Area, 28% came from Ontario, 15% from other provinces and 8% came from outside Canada.



The Faculty of Medicine has a distributed mixed model of CPD program development and delivery. Programs accredited by the CPD office fall into one of three streams, as detailed below.

U of T CPD Distributed 3 Stream Model: 2017-18 Enrolment



New Stream 3 (Internal) Programs

Since the last review, CPD has developed additional Stream 3 (internal) programs, including initiatives to assist in the development of the next generation of CPD leaders at the national and international levels:

- [Improving and Driving Excellence Across the Sectors \(IDEAS\)](#)

IDEAS is an accredited program designed for healthcare professionals looking to expand their knowledge of quality improvement concepts. It is a collaboration among the six Ontario medical schools and other provincial partners including the University of Toronto's Institute of Health Policy, Management and Evaluation; Health Quality Ontario; and the Institute for Clinical Evaluative Sciences. From 2014–2018, CPD ran 22 cohorts of the IDEAS program with 1396 interprofessional learners completing the program. In 2017, the program was revised to incorporate a blended learning, flipped classroom approach. The CPD Collaborative of the Ontario Faculties of Medicine won the Royal College Accredited CPD Provider Innovation Award in 2016 for the IDEAS program.

- [Indigenous Health Conference](#) and [North American Refugee Health Conference](#)

CPD's new flagship biennial conferences are led by Dr. Anna Banerji, Faculty Lead of Indigenous and Refugee Health, Post MD Education. The 2017 North American Refugee Health Conference attracted over 650 speakers and learners, and over 700 participants attended the Indigenous Health Conference 2018: Walking Together, with over 40% of participants identifying as Indigenous.

- [Leading and Influencing Change in CPD](#)

This program, formerly Continuing Education Leaders Program (CELP), consists of two on-site instructional weeks and self-directed projects where learners are matched with a coach to assist in their development. The 2018 cohort represented a broad range of perspectives and included 13 learners from across Canada, the US, and Europe.

CPD Foundations

In 2015, CPD developed and delivered the Certificate Program in CPD Foundations, which has run for three consecutive years. Over the past three years, 75 participants from across Canada, the United States, Europe and the Middle East have taken this program. In 2018, the Foundations program was honoured with the Royal College CPD Accredited Providers Innovation Award.

[Essential Skills in Continuing Professional Development \(ESCPD\)](#)

Dr. Suzan Schneeweiss, Associate Dean CPD, and Jane Tipping, Educational Consultant, developed and delivered an Essential Skills in CPD program, which has run annually at the Association of Medical Education in Europe Conference (AMEE) for six consecutive years. It has grown from a Masterclass to a two-day Essential Skills in Medical Education (ESME) program and it continues to draw international learners. In 2017, there were 30 participants from 15 different countries. CPD has played an integral role in promoting CPD at AMEE, advocating for the development of a CPD committee and special interest group.

Scholarship and Research

The breadth of faculty CPD research activity at the University of Toronto is demonstrated through the high volume of grants received, presentations delivered, and scholarly publications produced annually. From 2013–2017, CPD scholarship in the Faculty of Medicine included more than 360 publications, 94 presentations at the Canadian Conference on Medical Education (CCME) and 88 grant awards, see [Appendix 12](#).

2017–2022 CPD Strategy

CPD has developed a new strategy for 2017–2022. At the conclusion of the 2011–2016 strategic plan, new strategic objectives were developed by engaging the CPD community. The development process was headed by Associate Dean Suzan Schneeweiss who led the Strategic Directions Advisory Committee, which conducted a needs assessment, hosted a community strategic retreat, and consulted widely with stakeholders. Representatives from the broader University of Toronto community, hospitals, regulatory authorities, CFPC, and RCPSC were engaged as partners for advancing CPD at the University of Toronto.

The CPD strategy has four strategic priority areas: Leadership, Innovation, Scholarship and Community. Specific goals and objectives were set for each. From these goals and objectives, a five-year strategic plan with key performance indicators (short, medium, and long-term actions) was developed. An online dashboard, the [Strategy Progress Chart](#) is used to monitor progress.

CACME Accreditation Review 2018

CPD underwent a 5-year external accreditation review in March 2018. The unit was evaluated by the Committee on Accreditation for Continuing Medical Education (CACME) on four standards: responsiveness to societal needs, scope of activities, planning and implementation, and administration and organization.

CPD received seven exemplary compliances and the following strengths were noted by the Committee in the report sent June 2018:

- An innovative new decanal structure that is showing early signs of creating powerful new synergies between PGME and CPD in the Post MD portfolio in financial, operational, and educational activities.
- A healthy financial profile, thanks in part to the benefits of this reorganization, the support from Dean Young and Dr. Spadafora, and the leadership of the business team led by Trevor Cuddy.
- A large and creative mix of educational programs addressing local, provincial, national, and global audiences, representing face-to-face, online and blended learning, and several innovative simulation courses that assess performance.
- A strong, carefully constructed strategic plan with a robust monitoring plan.
- Clear support from the Dean and Vice Deans for the importance of CPD in the continuum of medical education supported by the University, with informed, respected, and well-connected leadership of CPD provided by Drs. Spadafora and Schneeweiss.
- A recent reinvestment in CPD research, with effective leadership by Drs. Schneeweiss and Ginsburg and a plan to nurture a broader network of CPD scholarship across the Faculty.
- A new professional service team model with effective leaders and strong marketing and IT capability.
- Very experienced educational consultants who are broadly available to CPD planners in the Faculty and serve as effective coaches and catalysts for innovative CPD.
- Strong partnerships that magnify the opportunities presented to the CPD unit.

Opportunities

CPD sees the increasing demand for eLearning programs as an opportunity for growth, and supports the development of eLearning programming both in asynchronous and synchronous formats. CPD U of T is a participating member in the development of the MOHLTC-funded Opioids Clinical Primer, a series of free online modules targeted at primary care practitioners in Ontario.

CPD has also partnered with [Saegus](#) (a subsidiary of CMPA) to expand the U of T [Safer Opioid Prescribing](#) program across Canada. To date, programs have been offered in Montréal, Saskatoon, and Edmonton, with a future iteration scheduled for 2019 in Nova Scotia. These ventures have allowed for further engagement with Doctors Nova Scotia and FMSQ in Quebec.

The CPD Research team, under the leadership of Associate Dean Schneeweiss and Dr. Ginsburg, has launched a scholarly environmental scan of CPD activities across the Faculty of Medicine. The project aims to identify CPD-related education scholarship networks and understand how to best support the development of a community of practice in CPD. Another intended outcome of this study is to identify

potential opportunities to deliver education scholarship related programming to enhance professional development in the CPD community.

Future Directions in CPD

CPD will continue to support innovations in CPD that positively affect health outcomes. As such, CPD has been significantly involved in the Royal College's movement towards Competency-based Medical Education (CBME). Associate Dean Schneeweiss was lead author of two white papers on the topic: [Future of Medical Education in Canada CPD, Theme 7: Addressing the knowledge and skills needed by those who develop and deliver CPD](#) and [White Paper 2: Competency-based CPD: Implications for physicians, CPD providers, and health institutions](#), which will help to set the direction and framework for competency-based CPD in Canada.

CPD is also moving towards greater integration of QI and Patient Safety in faculty development. For example, the [Leading and Influencing Change in CPD](#) program aims to engage learners with these themes through a focus on workplace and team-based CPD. This is part of a strategy to promote lifelong learning across the continuum of health professional education. CPD will continue to support activities and initiatives that address issues of practitioner wellness in order to build upon the foundation that the Faculty has developed around wellness for its physicians and students. CPD's efforts to promote health education among Indigenous, refugee, and vulnerable populations is also resulting in new ways of collaborating. The Indigenous Health Conference 2018 provided the Faculty with an opportunity to engage broadly with Indigenous Communities and to integrate Western and Indigenous approaches to healthcare.

2.4 Education Awards

Each year, the Faculty presents over 30 internal awards to recognize significant contributions to medical and life sciences education. These are clustered around seven award portfolios and span the medical education continuum. Recipients of these awards are recognized at the annual Education Achievement Celebration. From 2010 - 2018 approximately 300 awards have been presented (See [Appendix 13](#) for a complete list of award recipients). The award categories are as follows:

MD Program Awards – Since 2010, the Undergraduate program has awarded 30 individual faculty members, programs, teams and initiatives in the following categories:

W.T. Aikins

- Individual teaching performance - foundations (lectures, laboratories, seminars, workshops, tutorials, or, in clinical skills)

- Individual teaching performance - clerkship (lectures, seminars, workshops, tutorials, portfolio, clinical skills, interviewing skills or in electives)
- Development and use of educational innovations
- Course/program development and coordination

Miriam Rossi Award for Health Equity in Undergraduate Medical Education aims to recognize University of Toronto MD Program faculty members for their commitment to diversity and health equity in undergraduate medical education.

Norman Rosenblum Award for Excellence in Mentorship in the MD/PhD Program was established in 2018 in recognition of Dr. Norman Rosenblum's tenure as Associate Dean, Physician Scientist Training in the Faculty of Medicine, University of Toronto and his outstanding contributions to mentoring of MD/PhD students.

Graduate and Life Sciences Education Awards – Since 2010, GLSE has awarded 68 individual faculty members, programs, teams and initiatives in the following award categories:

Excellence in Undergraduate Life Sciences Teaching Awards

- Excellence in undergraduate teaching in life sciences
- Excellence in undergraduate laboratory teaching in life sciences
- Excellence in linking undergraduate teaching to research in life sciences
- Sustained Excellence and Innovation in Life Sciences Education

Graduate Faculty Education Awards

- Early Career Excellence in Graduate Teaching and Mentorship
- Mid-Career Excellence in Graduate Teaching and Mentorship
- Sustained Excellence in Graduate Teaching and Mentorship

Postgraduate Medical Education Awards – Since 2010, the Postgraduate Medical Education Program has awarded 76 individual faculty members, programs, teams and initiatives in the following award categories:

- Sarita Verma Award for Advocacy & Mentorship in Postgraduate Medicine
- Social Responsibility Award in Postgraduate Medical Education
- Robert Sheppard Award for Health Equity and Social Justice
- Charles Mickle Fellowship Award

- Excellence in Postgraduate Medical Education Award - Teaching Performance, Mentorship and Advocacy
- Excellence in Postgraduate Medical Education Award - Development/Innovation

Continuing Professional Development Awards – Since 2010, the Continuing Professional Development Program has awarded 75 individual faculty members, programs, teams and initiatives in the following award categories:

- Colin Woolf Excellence in Program Development and Coordination
- Colin Woolf Long Term Contributions to CPD
- Colin Woolf Sustained Excellence in Teaching in CPD
- Dave Davis Research Award
- David Fear Fellowship
- Fred Fallis Award in Online Learning
- Excellence in Interprofessional CPD Award
- Ivan Silver Innovation Award

Faculty Development Awards – Since 2010, the Centre for Faculty Development has awarded 24 individual faculty members, programs, teams and initiatives in the following award categories:

Helen P. Batty Awards for Excellence and Achievement in Faculty Development

- Sustained Excellence in Teaching as a Faculty Developer
- Innovation in Program Development and Design
- Sustained Contribution to the Field of Faculty Development

Excellence in Community-Based Teaching Awards – Since 2010, the Faculty of Medicine has awarded 25 individual faculty in the following award categories:

- Excellence in Community-Based Teaching (Community Hospital)
- Excellence in Community-Based Teaching (Clinic/Office/Practice)
- Sustained excellence in community-based teaching

We also recognize outstanding contributions of faculty members by advancing candidates (via rigorous internal adjudication process), to a suite of 17 prestigious institutional, provincial, national and international external awards (listed below). We identify faculty members who are demonstrating

excellence in teaching, education scholarship and leadership in education, and we recognize their contributions by supporting their nomination. This diverse selection of provincial, national and international awards fall under the following categories:

- Early career achievement
- Career achievement and sustained excellence
- Excellence in clinical teaching
- Innovation
- Equity, diversity and gender
- Mentorship
- Program development
- Faculty development

The Education and Teaching Awards Committee (ETAC) – comprised of both, faculty and staff and chaired by Professor Allan Kaplan, Vice-Dean of Graduate and Academic Affairs – reviews candidates for external Education and Teaching awards requiring a decanal nomination and makes recommendations to the Dean of Medicine. The committee seeks nominations for consideration twice per year: in the spring/summer and in the fall/winter. The following table provides a summary of nominations since 2010 but does not include recent 2019 submissions, for which no decisions have been made.

Figure 2.4: External Education and Teaching Awards

Organization	Name of Award	Nominations submitted 2010–2018	Awarded Nominations 2010–2018
American Association of Medical Colleges (AAMC)	Abraham Flexner Award	3	1
	Alpha Omega – Robert J. Glaser Distinguished Teacher Award	2	1
Association of Faculties of Medicine of Canada (AFMC)	Award for Outstanding Contribution to Faculty Development in Canada	5	2
	Clinical Teacher Award	1	1
	John Ruedy Award for Innovations in Medical Education	7	1
	May Cohen Gender Equity Award	5	1
	President’s Award for Exemplary National Leadership	4	1
	Young Educators Award	6	3
Canadian Association for Medical Education (CAME)	Ian Hart Award for Distinguished Contribution to Medical Education	6	5
	Meredith Marks New Educator’s Award	8	3
Canadian Medical Association (CMA)	Award for Young Leaders	4	2
	May Cohen Award for Women Mentors	7	5
Society for Teaching and Learning in Higher Education (STHLE)	3M National Teaching Fellowship	4	1
	Alan Blizzard Award	3	1
U of T	President’s Teaching Award	6	6
Royal College of Physicians and Surgeons of Canada (RCPSC)	Duncan Graham Award	5	2
	Donald R. Wilson Award	1	0
Total		77	36

3. RESEARCH

Academic Leadership

Vice Dean, Research & Innovation: Professor Richard Hegele

The Faculty of Medicine at the University of Toronto is the most research-intensive academic medical enterprise in Canada, and represents one of the largest communities of health researchers in the world. Our research operation is a collaborative matrix across 26 departments and institutes, 13 research centres, 13 affiliated hospitals/research institutes in TAHSN, and 11 community hospitals. We attract and retain world-class faculty in biomedical and health research programs in the basic, clinical and rehabilitation sciences. National and international collaborations are growing and the impact of our research is recognized globally.

The Vice Dean, Research & Innovation oversees all research undertaken on campus in the Faculty of Medicine. Reporting to the Dean of Medicine, the Vice Dean provides strategic leadership for research and innovation and related infrastructure, including space and facilities on campus. This includes administrative oversight and approval of all outgoing research funding proposals and research ethics proposals from on-campus researchers. As co-chair of the TAHSN Research Committee (TAHSNr), the Vice Dean represents the Faculty of Medicine and facilitates the development of harmonized research policies and procedures, and development of joint advocacy initiatives to government and other stakeholders for future investment in research and innovation. The Vice Dean serves on the U of T Research Advisory Board and Institutional Research Leadership Group, both chaired by Prof. Vivek Goel, Vice-President, Research & Innovation at the University of Toronto.

The Vice Dean oversees the Office of Research & Innovation (see [Appendix 14](#) for organization chart), which supports the research & innovation initiatives of faculty members, trainees, and other research personnel through the following:

- Providing funding for faculty start-up packages, seed grants, matching against government grants, extra-departmental unit (EDU) support, and for major scientific equipment or repairs;
- Financial management of research trust funds;
- Allocating Canada Research Chairs (CRC) and Canada Foundation for Innovation (CFI) programs, administering internal competitions for these awards, and contributing to the funding proposals;
- Finding both domestic and international research funding opportunities, promoting them widely across our research network, and matching certain opportunities with appropriate researchers;
- Importing research funding data from all TAHSN member hospitals into the University's RIS database and generating annual comprehensive research funding synopses for the Faculty;
- Providing benchmarking metrics to stakeholders and partners, e.g. funding data, publication and

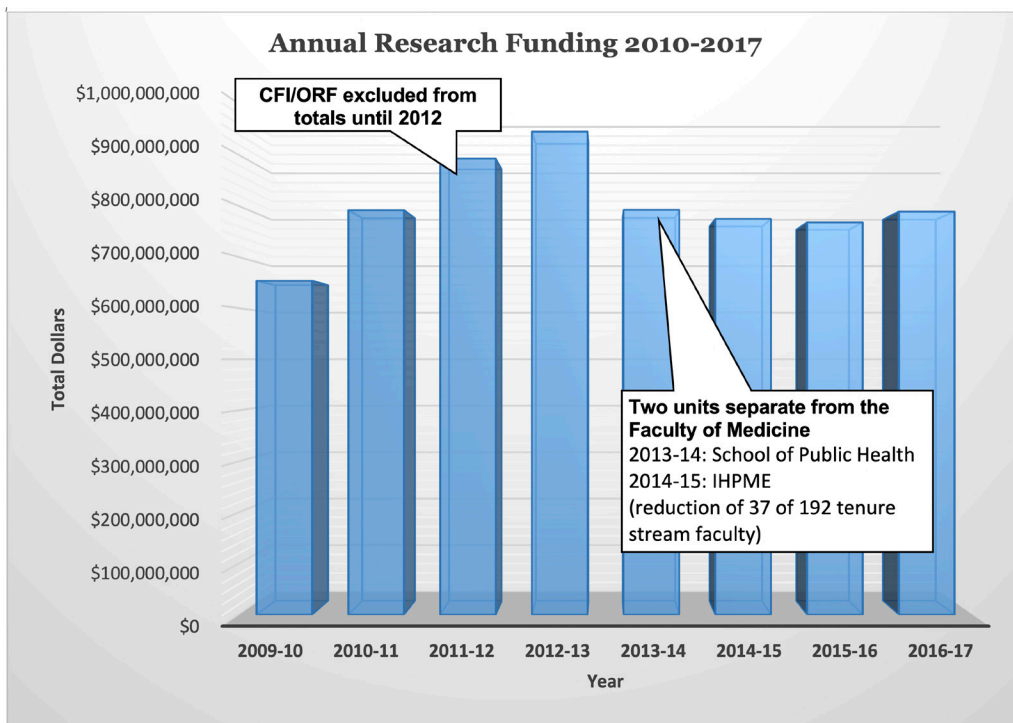
citation bibliometrics, innovation statistics, and other alt-metrics;

- Allocating research space on campus, and supporting infrastructural challenges and initiatives;
- Reviewing and editing outgoing research funding proposals for major competitions;
- Coordinating a range of research-related events, including the annual Grantwriting Workshop, the Gairdner Laureate symposium, the Tanenbaum symposium, and a range of other named symposia/lectureships;
- Financial oversight and administration of core research service units; and
- Promoting awards and honours opportunities to faculty, and assisting with nomination package development;
- Maintaining the Research & Innovation page on the Faculty website.

3.1 Research Funding

The annual total research funding to the Faculty of Medicine has increased from \$653M in fiscal 2010 to \$788M in fiscal 2017.

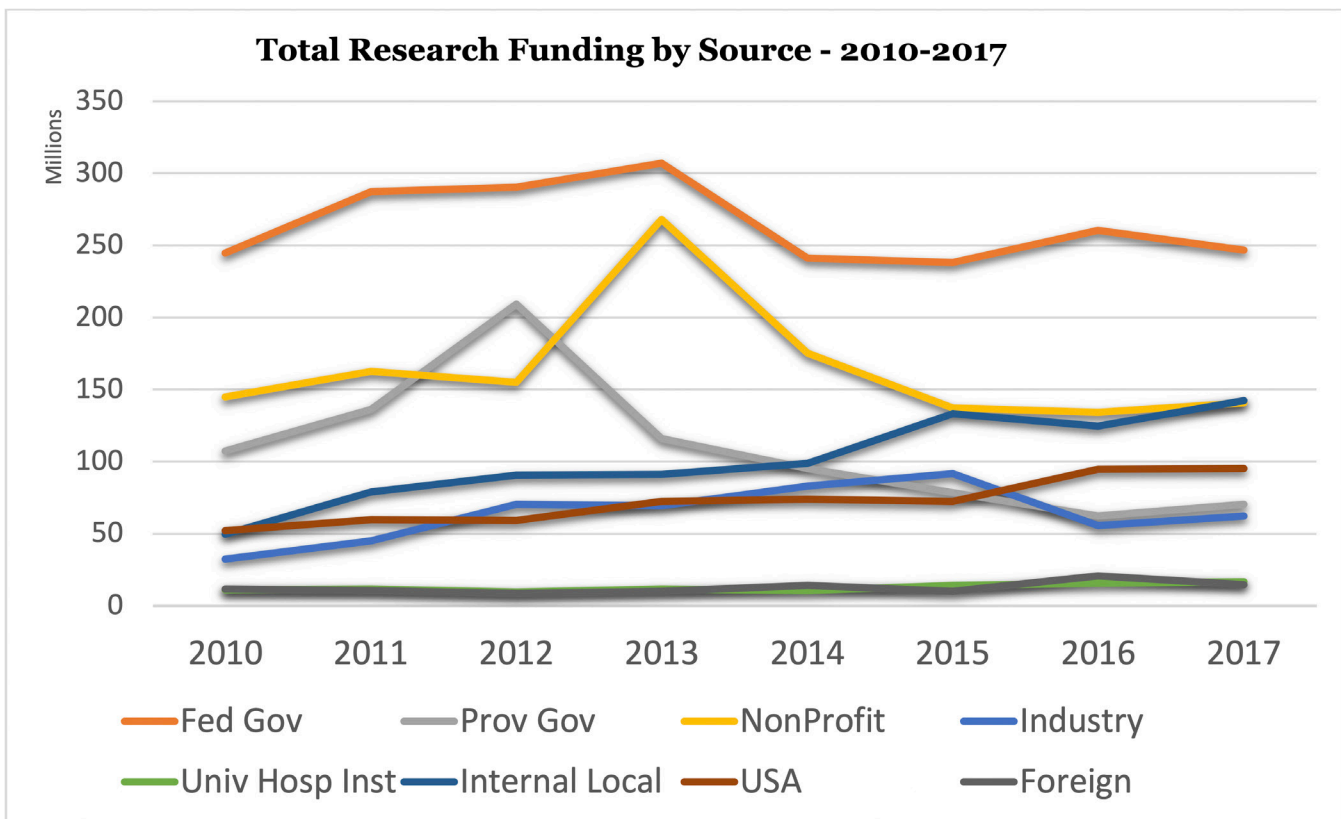
Figure 3.1: Annual Research Funding – 2010-2017



Two key points on these data:

- Prior to 2012, CFI funding was not counted in the totals. Its inclusion explains the apparent sharp jump observed in 2012.
- In 2013-14 and 2014-15 respectively, the Dalla Lana School of Public Health and the Institute of Health Policy, Management, & Evaluation (IHPME) separated from the Faculty of Medicine. Research funding from those units no longer counted in the Faculty total, explaining the apparent sharp drop in 2014.

Figure 3.2: Total Research Funding by Source



Key observations regarding the different sources of research funding from 2010–2017:

- **Federal funding** was essentially unchanged – increasing from \$244 million to \$246 million. What is remarkable is this level of stability has been achieved despite trends in decreased federal funding envelopes for CIHR Project Grants (\$276M in the March 2018 competition vs. \$377M in the March 2016 competition) and CIHR Foundation Grants (\$101M in the fall 2017 competition vs. \$200M in the fall 2016 competition).
- **Provincial funding** has also decreased significantly – from \$107M to \$70M.
- **Non-profit (i.e. charitable organizations and foundations) funding** showed a slight decrease – from \$145M to \$140M.

- **Industry funding** nearly doubled – from \$32M to \$62M.
- **Internal funding** nearly tripled – from \$49M to \$142M.
- **USA funding** nearly doubled – from \$52M to \$95M.
- **Foreign funding** (non-USA industry, non-profit, government, hospitals, universities) increased – from \$11M to \$14M.

The Faculty has adapted to a changing research funding landscape characterized by decreased government funding for research at the federal and provincial levels, by further diversifying our sources of funding, primarily by increased targeting of industry, the USA, and international sources, combined with increased support from our own internally-held budgets, trusts, and foundations.

Recent CIHR Competitions – Success Rates and Average Grant Value

Below are the success rates and average grant size by dollar statistics for two of the Faculty’s most critical sources of research funding – the CIHR Foundation and Project schemes. Each dataset is separated by: Medicine faculty based on-campus, Medicine faculty based at hospitals, and the corresponding national totals. The Faculty of Medicine consistently outperforms the national averages in both application success rates and average dollar amount of grants awarded.

Figure 3.3: CIHR Foundation Scheme Grant Success Rate – By Competition

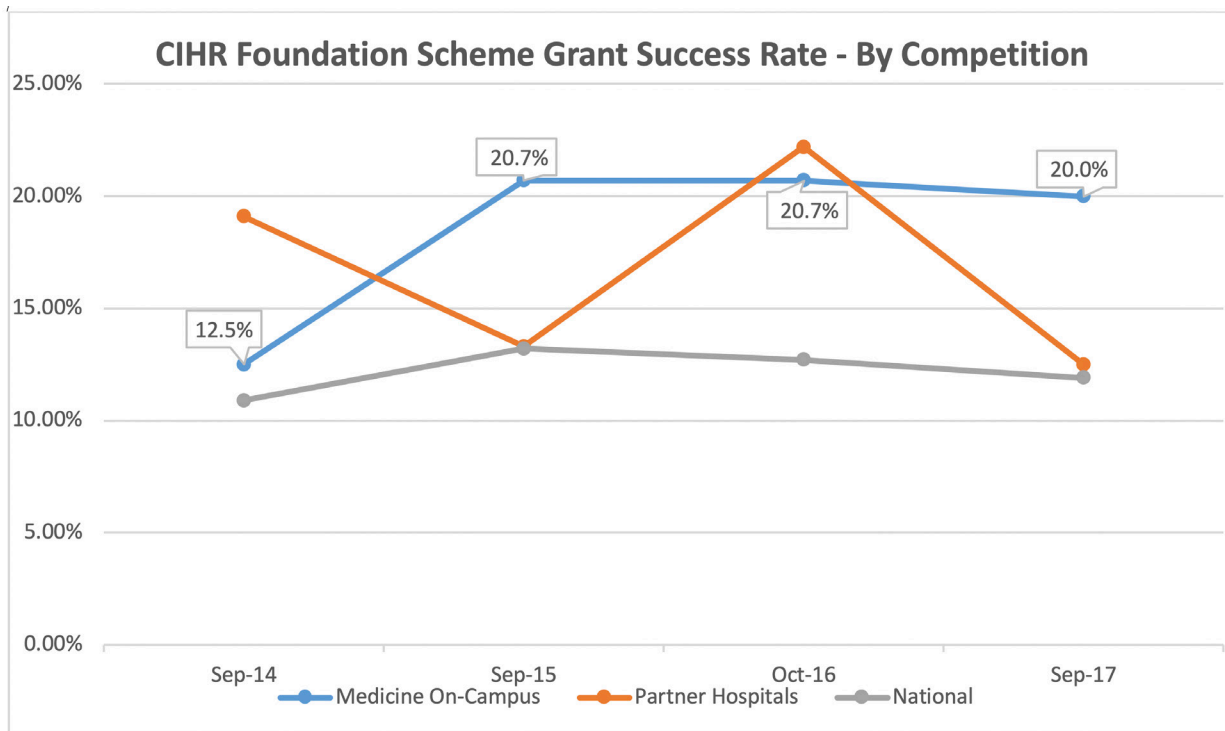


Figure 3.4: CIHR Project Scheme Grant Success Rate – By Competition

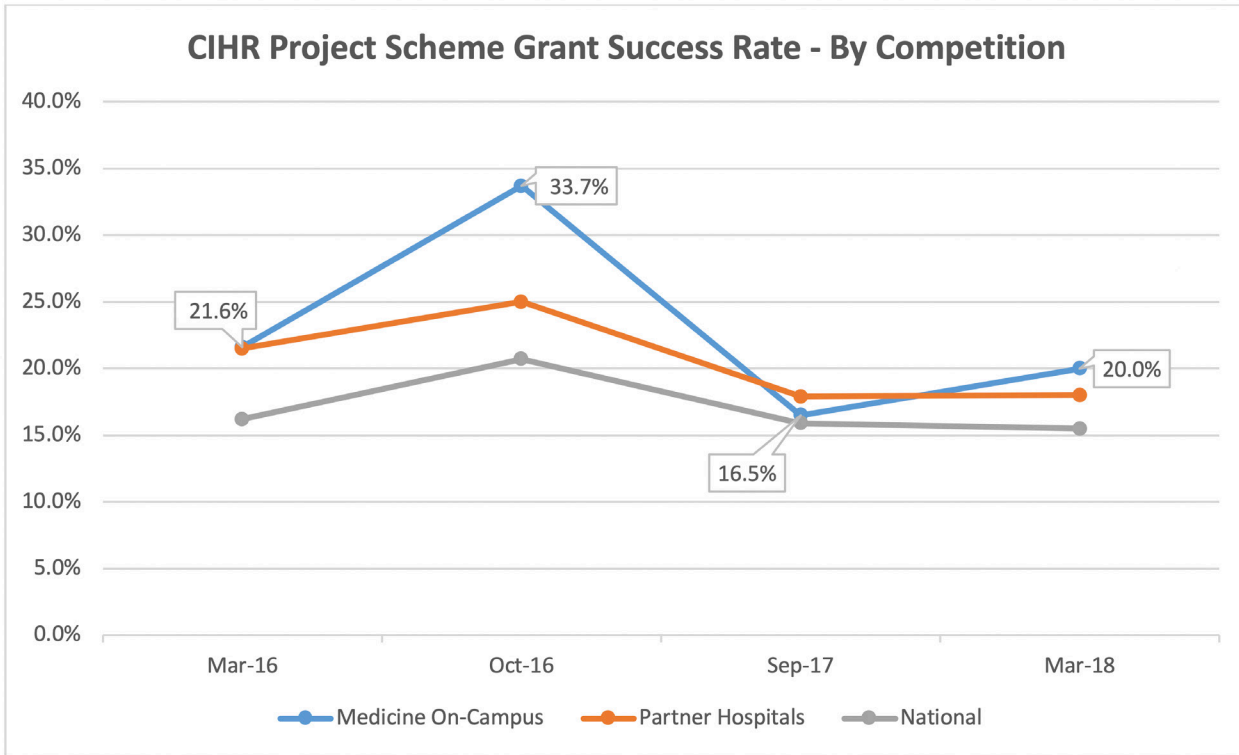
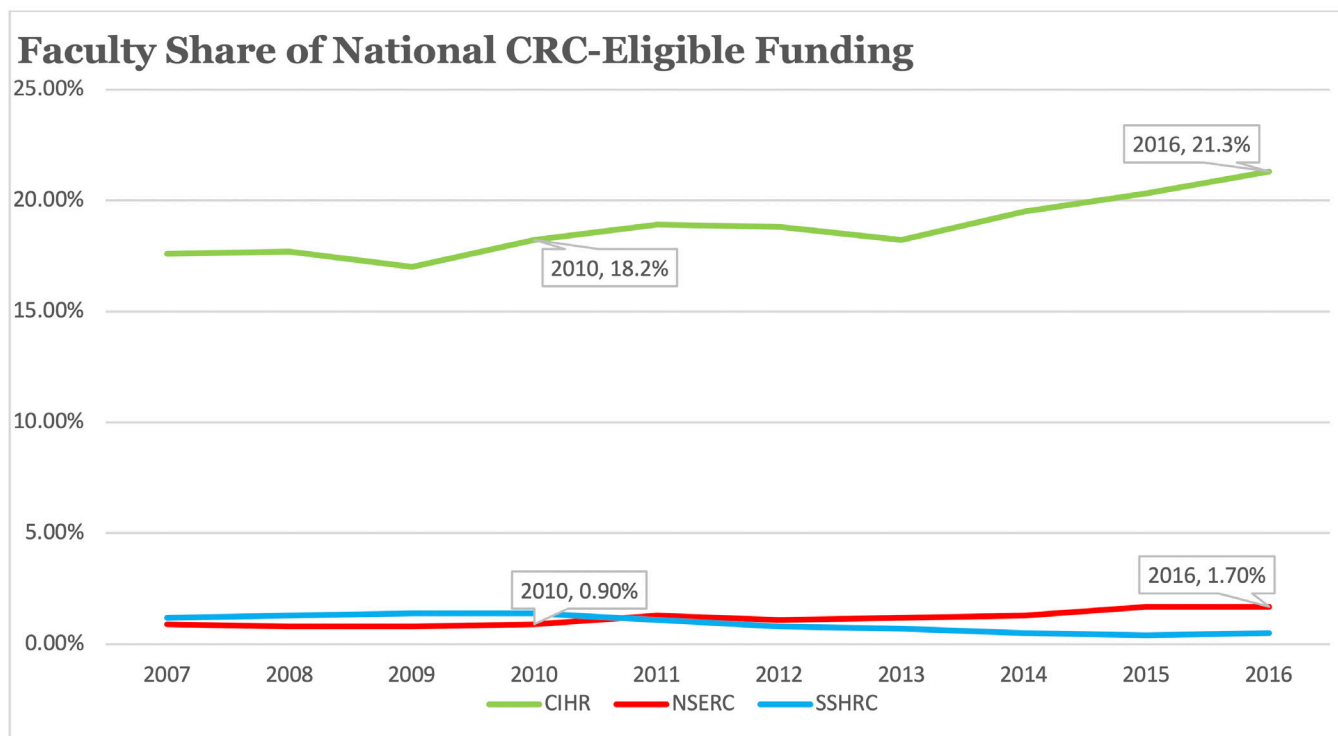


Figure 3.5: Average Foundation and Project Grants Awarded

Average \$ Grant Awarded	Foundation Grants	Project Grants
Medicine On-campus	\$4,069,857	\$748,314
Partner Hospitals	\$2,894,812	\$651,527
National	\$2,704,180	\$627,269

The chart below shows that Faculty of Medicine researchers, including both on-campus and hospital-based, have not only maintained but have increased their market share in federal competitions.

Figure 3.6: Faculty Share of National CRC-Eligible Funding



This increased overall market share translates into tangible benefits to the University as a whole, including contributing to a recently-announced allocation of approximately 40 additional \$100K slots to the existing Canada Research Chair (CRC) complement at University of Toronto.

The CRC Program stands at the centre of a national strategy to make Canada one of the world's top countries in research and development. It invests approximately \$265 M per year to attract and retain a diverse cadre of world-class researchers, and to reinforce academic research and training excellence in Canadian postsecondary institutions.

Each institution receives a number of CRC's proportional to the amount of recent Tri-Council funding the institution has received. Within the University and TAHSN, those CRCs are then allocated proportionately by the same metric to each division.

There are two different types of CRC awards, and divisions have flexibility in deciding how many of each type to nominate faculty for:

Tier 1: Awarded to researchers that are world leaders in their field of study. Tier 1 is awarded for a 7-year period at \$200K/yr

Tier 2: Awarded to researchers with the potential to become world leaders in their fields. Tier 2 is awarded for a 5-year period at \$100K/yr

Below are the number of occupied CRCs at the Faculty of Medicine on a year-by-year snapshot basis, separated by those administered on-campus and off-campus (i.e. at hospitals):

Figure 3.7: Medicine Canada Research Chairs – Active by Year (Apr-Mar)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
On-Campus								
Tier 1	13	13	13	13	14	13	13	14
Tier 2	25	24	24	25	22	18	20	20
Off-Campus								
Tier 1	55	58	56	54	58	61	58	61
Tier 2	36	23	20	21	21	19	25	23
	129	118	113	113	115	111	116	118

The decline in Tier 2 awards, particularly from 2010–2012, is due to two factors:

1. “Flex moves” in which there is conversion of expiring Tier 2 CRCs into Tier 1 CRCs, which are worth twice as much (i.e., a Tier 1 CRC equals two Tier 2 CRCs). The Faculty of Medicine held 61 Tier 2 CRCs in 2010-11 and dropped to 43 by 2017-18; this is offset by an increase in Tier 1 CRCs from 68 to 75 over the same time period.
2. The University as a whole saw a decrease in CRCs allocated to it by the federal government in 2010, which has now recovered. Every 2-3 years, the government rebalances and reallocates CRCs to institutions.

Figure 3.8: University of Toronto Allocation History

CRC Reallocation Process Results – University of Toronto				
Rebalance Year	2008	2010	2012	2014
CRCs Allocated (Tier 1 and 2)	249	238	248	255

Given the decline in available CRCs at the start of this decade, the Faculty of Medicine has maintained a relatively consistent allocation at the University. The Faculty is now seeing an increase in chairholders in recent years, and with increases in Tri-Council market share, will have over 120 CRC’s by the end of 2018-19.

Equity, Diversity and Inclusion

The CRC Program implemented its [Equity, Diversity and Inclusion Action Plan](#) in May 2017, which requires institutions to adopt greater transparency in their allocation, selection and renewal process for chairholders. The plan also establishes firm targets to increase nationally the number of CRC holders from four federally designated groups: women, members of visible minorities, persons with disabilities, and Indigenous peoples.

The University in turn has developed its own [Action Plan](#), which includes data collection from CRC

nominees giving them the opportunity to self-identify in any of the four designated groups. Below are the results of that data collection, outlining the demographics of: the Faculty of Medicine’s CRC holders, the rest of the University’s chairholders, and the national targets assigned by the federal government.

Figure 3.9: CRC Holder Demographics

	Female	Visible Minority	Persons with Disabilities	Indigenous Persons
Medicine On-Campus	38%	10%	3%	0%
Hospitals	34%	22%	1%	0%
Medicine TOTAL	35%	19%	2%	0%
All Other University of Toronto Divisions	37%	16%	4%	2%
Targets	32%	15%	4%	1%

From University of Toronto Employment Equity Survey data as of May 2018

The Faculty of Medicine exceeds the targets for women and members of visible minorities, and has further work to do to meet targets for persons with disabilities and Indigenous persons.

3.2 Bibliometrics – Publications and Citations

The Faculty of Medicine’s researchers publish and are cited more often than any other Canadian life sciences unit. More notably, we rank 3rd or better globally by the same metrics. The two universities that rank higher globally than the Faculty of Medicine are Harvard and Johns Hopkins.

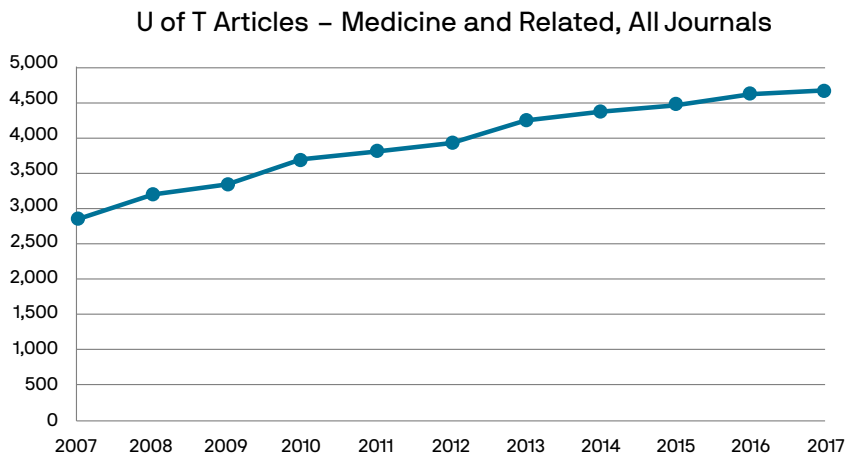
Figure 3.10: Publication World Rankings

World Rankings: Faculty of Medicine or Related Publications 2007–2017		
Research Metric	Top 50 Journals World Rank	All Journals World Rank
Web of Science Documents	3rd	2nd
Times Cited	3rd	3rd
Highly Cited Papers	2nd	3rd
H-Index	3rd	3rd

Source: Web of Science, Clarivate Analytics

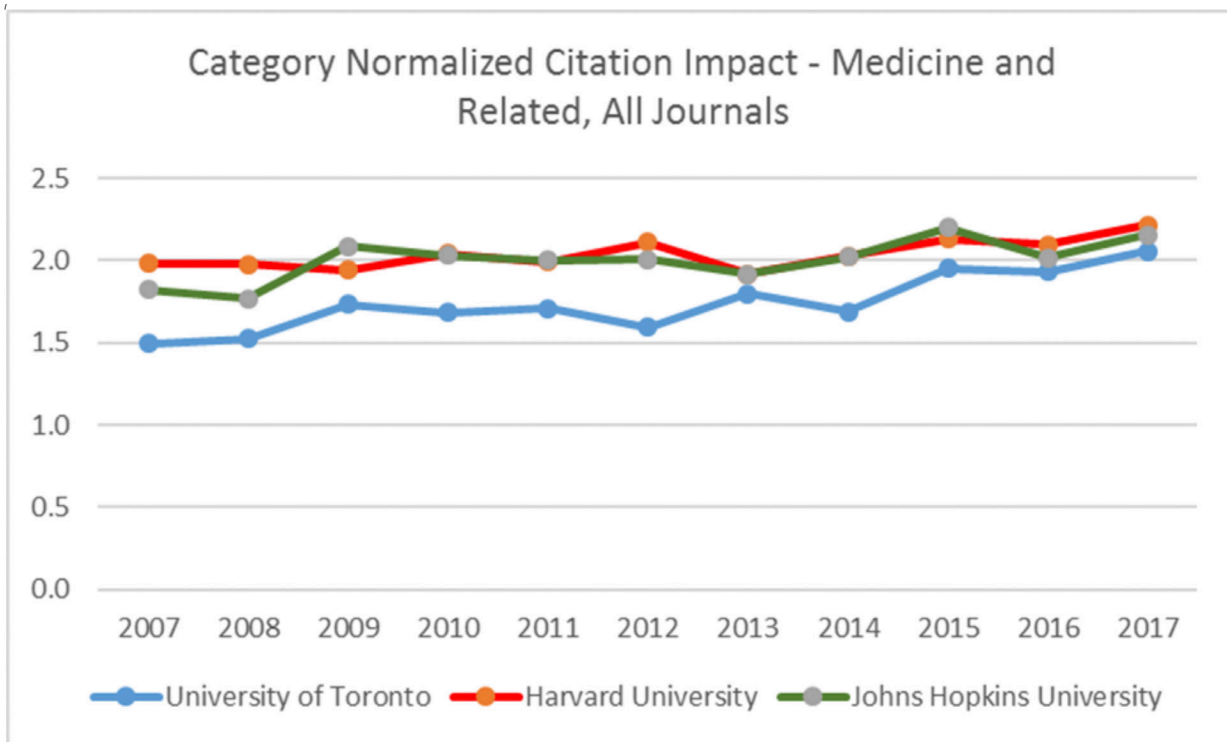
There is a sustained upward trajectory in the number of articles published annually coming from Faculty of Medicine researchers over the last 10 years.

Figure 3.11: U of T Articles – Medicine and Related, All Journals



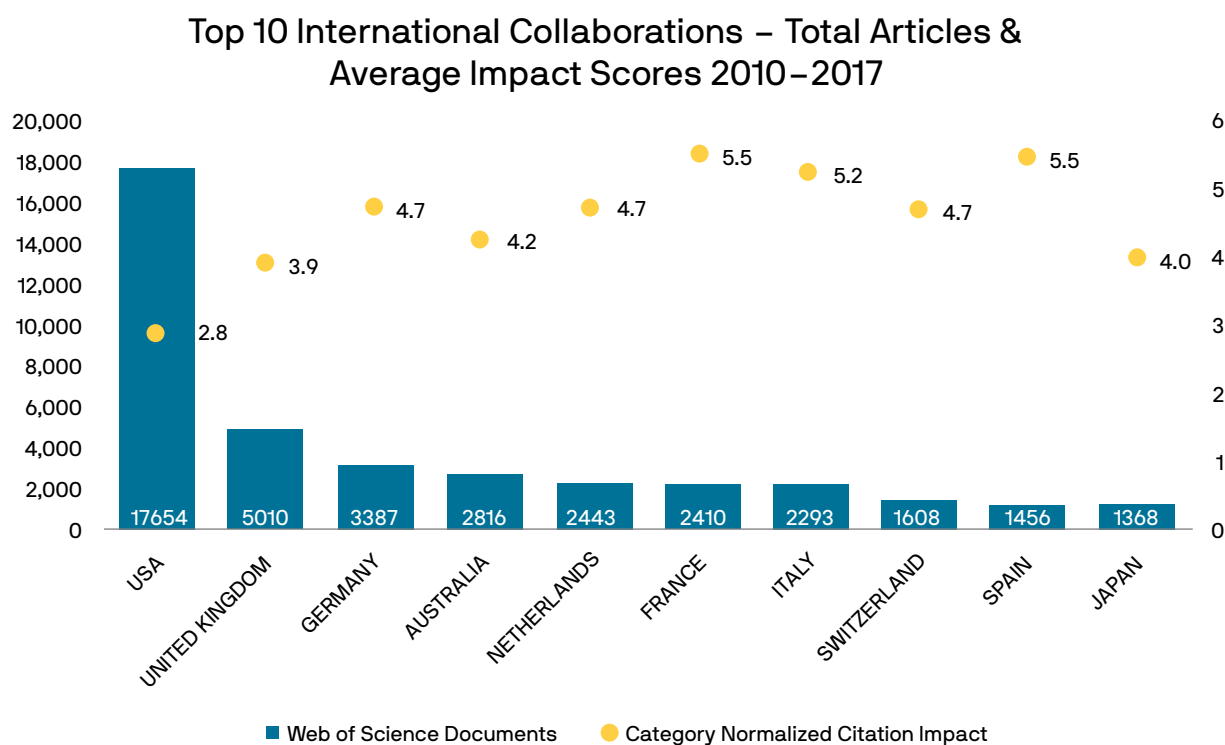
Citations to articles published by Faculty of Medicine researchers continue to show evidence of greater impact over the last 10 years. In the chart below, the number of citations (blue) and category normalized citation impact (orange) are shown.

Figure 3.12: Category Normalized Citation Impact – Medicine and Related, All Journals



Concerning the number of times cited, more recently published papers have not yet had comparable time to be cited than older publications. To account for this time effect, the Category Normalized Citation Impact of a document, calculated by dividing the actual count of citing items by the expected citation rate for documents with the same document type, year of publication and subject area, is considered to represent a less biased indicator of impact. Here, a value of 1 represents performance at par with world average, values above 1 are considered above average and values below 1 are considered below average. For the Faculty of Medicine, the category normalized citation impact has increased over the last 10 years, from 1.50 in 2007 to 2.06 in 2017.

Figure 3.13: Top 10 International Collaborations – Total Articles & Average Impact Scores 2010–2017



Source: Web of Science

Our biggest international research collaborator is, by far, the USA, with whom our researchers have published nearly 18,000 papers between 2010 and 2018. The next 8 countries in order of total collaborations are all European-based, with Japan ranking 10th. Further, China ranks 12th, Brazil ranks 15th, and India ranks 24th.

3.3 Innovation

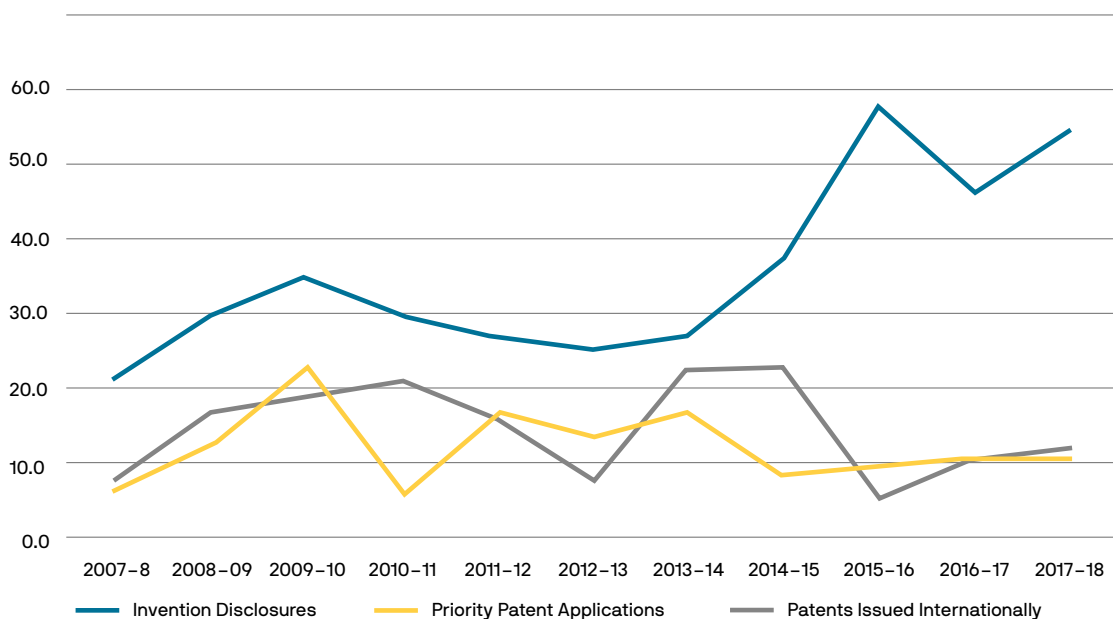
The Faculty of Medicine’s efforts to promote and foster innovation, commercialization, entrepreneurship, and partnerships with industry show evidence of increasing activity and success. This success is chiefly due to the ingenuity and entrepreneurial spirit of our researchers and students, enabled by an ecosystem of innovation that has developed in and around the University.

This ecosystem includes the MaRS Discovery District, co-founded by Dr. John Evans (a former President of the University of Toronto), which has become the world’s largest urban innovation hub. The Faculty of Medicine has also built strong strategic partnerships with innovation-oriented platforms, such as with JLABS Toronto and Neuroscience Catalyst.

Within the University, under the leadership of the Vice-President, Research & Innovation, our [commercialization](#), as well as entrepreneurship and start-up support services, have been reinvigorated. The Faculty of Medicine works closely with central colleagues to leverage its innovation-related resources and expertise. The Faculty has also been a key contributor to and supporter of competitively-funded Centres for Commercialization: CCAB (Antibodies and Biologics) and CCRM (Regenerative Medicine).

The “Research Funding by Source” data (figure 3.2) shown above indicate annual industry funding nearly doubling over the last 8 years. Below are some additional metrics showing the Faculty’s achievements and growth in innovation, commercialization, and partnerships.

Figure 3.14: Inventions: Disclosures, Applications, and Issued Patents*



* On-campus Faculty of Medicine activity; data provided by the University of Toronto Innovation and Partnerships Office (IPO)

The process of developing and patenting intellectual property is lengthy and complex, with numerous steps before a patent can be issued. The first step is to disclose a potential invention or discovery to the University’s IPO. Faculty of Medicine researchers are developing and disclosing more new inventions than ever before – doubling in frequency since 2010. The number of priority patent applications and patents issued has not increased to the same degree, as this complex process typically takes years and we can expect the disclosures of today to become the patents of tomorrow.

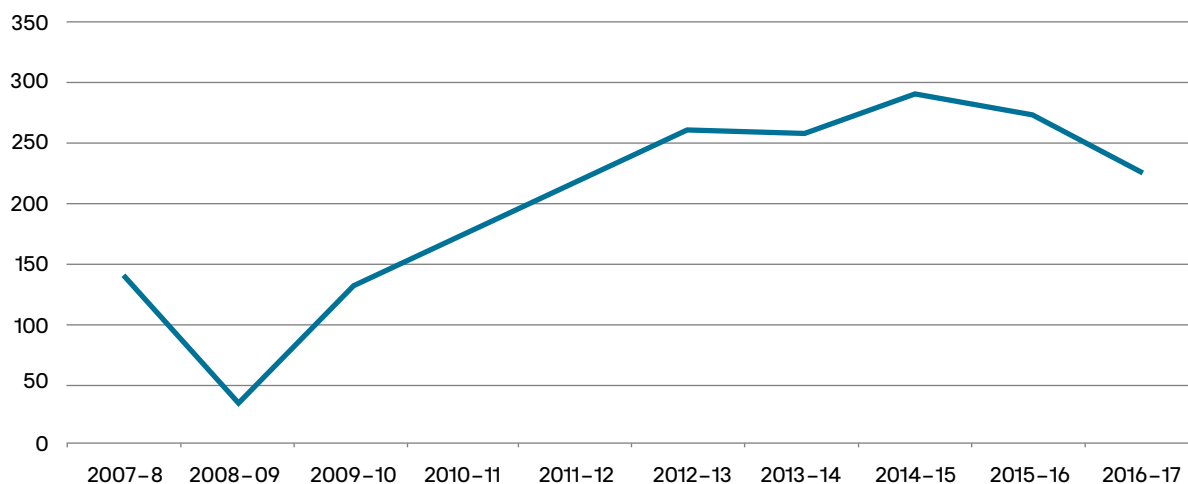
Figure 3.15: Start-Up Companies founded by Faculty of Medicine faculty members

Fiscal Year	2007-08	2009-10	2010-11	2011-12	2012-13	2014-15	2015-16	2016-17
Start-ups incorporated	1	3	1	1	4	3	3	2

Faculty members work with the IPO and MaRS Innovation to develop viable business models from their discoveries and launch start-up companies. These start-up companies include:

Anatomy Softwear	Pre-printed, anatomically correct gloves that allow learners to understand hand functional anatomy.
Northern Biologics	Sourcing, discovering, and developing first-in-class antibody therapeutics for oncology.
Rosetta Therapeutics	Develops new molecular matter as leads for the cure of neurodegenerative diseases like ALS, Alzheimer’s and Parkinson’s diseases.
Signal	Preclinical drug development for the treatment of under-served diseases.
Zucara	Developing the first once-daily therapeutic to prevent hypoglycemia in patients with diabetes.

Figure 3.16: Non-Funded Collaborative Agreements (number signed per year)



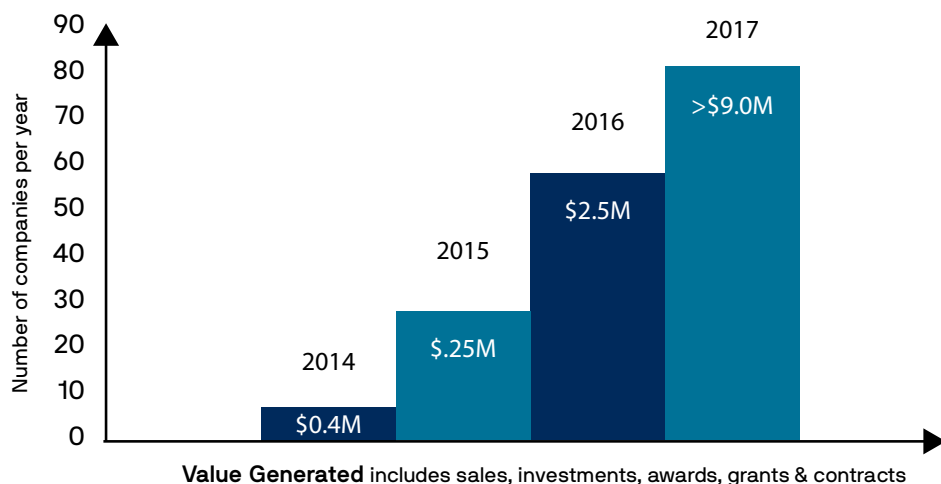
The Faculty signs off on non-funded agreements formalizing relationships with industrial and academic partners from around the world. Such agreements include: material transfers, data transfers, confidentiality agreements, visiting scientist agreements, and MOUs, all of which pertain to scientific collaboration. The number of signed agreements has grown tremendously, reflecting our researchers' increased capacity to share knowledge with a diverse range of collaborators and translate that knowledge to end users.

H2i – Health Innovation Hub

The [Health Innovation Hub](#) is the Faculty's Campus-Linked Accelerator (CLA), one of the University's nine [CLAs](#). H2i enables trainee-initiated translation and commercialization of ideas into problem-solving designs on health matters. It provides student entrepreneurs with training, mentorship, funding, and access to collaborators and equipment in order to bring their innovative ideas to the marketplace.

H2i was launched in 2014 and is supported by an Ontario Centres of Excellence (OCE) grant, along with various Faculty and University funding contributions. On a budget of ~\$125,000/year and from the many volunteer hours from industry/academic mentors, H2i has shown a rapid, ongoing annual increase in output:

Figure 3.17: H2i Companies Enrolled Per Year & Value Generated



3.4 Core Research Facilities

Microscopy Imaging Lab (MIL)

The Microscopy Imaging Laboratory provides state of the art microscopy imaging capabilities to students and scientists in basic, medical and industrial research. The major service provided by the

MIL is sample imaging using transmission electron microscopes (TEM) and laser scanning microscopes (LSM). The images produced contribute data toward high impact publications in a wide range of research journals. The MIL provides microscopy resources to more than 100 research laboratories and has ~250 individual users. These include graduate and undergraduate students, postdoctoral fellows, and Principal Investigators from all departments within the University, as well as surrounding teaching hospitals and research institutes.

MIL has seen major increases in capacity and usage in recent years resulting from: 1) the acquisition of new super-resolution, spinning disc confocal, and Cryo-TEM microscopes, 2) renovations allowing for live cell imaging and the purchase of a live cell imaging epifluorescence system, 3) a slide scanner, allowing digitalization of pathology (H&E), immunohistochemistry or fluorescent slides from human, murine or other specimens, and 4) a new workstation for post-acquisition analysis of images (colocalization, 3D rendering).

MIL also has a longstanding relationship with Sanofi Pasteur and provides quality control analysis of vaccines, as well as research services. The contract with Sanofi Pasteur was renewed in 2015, the updated pricing was approved, and the current agreement runs until 2019.

Division of Comparative Medicine (DCM)

The Division of Comparative Medicine administers the animal care program for the Faculty of Medicine and its surrounding research network. DCM is one of the largest animal care programs in the country, serving over 150 scientists working under ~400 animal use protocols in two animal facilities within the Med Sciences Building and the Donnelly Centre for Cellular and Biomolecular Research. DCM serves as an essential resource of in-vivo expertise and delivers a comprehensive training program that meets or exceeds the Regulations of the Animals for Research Act (Ontario), the Guidelines of the Canadian Council on Animal Care, and the Tri-Council Memorandum of Understanding.

DCM operates a multi-species vivarium housing mice, rats, rabbits, guinea pigs, and zebra fish. It offers space for behavioural testing, experimental, surgical, imaging and necropsy procedures, as well as for work with radioisotopes, and chemical/biological hazards requiring containment level 2 precautions. DCM offers a dedicated space (in the Donnelly Centre) that houses rodents only and operates at a higher level of bioexclusion; this space facilitates experimental, surgical, imaging and necropsy procedures, as well as work with risk group 2 or 3 biological hazards. DCM has also established a germ-free core to enable research into the microbiome.

Combined Containment Level 3 Unit (CL3)

The Combined Containment Level 3 Unit is a shared multi-user laboratory composed of two facilities: the in vitro lab for molecular manipulations, and in vivo lab for small animal work (described above in

DCM). It is the only facility in Toronto authorized to conduct risk group level 3 research.

The in vitro lab is a 2045 sq. ft. facility with 4 areas designated for contact pathogens (e.g. HIV). It has one separated room for pathogens transmitted via aerosol (e.g. M. tuberculosis) and this room is separated both physically and by dedicated air handling measures.

The CL3 facilities provide all the operational and technical supports needed to work with high containment biologic agents, including: certification & training, disinfection / sterilization / waste management protocols, and in vitro working bays equipped with necessary infrastructure e.g. microcentrifuges, vortexes, fridges/freezers, and CO2 incubators.

On-Campus Research and Innovation Space (see also Section 5)

In 2017, the Faculty completed a move of 26 basic science faculty members based in the MSB to the 15th and 16th floors of the MaRS 2 tower. With the recruitment of a number of new faculty, there are now 30 Principal Investigators who work in thematic research areas of gene-protein regulation and infectious diseases. The strategic decision to move the basic science sector toward thematic research has resulted in increased inter-departmental interactions and relationships, including shared oversight of shared equipment and infrastructure. The move to MaRS 2 allowed the Faculty of Medicine to consolidate some of its academic space across campus (now 29% less than in 2007), including the relocation of the Department of Nutritional Sciences from antiquated space in the Fitzgerald Building to newly-renovated space on the 5th floor of MSB. In addition, the 4th floor “west wing” of MSB is being developed as an innovation zone, with allocation of space for the relocation of the Toronto Recombinant Antibody Centre (TRAC) Lab from old space in the Best Institute, establishing the Centre for Research and Applications in Fluidic Technologies (CRAFT), and allocation of lab space for student entrepreneurship.

MSB research space is being increasingly deployed in a hybrid manner, whereby departmental space allocations are considered in the context of shared academic interests and opportunities to access common infrastructure. During 2017-18, the MSB was a major project site of the federal Strategic Innovation Fund (SIF) program, for which a \$43M budget resulted in renovation of ~20% of MSB labs, and enabled improved space utilization through the creation of common areas such as freezer farms, cold rooms, central sterilization services and collaborative spaces.

3.5 Collaborative Initiatives

TAHSN Research Committee (TAHSNr)

TAHSNr membership consists of research leadership from fully-affiliated and associate member hospitals and the University of Toronto. Meetings are held monthly, 10 times per academic year (September-June). The committee is co-chaired by Richard Hegele, Vice Dean Research and Innovation and Paula Rochon, VP Research, Women's College Hospital. It includes 8 VPs of Research, 4 associate members, and 6 university representatives.

TAHSNr's objectives are to:

- Work together to provide supportive environment for health researchers across TAHSN.
- Facilitate interactive projects and programs to increase success in obtaining competitive funding from CIHR and other major funding agencies.
- Develop standard operating procedures for research.
- Facilitate integration across TAHSN research institutes.
- Develop research key performance indicators (KPIs) and report on progress.

The principles guiding the development of the TAHSNr workplan include: opportunities for scale; standardization towards harmonization, complementarity and efficiencies; collaborative efforts on collectively beneficial projects.

Some current activities of TAHSNr include:

Research Ethics Harmonization: TAHSNr has worked to improve efficiency for research ethics applications across multiple sites by sunsetting its Research Ethics Board (REB), transferring existing protocols, and having new applications done through Clinical Trials Ontario (CTO), which has the requisite infrastructure and expertise to oversee research ethics protocols. In 2017-18, there was substantial progress in harmonizing research ethics across TAHSN, such that approval of a protocol at one TAHSN member site would be recognized by other TAHSN member sites.

Responsible Conduct of Research: TAHSNr supports implementation of the [recommendations of the Dean's Task Force](#) (2017) for training in responsible conduct of research, and will be refined to reflect developments occurring nationally in this domain.

Advocacy: TAHSNr has participated in advocacy efforts of the Council of Academic Hospitals of Ontario (CAHO) and HealthCareCAN in support of the ***INVESTING IN CANADA'S FUTURE: Strengthening the Foundations of Canadian Research*** (known as the Naylor Report), including letter writing to government and elected officials, and enlisting trainees to participate in the campaign. There is a

working group of TAHSNr focusing on support for the full costs of research (one of the recommendations of the Naylor Report), specifically on increasing clarity and understanding of “indirect” costs and strategies to enhance funding support.

Equity, Diversity and Inclusion: TAHSNr is working to meet and/or exceed targets for four designated groups (women, members of underrepresented minorities, persons with disabilities, and Indigenous peoples) to meet the December 2019 timeline set by the Canada Research Chairs Program. Concerning the learning environment, TAHSNr is committed to the Faculty of Medicine’s work emanating from the 2016 Voice of the Resident Survey to explore ways of improving the culture to support equity, diversity and inclusion across our network.

Improving Research Administrative and Operations Processes: TAHSNr recognizes the importance of improving and streamlining processes to facilitate research performance, increased standardization on material transfer agreements, data sharing agreements, industry contracts, etc.

The new Faculty of Medicine Strategic Plan emphasizes the importance of robust collaborations as a key mechanism to elevate our research and innovation performance. There are a number of mechanisms in place that enable collaborations, including entities that are supported by endowments and trusts; large competitive awards; and inter-divisional initiatives funded internally. The Vice Dean, Research and Innovation is involved in the governance and oversight of the following:

[Banting and Best Diabetes Centre \(BBDC\)](#): Established in 1978, the BBDC is an extradepartmental unit whose mission is to bring together researchers and health professionals across multiple University of Toronto affiliated disciplines to lead discoveries in patient-oriented research, large-scale clinical trials and basic science across affiliated hospitals and research institutes; develop novel treatment paths to cure diabetes or prevent its complications; and, to identify innovative ways to manage diabetes and improve the lives of those living with the condition. Under the directorship of Prof. Gary Lewis, BBDC’s vision is to be a centre of excellence for innovation in diabetes research, education, and clinical care, and tangibly impact diabetes prevention and outcomes in Canada and globally. BBDC offers grants, studentships, fellowships, and other support for qualified individuals involved in diabetes research at the University of Toronto, and its affiliated hospitals and research institutes across the city.

[Heart and Stroke Richard Lewar Centre of Excellence for Cardiovascular Research \(Lewar Centre\)](#): Established in 1999 as an extradepartmental unit, the mission of the Lewar Centre is to bring the best of cardiovascular sciences at University of Toronto together, including basic sciences, clinical investigations and community health. Under the direction of Prof. Michael Farkouh, the Lewar Centre has thematic activity in:

1. Clinical research
 - a. Network for Innovation in Clinical Research (University of Toronto: clinical trials; registries and observational studies; core laboratory functions; adjudication committees; and continuing medical education);
 - b. Cardiovascular Data Management Centre (SickKids: linking databases; providing data access for researchers and clinicians; risk adjusted reports for clinical quality improvement initiatives; statistical services); and
 - c. Cardiovascular Biobank (UHN-Sinai: standardized procedures); and in
2. Translational research
 - a. Microvascular Research (St. Michael's-University of Toronto: correlate human microvascular function with disease process in patients);
 - b. Large Animal Facility (Sunnybrook: advanced imaging); and
 - c. Transgenic Physiology Laboratory (University of Toronto: mouse models).

The Lewar Centre has partnered with BBDC on specific calls for proposals to support the interface between cardiovascular and diabetes research.

McLaughlin Centre: Under the directorship of Prof. Stephen Scherer, the McLaughlin Centre offers programming focused on molecular medicine and genomics, with a mission to advance genomic medicine through research and education. Supported through an endowment, the Centre's investments have been instrumental in bringing the University of Toronto to the forefront in genome sequencing and its applications in medicine. There is an annual call for Accelerator Grants in Genomic Medicine. These awards provide seed funding of up to \$100K for a 1-year term, matched by on-campus sources and/or by TAHSN members. The Vice Dean, Research and Innovation serves on the Executive Committee and Oversight Committee.

Medicine by Design (MbD): Working with the central research office and other divisions, the Faculty has played an instrumental role in the [Medicine by Design](#) initiative, scientifically, administratively, and financially. MbD is a collaborative program harnessing the range of expertise across the University-hospital network to undertake transformative research in regenerative medicine and cell therapy. By working across disciplines and using emerging methods such as genome editing, computational modelling and synthetic biology, MbD deepens understanding of core biological concepts and devises new therapeutic approaches improving health outcomes. Prof. Michael Sefton serves as Director of MbD.

Established in 2015, Medicine by Design was made possible by a \$114-million grant from the [Canada First Research Excellence Fund \(CFREF\)](#) – the largest single research award in the University's history.

To secure this extraordinary grant, the Faculty made significant commitments. These commitments include: the recruitment of 3 new faculty members working within the field of regenerative medicine, and the allocation of 3 Canada Research Chairs to appropriate MbD-aligned faculty. The Faculty also committed to spend over \$6.8 million in matching funds (e.g. from other grants, student support) over the 7-year life of the CFREF grant. Thus far, the Faculty has either already fully met these commitments or is on-target to meet them. Faculty of Medicine researchers have benefited enormously from Medicine by Design, not only through the collaborative platform it provides, but also as recipients of MbD funding programs, which include New Ideas Awards, Team Project Grants, Travel Grants, and Fellowships. Thus far, Medicine faculty have received over \$30 million in MbD research funding.

Canada Foundation for Innovation – Innovation Fund (CFI-IF): This funding opportunity is intended for acquisition of major research equipment and infrastructure. In the most recent CFI-IF competition, the Faculty of Medicine partnered with the Hospital for Sick Children, University Health Network, and Sinai Health System on a successful application to acquire Toronto's first cryo-TEM, worth \$6M.

EMHSeed Program: This program, in conjunction with the University of Toronto Faculty of Applied Science and Engineering (FASE), provides 2 years of seed funding for new collaborations between Faculty of Medicine and FASE faculty members. Projects involve securing matches from departments and programs such as Medicine by Design (MbD) or the Ted Rogers Translational Biology and Engineering Program (TBEP), and the goal is for these novel collaborations to go on to obtain larger grants and awards. Since the inception of the EMHSeed Program in 2015-16, a total of 26 projects (representing 55 investigators, with a total investment of \$1.54M) have been approved and. To date, over \$13.2M new research funding has been secured, representing a return on investment of 8.6:1.

Centre for Research and Applications in Fluidic Technologies (CRAFT): This is a recently-established collaboration between the University of Toronto Faculties of Applied Science and Engineering, Arts & Science, and Medicine with the federal National Research Council (NRC), focusing on development of new microfluidics technologies. CRAFT is the first NRC initiative that has the University of Toronto as its primary partner. NRC scientists will work side-by-side with University of Toronto faculty and students in pursuing microfluidics-related research and innovation. Space on the 4th floor of the MSB has been identified for the first phase of CRAFT.

3.6 Awards & Honours

Below is a list of selected key performance indicator awards & honours received by Medicine researchers since 2010. Notably, there have been:

- 25 faculty members named as Royal Society of Canada Fellows;
- 49 named to the Order of Canada;
- 25 named to the Order of Ontario;
- 16 named to the Canadian Academy of Health Sciences.

See [Appendix 13](#) for a full list of award recipients, 2010 – 2018.

American Academy of Arts and Sciences Member

2015 David MacLennan

American Association for the Advancement of Science Fellows

2011 Freda Miller

Brenda Andrews

Charlie Boone

Eleftherios Diamandis

Stephen Scherer

2015 Cheryl Arrowsmith

Julie Brill

2016 Monica Justice

The Brain Prize - Grete Lundbeck European Brain Research Foundation

2016 Graham Collingridge

Canadian Academy of Engineering Fellows

2018 Stuart Foster

Canada Gairdner International Award

2017 Lewis Kay

Canada Gairdner Wightman Award

2015 Janet Rossant

2018 Frances Shepherd

CIHR Gold Leaf Prize for Discovery

2017 John E. Dick

CIHR Health Researcher of the Year

2014 Arthur Slutsky

Dan David Prize

2014 Peter St George-Hyslop

Killam Prize

2010 Mark Henkelman

National Academy of Engineering Member (US)

2017 Stuart Foster

National Academy of Medicine Members (US)

2018 Beverley Orser
Zulfiqar Bhutta

NSERC E.W.R. Steacie Award

2013 Lewis Kay

NSERC E.W.R. Steacie Memorial Fellowship

2015 Leah Cowen

NSERC Herzberg Canada Gold Medal for Science and Engineering

2018 Lewis Kay

Royal Society (UK) Fellows

2010 Lewis Kay

2014 John E. Dick

2015 Daniel Drucker

Sloan Research Fellowship

2015 Julie Lefebvre

3.7 Future Directions in Research

The research enterprise in the Faculty of Medicine continues to adapt to advances in knowledge, an ever-changing funding environment, and an increased emphasis on innovation, commercialization and entrepreneurship. We continue to define research themes as a means for increasing inter-departmental collaborations and more effectively utilizing academic space and infrastructure. Efforts at TAHSNr continue to focus on increasing harmonization and standardization of processes and procedures, to enable smoother research operations. The Faculty of Medicine is committed to equity, diversity and inclusion, and is committed to meeting or exceeding targets for CRC allocations for the four federally-designated groups. To support a sustainable enterprise for the next generation of research and innovation, the Vice Dean will be overseeing the development of a pipeline for leadership in research and innovation, through training and faculty development. A Research-Entrepreneur-in-Residence program will be piloted.

4. ORGANIZATION AND ADMINISTRATION

4.1 Governance Structure and Leadership

The Dean of the Faculty of Medicine also serves as Vice Provost, Relations with Health Care Institutions and has responsibility for the administration and management of the Faculty and its budget. As Dean, he reports to the Vice President and Provost and works with the senior team of Principals, Deans, Directors, and Vice Provosts in support of the University's academic mission. As Vice Provost, he has responsibility for relations with affiliated teaching hospitals and other health care partners. The Vice Provost also reports to the Vice President and Provost on academic matters affecting other health science divisions in their relations with affiliated teaching hospitals and other health care partners.

4.1.1 Faculty Council

The governance of the Faculty of Medicine, with respect to all academic matters, resides with the Faculty Council under the authority of the Governing Council of the University of Toronto. The Constitution of the Faculty was last revised in December 2017 and the By-Laws of the Faculty were revised by Faculty Council in April 2018. These documents, along with Faculty Council agendas, meeting material and minutes are available on the [Faculty's website](#).

Faculty Council has responsibility for academic affairs, in particular reviewing, commenting on and approving programs and policies related to academic concerns (administrative and budget issues being the purview of the Dean). Faculty Council has representatives from: the undergraduate, graduate, and postgraduate student bodies; elected faculty members; Department Chairs; Deans; and elected members of the administrative staff. Council meets three times per year with special meetings occurring at the request of the President of the University, the Dean of the Faculty of Medicine, or no less than ten members. The Education and Research Committees of the Faculty Council play a key role in the detailed examination of relevant issues. Consistent with the separation of governance from administration, any member of Faculty Council (other than one of the Deans) can chair the Council and its Committees. Both senior administrative officers and representatives can bring policy matters from the faculty at large directly to Council for debate and approval. The membership of Council, and the type and number of Standing Committees, are defined by the Faculty's Constitution and By-Laws.

The Faculty Council approves all policies that are elaborations of University policy, or guidelines where the Faculty may have unique jurisdiction. Faculty Council is also required to approve significant educational program changes. The Faculty Council submits proposals for approval to the boards

and committees of Governing Council related to the creation and termination of academic units (departments, centres), and academic programs and the creation and termination of degree and diploma programs.

The Executive Committee of Faculty Council has overseen a recent restructuring of the Standing Committees of Faculty Council and the flow of business through those committees. This process has increased both the efficiency and the level of review of items coming forward for approval. The Executive Committee now has the ability to assign items to all appropriate Standing Committees rather than just those outlined in the By-Laws. For example, Education Committee items that have significant research content may now be reviewed by the Research Committee. Combining the Education Committee with the underutilized Continuing Education and Professional Development Committee (along with the previous amalgamation of the Graduate Education Committee with the Education Committee) has revitalized the Education Committee and eliminated unnecessary duplication. In addition, the Executive Committee continues to review and recommend amendments to the Constitution and By-Laws of the Faculty on an ongoing basis.

4.1.2 Dean's Committees

In 2015, the new Dean updated the Faculty's committee structure by reducing the size of the Dean's Executive from 27 members to 11.

Dean's Executive Committee

The Dean's Executive is the executive-level management committee of the Faculty of Medicine, chaired by the Dean. Membership comprises Vice Deans; the Associate Dean, Inclusion and Diversity; Chief Administrative Officer; Director of the Dean's Office; and the Executive Directors of Advancement and Communications. The Executive meets weekly and is actively engaged in the overall management of the Faculty, providing advice to the Dean, and tackling emerging issues.

Dean's Advisory Group

The Dean's Advisory Group (DAG) includes all the members of the Executive, as well as all senior professional managers, Associate Deans, and one representative Department Chair from each of the three sectors. The DAG meets monthly and provides advice and guidance to the Dean on a variety of issues, and is a forum for discussion of items brought forward by members.

Chairs' Committees

There are four committees of Department Chairs, advisory to the Dean, which provide guidance, advice and/or approval on items presented for discussion or information. The three sectoral committees (Clinical Chairs, Basic Science Chairs, and Rehab Chairs) each meet monthly between September and June, while the All Chairs Committee meets bi-monthly. These committees are the main fora for consultation and discussion amongst Chairs and Deans on key management issues. Items with policy or governance implications approved by the All Chairs Committee may also be referred to Faculty Council for movement through the Faculty Council governance process if there are also academic implications.

The current Dean has delegated the chair of the sectoral chairs committees as follows: Clinical Chairs – Vice Dean, Partnerships; Basic Science Chairs – Vice Dean, Research and Innovation; Rehab Chairs – Vice Dean, Graduate and Academic Affairs.

Budget Committee

First created in 2005, the Budget Committee advises the Dean on financial and budgetary matters in the Faculty of Medicine. Currently, the committee meets on an ad hoc basis, typically at the beginning of the University's budget planning cycle. Membership is at the invitation of the Dean and has representation from the key educational portfolios, research, senior management, and each of the three sectors.

4.1.3 Faculty Leadership

The Office of the Dean

2011 – 2014 (Dean Catharine Whiteside)

During the term of Dean Whiteside and since the last external review, one change was made to the decanal organizational structure in 2014 (other than normal reappointments and new appointments) - the creation of the role of **Associate Dean, Medical Education (Regional)**. This University position was created as a joint senior leadership position combined with the role of Vice-President, Education, Trillium Health Partners (THP) to provide oversight of medical education based in Mississauga and integrated oversight of all THP education. See organizational chart in **Appendix 15**.

2015 – 2018 (Dean Trevor Young)

At the beginning of his term in early 2015 the new Dean undertook a consultation process to review the Faculty of Medicine decanal structure, which culminated in the visit of an advisory panel to make

specific recommendations to the Dean regarding the most effective organizational structure for the Faculty of Medicine. During the course of their visit in March 2015, the panel members met with senior University leadership, (including the Provost and Vice Provost, Academic Life, the Vice President, Research and Innovation, the Dean of Medicine, and Deans of other divisions), as well as with the Vice Deans and Senior Management team of the Faculty of Medicine. As a result of these consultations, the leadership structure of the Faculty of Medicine was updated in accordance with the new Dean's priorities, including creating stronger partnerships locally and globally, strengthening our basic sciences sector, and streamlining delivery of education for our learners:

- The position **Vice Dean, Partnerships** was created, responsible for helping the Faculty work more closely with government, the Toronto Academic Health Science Network, our community partners and our key international partners. The Vice Dean, Partnerships also assumed the role of **Associate Vice Provost, Relations with Health Care Institutions** – a reflection of the position's close ties and involvement with affiliated hospitals.
- The role of **Chief Diversity Officer** was created in early 2016 to provide leadership on matters of diversity and inclusion. As of December 2018, that role was changed to **Associate Dean, Inclusion & Diversity**, and the appointment now falls under the University's Policy on Appointment of Academic Administrators.
- The position of Deputy Dean was changed to Special Advisor to the Dean for a one-year term, and ended thereafter;
- The Vice Dean, Research and International Relations became the **Vice Dean, Research and Innovation** to align with the central University's Vice President's portfolio;
- The Vice Dean, Postgraduate Medical Education became the **Vice Dean, Post MD Education**, assuming responsibility for the Continuing Professional Development portfolio, along with postgraduate medical education;
- The **Associate Dean, Continuing Professional Development** replaced the role of Vice Dean, Continuing Education and Professional Development. The new position reports to the Vice Dean, Post MD Education;
- The Vice Dean, Undergraduate Medical Professions Education became the **Vice Dean, MD Program** and retained portfolio responsibilities for the MD, Medical Radiation Sciences and Physician Assistant Programs;
- The Vice Dean, Graduate and Life Sciences Education became **Vice Dean, Graduate and Academic Affairs**, with additional responsibility for external reviews of departments and EDUs;
- The Vice Dean, Clinical Affairs became **Senior Advisor to the Dean on Clinical Affairs** with responsibility for clinical faculty appointments, and liaising with the College of Physicians and Surgeons of Ontario and the Royal College of Physicians and Surgeons of Canada, among other duties. The Senior Advisor position is a limited term appointment and does not fall under the University's *Policy on Appointment of Academic Administrators*;

- The positions of Associate Dean, Undergraduate Admissions and Student Finances and Associate Dean, Physician Scientist training were both changed to Directors, reporting to the Vice Dean, MD Program. Director appointments do not fall under the University’s *Policy on Appointment of Academic Administrators*; and
- The Associate Dean of Research and Associate Dean, Equity & Professionalism positions were eliminated.

See also organizational charts in [Appendix 16](#).

Equity, Diversity and Inclusion (EDI)

Since its establishment in 2016, the Faculty’s Diversity Office has been committed to working in collaboration across the Faculty of Medicine to carry out its EDI mandate. This includes designing programs and policies that support and promote an inclusive learning and working environment; collaborating with clinical and University partners to collect robust diversity and equity data from faculty, staff and learners; and, providing advice, guidance, and support on issues of diversity, equity, inclusion and human rights on an as-needed basis to all members of the Faculty of Medicine community.

Under the leadership of Associate Dean Lisa Robinson, the Diversity Office also advises and collaborates on the implementation of equity and diversity priorities for the Faculty in the areas of admissions, recruitment, curriculum education, and retention; and, the Office develops operational plans that include metrics to determine success, and reporting on diversity and inclusion activities and concerns across the Faculty. Prof. Robinson also chairs the Diversity Advisory Council, a Faculty-wide group that provides advice and recommendations to the Dean’s Office related to priority EDI initiatives.

Among the EDI achievements to date:

- The creation and dissemination of the “Voice of the Faculty of Medicine” surveys for learners, staff and faculty members to assess, analyze and measure levels of diversity, and gain greater insight into perceptions of the Faculty’s culture and climate;
- The re-launch of the Diversity Mentorship Program, which matches 1st and 2nd year medical students from equity-seeking groups with individual faculty members for guidance, encouragement and support;
- The creation of the Diversity Dialogue speaker series to engage the Faculty of Medicine community and raise awareness on issues of equity, diversity and inclusion in the health professions and in research;
- Collaboration with the Black Physicians Association of Ontario to provide sessions for Black residents and physicians regarding opportunities for mentorship, academic appointments and academic promotions;
- Partnership with SickKids hospital to organize and promote an annual Inclusion Day event to

- bring together learners, staff and faculty members to engage on EDI issues in healthcare;
- The creation and coordination of EDI onboarding information for new staff as well as training for various administrative staff units;
 - The consolidation of relevant and practical EDI resources and tools on the Faculty of Medicine website for access by all community members;
 - Increased collaborations between learners, faculty and staff on EDI initiatives, programs, and activities.

4.2 Departments, Centres, and Research Institutes

Spanning the Basic Sciences, Clinical, and Rehabilitation Sciences, the Faculty of Medicine comprises 26 departments and institutes (EDU-As and -Bs) and 13 research centres (EDU-Cs). It is also the lead faculty for 8 collaborative specializations (two of which are ending upon graduation of their current cohorts of students). See [Appendix 17](#) for a complete list of active academic units and collaborative specializations.

Basic Sciences Sector

Underlying the Faculty's role in medical education is a rich tradition of scientific inquiry that comprises the Basic Sciences Sector and extends across some of the most productive research labs in the country. Over 600 active investigators span the disciplines of **Anatomy, Biochemistry, Immunology, Laboratory Medicine and Pathobiology, Medical Biophysics, Molecular Genetics, Nutritional Sciences, Pharmacology & Toxicology, and Physiology**. In addition, multidisciplinary research centres – including the **Donnelly Centre for Cellular and Biomolecular Research**, and the **Institute of Biomaterials and Biomedical Engineering** – are making important advances in biology and medicine. As outlined in Section 2.2.2 the Basic Sciences departments play a critical role in graduate and undergraduate life sciences education.

Clinical Sector

The Clinical Sector of the Faculty of Medicine encompasses 12 departments responsible for 79 accredited postgraduate programs networked across the range of fully affiliated and community-affiliated hospital sites: **Anesthesia, Family and Community Medicine, Laboratory Medicine and Pathobiology** (also part of the Basic Sciences Sector), **Medical Imaging, Medicine, Obstetrics and Gynaecology, Ophthalmology and Vision Sciences, Otolaryngology – Head and Neck Surgery, Paediatrics, Psychiatry, Radiation Oncology, and Surgery**. Clinical research is a strong pillar of all departments. In addition, the **Institute of Medical Science** was established in 1967 to foster education and scholarship in the Clinical Sector; this is a graduate unit of choice for MDs who seek training as clinician-scientists.

Rehabilitation Sciences Sector

This sector is made up of three departments – **Occupational Science and Occupational Therapy, Physical Therapy, Speech-Language Pathology**, and one extra-departmental unit - the **Rehabilitation Sciences Institute**. In addition to offering professional Master’s programs in core rehab disciplines, the sector also supports research-based graduate degrees. Students benefit from the most extensive network of clinical facilities available in North America, as well as outstanding faculty, who are known nationally and internationally. Since the founding of these programs, which emerged to support injured veterans returning from war, our faculty, students and graduates have sought to improve the quality of life for clients close to home, across Canada and around the world.

Extra-Departmental Units (EDUs)

Extra-departmental units are multi-disciplinary, multi-departmental groups with faculty and students engaging in commonly focused areas of research. [The University of Toronto Guidelines for Extra-Departmental Units](#) provide a framework for the establishment and operation of interdisciplinary EDUs. At the Faculty of Medicine, EDUs are frequently established in collaboration with one or more [TAHSN hospitals](#) and are designed to foster research and education across diverse units.

In 2013, the Dean of Medicine struck a [Task Force to Review EDU-Cs in the Health Sciences at University of Toronto](#), which recommended principles and guidelines for planning and implementing EDU-C, -Ds and Networks. EDU-Cs undergo regular review (see Academic Reviews section below) and must demonstrate continued renewal of relevant and strategic academic goals and appropriate resources. Since 2013, there has been some realignment in the portfolio of EDUs, which is outlined in **Appendix 18**.

The Faculty of Medicine is also a partner in a number of other multi-institutional research collaborations, such as the [Medical Psychiatry Alliance](#), [Ted Rogers Centre for Heart Research](#), and [Toronto Dementia Research Alliance](#).

Academic Reviews

In its commitment to academic excellence, the University of Toronto mandates that all academic units and degree and diploma programs undergo periodic external review. The protocols for academic reviews are governed by the University’s [Policy for Approval and Review of Academic Programs and Units](#) and the [University of Toronto Quality Assurance Process](#) (UTQAP) with oversight by the [Provost](#) and [Vice Provost, Academic Programs](#). Ratified by the [Ontario Universities Council on Quality Assurance](#) (Quality Council), the UTQAP outlines the protocols for the assessment and approval of new degree programs, review of and modifications to existing degree programs, and closures of degree programs. Programs reviewed include [collaborative specializations](#) and programs offered in partnership with other academic

institutions. The UTQAP protocols are distinct from accreditation by professional governing bodies (e.g. the undergraduate LCME/CACMS accreditation process).

At the Faculty of Medicine, systematic reviews of its departments, EDUs, and programs are a critical process of accountability. In a strong tradition of ongoing appraisal and quality improvement, the Faculty of Medicine follows standard operating procedures (developed for each of its academic unit types) that conform to the University's and province's principles and requirements. The review protocols include terms of reference that identify key issues, a self-study report by a wide range of contributors, a visit by external reviewers who meet with a broad range of constituents, a reviewers' report of findings, and Chair's/EDU Director's and Dean's responses. The findings and responses proceed through Faculty of Medicine and University governance and, in the case of UTQAP reviews, provincial oversight.

The Dean commissions external reviews to coincide, normally, with the end of the term of Department Chairs and EDU Directors—approximately every 5 years. UTQAP reviews of its collaborative specializations are conducted at up to 8-year intervals. External reviews at the Faculty of Medicine are designed to dynamically engage all members of academic units and program communities. Reviewers' findings are intended to inform both the strategic priority-setting of academic units and the reappointment of, and search for, unit heads.

See [Appendix 19](#) for a list of departments, EDUs, and programs that underwent review from 2010-11 to 2018-19. Documents related to all external reviews are available upon request.

4.3 Administration

4.3.1 Chief Administrative Officer

Reporting to the Dean, the Chief Administrative Officer (CAO) is the most senior administrative staff position in the Faculty of Medicine and serves as a key partner in defining and accomplishing the Faculty's strategic goals and objectives. Executive responsibilities include oversight of all administrative services, including finance, human resources, information technology, facilities management and space planning, health and safety, security and logistics services.

The CAO provides leadership and direction for the overall operational management of the Faculty and provides guidance and support to the business managers in the Faculty's departments and other business units. The senior management positions reporting directly to the CAO are: Comptroller and Chief Financial Officer; Director of Human Resources; Director of Information Technology; Director of Facilities Management and Space Planning; and the Manager of MedStore². The CAO also maintains

² MedStore services the Toronto medical research community with expert knowledge and professional service. It is owned and operated by the University of Toronto and has become the preferred product supplier to many of the leading research projects within the

a close working relationship with the Director of the Dean's Office, and the Executive Directors of Advancement and Communications (all of whom are members of the Senior Management Group), to address common issues.

The CAO represents the Faculty on a number of senior-level University standing and ad hoc committees, and delegates some representation to the CFO and various portfolio directors. The CAO also liaises with senior central University staff to address complex institutional issues as they arise. In addition, the CAO is engaged in the administration of the Faculty's working relationships with external organizations, including hospital partners and government ministries.

4.3.2 Financial Management

Pre-New Budget Model Implementation (pre-2007-08)

Prior to the implementation of the University's New Budget Model (NBM) in 2007-08, the Faculty of Medicine operated under a budget framework that clearly outlined the budget allocation process for all departments and units within the Faculty. Each fiscal year, departments would receive their prior year funding allocation adjusted for items such as salary increase funding, cost containment, Academic Priority Fund /Academic Initiatives Fund awards, and enrolment expansion funding. The Faculty's budget practice with its departments in many ways mirrored the University's budget practice with its divisions.

With respect to expansion funding, the Faculty received a portion (typically 75%) of incremental government grant revenue and tuition revenues driven by enrolment expansion in its various programs including Undergraduate Medical Education, Radiation Sciences, Postgraduate Medical Education, and Graduate Education (including Rehab Sciences and Professional Master's programs). The portion retained centrally (typically 25%) supported centrally managed budgets (e.g. Library, Space, Advancement, and Central operational and academic portfolios). In most cases, the Faculty would distribute 25% of its proceeds to the Dean's Office to support expenditure managed by the Dean's Office, such as the Faculty's administrative service units and other overhead, Decanal/Chair/Centre Director salaries and a variety of academic initiatives. The remaining revenue was flowed to the departments to fund the incremental costs of expansion and program development managed at the department level. These funding transfers also provided an important financial incentive for departments to sustain and further expand enrolment levels.

The Faculty was in an annual favorable financial position where revenues exceeded commitments for departmental funding allocations, salaries for senior academic leadership positions and Faculty administrative support services. This resulted in an annual operating contingency and capacity for the

broader Toronto Discovery District.

Dean's Office to provide funding support for special opportunities such as the recruitment of new on-campus faculty and capital projects.

The Dean at the time requested that every unit develop a plan to create a 10–15% (or higher) contingency in their base budget. This process brought clarity and transparency to the budgeting process and enabled the CFO's office to assist units in establishing more robust financial management practices. Generally, deficit budgeting was not allowed. The Dean did not approve requests to the Provost for establishing new on-campus faculty positions unless accompanied by a financial plan demonstrating sustained and adequate funding support. The academic budget units were allowed to retain their operating reserves. Upon retirement of tenured faculty, the departments retained funding to support an entry-level salary.

By the end of fiscal 2006-07, the Dean's Office had an operating contingency reserve of \$15M, and all academic units had positive carry forward positions.

New Budget Model (NBM) Implementation (2007-08)

The overall budget of the University was analyzed in detail, and a decision by the Business Board to change the management of the budgeting process led to the establishment of a new revenue/expense model in 2007-08. In this model, the University distributes all revenues related to education and research activities to the Faculties and then recovers shared University expenses based on a formula that takes into account relevant drivers for university-wide expenditures, such as the number of students, faculty and staff, as well as total revenues including research revenues.

At the launch of the New Budget Model (NBM), the revenues were adjusted with the intent that no Faculty would be adversely affected by the model at the outset. This annual revenue adjustment comes from the "University Fund" to which all Faculties contribute (10% of all new revenues). The Faculty of Medicine is a net recipient of revenue from the University Fund. The Faculty of Medicine also decided to fund the expense for salary increases for faculty and staff incurred at the department level. The Dean implemented a 3% cost containment across all budget units to fund this annual redistribution of revenues. For most units this 3% cost containment and additional revenue to cover salary increases is revenue neutral. Since the launch of the NBM, at the time of retirement of on-campus faculty members, the department retains a base entry-level salary and returns the remainder of the salary funding to the Faculty.

The Faculty undertook an extensive analysis of all revenues and expenses across every academic and administrative unit. As of 2006–07, each department and unit was asked to prepare a multi-year budget using a consistent set of assumptions. These assumptions included planning for ongoing 3% per annum 'base' cost containment measures and the provision by the Faculty of the funds required to meet annual salary increase commitments. Further, each unit was asked to maintain an operating contingency reserve of 10–15% of operating revenue for the purposes of strategic future investment and creating a

buffer against unforeseen expenses and/or funding reductions.

Under the NBM, 100% of expansion revenues were attributed to the Faculty. The Faculty maintained the historical distribution agreements it had with its academic units. The revenue previously retained by the Centre was now retained by the Faculty to cover University Wide Cost (UWC) attribution.

The concept of a Faculty Reserve was introduced into the Faculty's accounting structure in recognition of our divisional financial management responsibility under the NBM. The Faculty Reserve assumed the "central" expenses, including all building occupancy costs and service expenses, as well as the provision of annual salary increase funds to departments. It was anticipated that salary increases and the incremental growth in UWC attribution would be covered by the combination of a 3% base cost containment strategy, revenue retained by the Faculty on enrolment expansion revenues, and incremental indirect costs on research grants and contracts.

A significant structural deficit effective 2007–08 put the planned implementation of key strategic priorities at risk and an analysis was undertaken to gain an understanding of the apparent impact of the NBM implementation on resource availability to the Faculty of Medicine. It was evident that the attribution methodology of UWC to the Faculty of Medicine with the implementation of the NBM, driven primarily by our research-intensity and occupancy costs, resulted in the elimination of a Faculty-wide contingency by the third year of operating under the NBM. By 2009–10, the Faculty Reserve was projected to be in a structural deficit position of -\$6M, notwithstanding consistent operational activity as compared with prior planning periods.

One of the key factors impacting on divisional central cost attribution is the revenue driver, and the inclusion of the research enterprise in its calculation. Revenue drives a significant portion of central costs. An analysis of the research vs. non-research cost driver profiles for Medicine compared to two of its peers, Arts & Science, and Engineering, demonstrated that Medicine incurs a higher proportional share of costs driven by revenue because of the inclusion of research activity in the driver. The comparison showed that incremental increases in UWC have a greater proportional impact on Medicine than on its peer divisions (and likely all other divisions). This results in significantly less net revenue falling to Medicine's bottom line, the effect of which is enhanced when Central costs increase.

The Period since NBM Implementation (2008–09 to 2017–18)

Over the next several years, the Faculty benefited from new revenues, such as an increase in funding per medical student in Ontario, an increase in funding for expansion of our postgraduate medical residency program, graduate expansion, and expansion in undergraduate Arts & Science student teaching. In addition, the Faculty negotiated a significant increase in funding for our MD postgraduate visa trainee program. However, the cost of our expensive research buildings coupled with the fact that research activity results in a net financial loss for the Faculty offset much of the growth in educational program revenue.

In addition to the impact of the UWC under the NBM, the Faculty also suffered a notable decline in University Fund (UF) funding as a percentage of the operating budget. The portion of the Faculty's 2016–17 gross operating budget supported by the UF was 6.3% compared to the divisional average of 9.7%. In comparison, in 2008–09, approximately 13% of the Faculty's gross operating budget was supported by the UF, a proportion that, if maintained, would have yielded an additional \$7.4M annually to the Faculty by 2016-17.

See **Figure 4.3.2.1** for operating revenues and expenditures for the period 2014-15 to 2018-19.

Figure 4.3.2.1: Original Budget for Operating Revenue and Expenditures

Original Budget for Operating Revenue and Expenditures ¹						
	2014-15 ²	2015-16 ³	2016-17	2017-18	2018-19	
Revenue						
External						
Provincial Grant Revenue	117,156,218	111,096,959	111,591,933	113,012,192	117,598,788	
Tuition Revenue	43,798,534	42,749,393	45,343,350	48,736,816	50,187,498	
Divisional Income	48,916,133	57,392,380	60,178,751	68,744,978	64,442,273	
External Salary/Benefit Recoveries	40,251,611	39,709,056	41,983,933	39,919,137	37,830,855	
Overhead on Research	18,471,707	17,308,478	15,422,822	14,637,943	17,855,061	
	268,594,203	268,256,266	274,520,789	285,051,066	287,914,475	
Central attributions						
University Fund Allocation	17,381,747	17,729,475	18,326,251	20,110,081	19,538,290	
Endowment Revenue	12,252,660	12,022,907	12,370,756	12,224,874	12,646,275	
Internal Non Salary Recoveries	56,505,311	56,873,160	75,404,191	87,559,781	88,494,476	
Internal Salary/Benefit Recoveries	7,814,727	6,866,468	6,906,173	7,100,703	7,051,263	
Investment Income	5,960,793	6,115,467	4,870,001	5,502,716	8,656,386	
Other Income	2,495,992	2,669,091	2,576,373	2,723,168	2,790,564	
	102,411,230	102,276,568	120,453,745	135,221,323	139,177,254	
Gross Attributed Operating Revenue	371,005,433	370,532,834	394,974,534	420,272,389	427,091,729	A
Expenditures						
Central Expenditures						
University Wide Costs (Table 2)	78,757,567	76,548,307	78,861,762	82,370,757	84,917,686	
University Fund Contribution	16,696,809	15,947,177	16,136,743	16,680,480	17,598,270	
Student Aid Set-Aside	14,875,882	14,587,916	15,199,949	15,138,015	14,975,273	
	110,330,258	107,083,400	110,198,454	114,189,252	117,491,229	B
Net Attributed Operating Revenue	260,675,175	263,449,434	284,776,080	306,083,137	309,600,500	C=A-B

Original Budget for Operating Revenue and Expenditures ¹						
	2014-15 ²	2015-16 ³	2016-17	2017-18	2018-19	
Faculty Expenditures						
Academic Salaries	90,416,997	88,539,744	90,673,885	93,218,082	95,598,870	
Non-Academic Salaries	49,957,068	50,365,084	50,411,480	52,715,588	51,239,878	
Employer Benefit Plan Costs	30,832,854	29,935,209	31,088,246	30,354,758	26,513,623	
Supplies & Services	84,518,825	90,335,789	108,299,958	124,695,559	131,235,753	
Student Aid	4,949,431	4,273,608	4,302,511	5,099,150	5,012,376	
	260,675,175	263,449,434	284,776,080	306,083,137	309,600,500	D
Revenue less Expenditures	-	-	-	-	-	E=C-D
Notes:						
1. The University requires Faculties to submit a balanced budget as presented above. The projections in Figure 4 reflect existing Faculty projections which explains the variance between Figures.						
2. Effective July 1, 2014 IHPME transferred from the Faculty of Medicine to the DLSPH (2014-15 includes IHPME).						
3. Effective July 1, 2015 Life Course and Aging and JCB transferred from the Faculty of Medicine to the FSW and DLSPH respectively (2015-16 Includes JCB & ILCA).						

Each Faculty is now required to pay for all centrally incurred costs, including all occupancy costs of their buildings; See Figure 4.3.2.2 for details of the University Wide Costs listed in Figure 4.3.2.1.

Figure 4.3.2.2: Faculty of Medicine' Share of Budgeted University-Wide Costs

Faculty of Medicine's Share of Budgeted University-Wide Costs					
	2014-15 ¹	2015-16 ²	2016-17	2017-18	2018-19
Occupancy Costs	20,516,212	19,783,803	20,654,680	20,747,871	19,772,771
Information Technology	3,691,523	3,810,076	3,981,075	4,560,435	4,806,876
University Management	3,303,603	3,176,567	3,488,063	3,611,629	3,936,839
Financial Management	1,560,568	1,517,788	1,414,238	1,386,524	1,455,755
Human Resources	3,661,655	3,561,929	3,882,026	3,679,017	3,742,868
Pension Debt Amortization	10,836,990	11,032,903	11,499,377	12,052,464	12,709,245
University Advancement	3,683,688	3,778,356	4,468,530	4,443,064	4,967,063
Library	12,269,441	11,731,394	11,712,755	13,262,745	14,350,567
Research Administration	4,731,898	4,780,378	5,305,741	5,875,589	6,297,095
Student Recruitment & Registrarial	2,993,524	2,759,922	2,573,847	2,933,042	3,345,448
University Wide Academic Expense	6,245,847	5,640,351	5,158,436	4,911,085	4,861,626
University Wide General Expense	5,262,617	4,974,841	4,722,994	4,907,291	4,671,533
	78,757,566	76,548,307	78,861,762	82,370,757	84,917,686
Notes:					
1. Effective July 1, 2014 IHPME transferred from the Faculty of Medicine to the DLSPH (2014-15 includes IHPME).					
2. Effective July 1, 2015 Life Course and Aging and JCB transferred from the Faculty of Medicine to the FSW and DLSPH respectively (2015-16 Includes JCB & ILCA).					

Over the last decade, significant new revenues from enrolment expansion in all educational programs have been shared with departments in direct proportion to their respective enrolment growth. The rapid expansion in the undergraduate and postgraduate medical education programs, as well as increased revenues from enrolment of international medical graduates and visa trainees has enhanced the cash flow to the clinical departments in larger proportion than to the other sectors. This led to imbalances in which some departments found themselves with structural surpluses, while others saw their deficits grow.

In addition, the last six years saw other specific budget developments that added financial pressures on the Faculty:

- Not increasing MD tuition to the maximum allowed,
- Ministry grant and tuition revenue reductions,
- Pension deficit funding increase,
- University-Wide Cost increases,
- External building leases and costs,
- Funding departmental structural deficits, and
- Investments in the Dean's Office.

The key measures taken by the Faculty to address these pressures included:

- Base and OTO cost containment;
- Transfer salary increase funding obligation to departments;
- Decrease postgraduate government grant funding distribution to departments;
- Post MD funding transfers to Faculty reserve;
- Transfer Operating Contingency Reserve from select departments;
- Faculty Reserve reduction See **Figure 4.3.2.3**;
- 4 new Professional Master's Programs;
- Rehab Science expansion;
- Space reversions to central inventory; and
- Growth in fundraising. See **Figure 4.3.2.4**

Figure 4.3.2.3: Faculty of Medicine Operating Reserve by Sector

FACULTY OF MEDICINE					
OPERATING RESERVE BY SECTOR					
SECTOR	2013-14	2014-15	2015-16	2016-17	2017-18
DEAN/SERVICE	3,307,592	2,042,191	(15,553,685)	(24,111,128)	(31,982,473)
RESEARCH *	7,001,589	7,760,574	6,658,682	7,003,608	5,801,806
EDUCATION	18,791,138	17,843,940	15,222,976	12,521,386	8,021,478
BASIC SCIENCE	15,855,116	14,218,872	12,240,949	11,511,961	15,792,358
CLINICAL SCIENCE	52,848,439	42,693,575	36,197,646	30,576,175	29,115,578
REHABILITATION SCIENCE	7,375,803	5,684,016	3,966,447	3,055,780	3,659,926
COMMUNITY HEALTH **	2,367,896	-	-	-	-
TOTAL	107,547,573	90,243,168	58,733,015	40,557,782	30,408,673
* Effective July 1, 2015, the Life Course and Aging and the Joint Centre for Bioethics transferred from the Faculty of Medicine to the FSW and DLSPH respectively (2013-14 and 2014-15 include JCB & ILCA).					
** Effective July 1, 2014 IHPME transferred from the Faculty of Medicine to the DLSPH (2013-14 includes IHPME).					

Figure 4.3.2.4: Faculty of Medicine Endowment, Expendable and Research Funds

Faculty of Medicine					
Endowment, Expendable and Research Funds					
	2013-14	2014-15	2015-16	2016-17	2017-18
Endowments *					
Book value, April 30	405,949,182	416,110,346	421,701,477	429,536,168	440,344,844
Market value, April 30	497,303,869	563,930,901	549,647,404	618,148,530	650,060,868
Expendable Funds *					
Associated with endowments	51,824,115	54,767,432	53,571,087	55,879,208	61,814,303
Unassociated with endowments	64,888,680	64,485,808	61,043,217	66,874,138	72,360,157
	116,712,795	119,253,240	114,614,304	122,753,346	132,510,200
Investment Income					
From endowments	19,649,908	20,357,537	20,744,348	21,468,795	22,613,225
From expendable funds	422,378	597,709	323,161	270,681	605,807
	20,072,286	20,955,246	21,067,509	21,739,476	23,219,032
Donations received during the year					
New endowment capital	11,940,793	7,791,497	5,687,304	8,010,059	5,883,566
New expendable donations	15,014,040	20,913,537	16,983,401	18,993,669	23,143,569
	26,954,833	28,705,034	22,670,705	27,003,728	29,027,135
Research grant funding received during the year					
University administered	125,947,202	110,297,334	123,514,709	138,124,391	127,964,224
Hospital administered	683,278,681	685,883,469	727,597,879	726,656,867	n/a
	809,225,883	796,180,803	851,112,588	864,781,258	n/a
* The University's investments are managed using two pools. The long-term capital appreciation pool includes endowment funds. All other funds are managed in the expendable pool.					

Fiscal Planning: 2017–18 to 2021–22

In order to respond to the projected fiscal challenges over the longer term, the Faculty engaged external consultants who were asked to review and assess the budget and the relevant historical factors that

were contributing to a structural deficit and advise the Dean on future sustainability. Late in 2017, while continuing to evaluate the consultants' advice, a new institutional framework for interdivisional teaching (IDT) was discussed with academic divisions and the central university. The framework was to apply to the Faculty's extensive teaching of undergraduate Arts & Science courses (see more on undergraduate Arts & Science teaching in Section 2.2.2).

On an annual basis, in excess of 16,000 head count equivalents are taught by the Faculty. The introduction of the new IDT framework saw a significant shift in the allocation of undergraduate teaching revenues. The Faculty's net benefit from the new framework was \$13 million for 2018-19 teaching and this annual net benefit was expected to increase as tuition increases in future years. The significant incremental IDT funding brought the Faculty's annual budget to a balanced or small surplus position from 2018-19 to 2021-22; See **Figure 4.3.2.5**.

Figure 4.3.2.5: Faculty of Medicine 5 Year Operating Projections

Faculty of Medicine 5 Year Operating Projections * (in \$ millions)					
June 2018					
	2017-18	2018-19	2019-20	2020-21	2021-22
Faculty Revenues *	295	310	310	311	311
Faculty Expenses	302	306	309	310	311
Faculty Deficit	(7)	3	1	1	0
Total Accumulated Operating Reserve	30	33	34	35	35
The University requires Faculties to submit a balanced as presented in Table 1. The projections in Table 5 reflect the existing Faculty commitments which explains the variances in both Figures.					
* Net allocation to the Faculty of Medicine from the central university plus divisional income.					

The incremental funds allowed for an internal redistribution of funds to address structural deficits as recommended by the external consultants. Further enhancements were made to the funds allocated to select departments. The amount of IDT transfers to departments was doubled over the historic allocation, an increase of over \$4 million per year. In addition, almost \$8 million of additional base funds were transferred to departments to eliminate their structural deficits. As a result, as at June 2018, all departments were anticipated to have an annual balanced budget for 2018-19.

In order to manage imposed financial constraints, variances in its resource profile and the associated financial risks, the Faculty engages in continuous modeling and analyses of the projected state of its

resources. The Faculty's ability to invest responsibly in strategic priorities and take advantage of new opportunities relies on its ability to manage and sustain an adequate level of resources both at the Faculty level and department level.

The future of new Canadian medical residents and fellows from Saudi Arabia became uncertain late during the 2018 summer. Although the financial impacts of this may be significant, the Faculty will continuously work to ensure its long-term financial health.

4.3.3 Office of Advancement

The Office of Advancement was established in 2000 with a mandate to grow fundraising and alumni engagement, along with communication activities to support those efforts. The Office of Advancement is led by the Executive Director, who reports to the Dean of Medicine and University Vice-President, Advancement.

In 2010, the Office of Advancement aimed to double annual fundraising revenue to sustain \$30M-\$40M per year. As part of the University's \$2B Boundless Campaign, the Faculty of Medicine announced a \$500M campaign goal, which was increased to \$600M in 2016. By the campaign end on December 31, 2018, the Faculty had raised more than \$637M.

During 2013–2015, the Office of Advancement experienced significant leadership changes with the departure of both the Executive Director and Director of Development, and then the departure of the subsequent Executive Director at the end of 2015. During this time, there was also a significant restructuring and reorganization, with several positions eliminated. However, by early 2016, the development (front-line fundraising) team was at full complement and strategically supported to identify, cultivate, solicit and steward major gifts donors. Senior Development Officer portfolios were reviewed and readjusted to become more donor-centric, market-centric, and to generate more activity with respect to key metrics (number of donor meetings, number of major gift solicitations, and fundraising revenue). Additionally, key business objectives were revisited: (1) raising funds to advance the mission of the Faculty, (2) providing excellent and meaningful stewardship to current stakeholders (donors and alumni), and (3) providing meaningful engagement opportunities to attract new stakeholders (prospective donors and unengaged alumni). The Office of Advancement now also benefits from excellent integration with Medicine Communications (MedComms) with a dedicated writer and communications officer focused on advancement priorities and collateral.

The Advancement team is highly collaborative and integrated. With ongoing support from the Dean, the Advancement Office maintains strong relationships with Department Chairs, academic leaders and faculty members and is seen as a trusted resource for philanthropic discussions and opportunities.

Milestones and Progress on Strategic Directions Since the Last External Review

Since 2010 the Faculty of Medicine has sustained its fundraising programs in four major areas: major gifts (including those considered principal gifts at the \$5 million+ level), leadership giving, annual giving, and planned gifts.

Figure 4.3.3.1: Six Year Pledge Totals

	FY12/13	FY13/14	FY14/15	FY15/16	FY16/17	FY17/18
Major Gifts secured by Faculty of Medicine Advancement (>\$25K)	\$27,776,285	\$23,113,744	\$17,451,843	\$14,242,755	\$37,378,513	\$24,714,662
Principal Gift(s) coordinated by, or in partnership with, DUA	\$30,000,000	\$20,000,000	\$20,523,798	n/a	n/a	n/a
Leadership Gifts (\$1K - \$25K)	\$2,591,625	\$2,203,681	\$2,607,022	\$2,048,905	\$4,274,117	\$3,690,831
Annual Gifts (<\$1K)	\$312,067	\$333,412	\$308,995	\$292,110	\$241,682	\$265,169
Realized Planned Gifts	\$1,807,520	\$1,399,668	\$721,414	\$2,948,651	\$1,944,248	\$1,952,778
Other (GIK, etc.)	\$0	\$2,450	\$10,123	\$800	\$1,169,030	\$16,205
Total Pledges	\$62,487,497	\$47,052,954	\$41,623,195	\$19,533,221	\$45,007,590	\$30,639,645
Total Payments	\$34,229,249	\$37,532,579	\$30,876,837	\$16,359,748	\$24,306,651	\$21,018,071
Number of Donors	2,292	2,284	2,260	1,929	1,961	2,041

Source: Advancement Reporting Services reports “Pledge Summary” and “Pledges by Fiscal Year”

Despite leadership vacancies, transitions and staff restructuring over the years, the Faculty of Medicine surpassed its \$500 million campaign goal early. This is a great credit to the work of dedicated and effective staff in the Office of Advancement, as well the support of the Dean and colleagues in the central Division of University Advancement.

Some examples of activities that have led to achieving this campaign goal include:

- A strong focus on metrics which has resulted in achieving 94% of our annual solicitation goal and 78% of our annual meeting goal (FY2017–2018);
- A demonstrated commitment to business planning and identifying annual Goal Setting Prospects with 60% solicited (compared to U of T average of 42%), 37% leading to secured gifts (compared to U of T average of 20%), and 80% met with (compared to U of T average of 62%) (FY2017–2018);
- The reimagining of signature donor events which has resulted in an increase in donor attendance (10% increase at Dean’s Lunch, and 40% increase at U of T Med Student Showcase) (FY2017–2018);
- Achieving a new standard of 100% donor financial report completion rate – total of 238 unique

reports (FY2017–2018);

- Strengthening of relationships with academic leaders, including the Dean, Vice Deans and Department Chairs;
- A strong focus on donor identification and cultivation and establishing strong and healthy long-term donor pipelines;
- High retention of the Senior Development Officers;
- Partnership with Continuing Professional Development to integrate sponsorship revenue, where appropriate and aligned with campaign counting policies;
- Integration of Alumni Relations, Leadership & Annual Giving and Communications;
- Participating in the University’s Alumni Reunion Weekend and launch of class giving and reunion campaign within the MD Program.

Donor Stewardship

The stewardship of donors – at all levels – is a top priority for the Office of Advancement. In FY2017–2108, approximately 65% of all donors had made a gift to the Faculty of Medicine in a previous year. The Office of Advancement prioritizes providing excellent and meaningful stewardship to donors as it continues to build a culture of philanthropy within the Faculty of Medicine. An intentional effort is made to involve academic leadership, faculty members and trainees in stewardship efforts.

In addition to optimizing stewardship events, the Office of Advancement has also integrated awards and recognition into stewardship practices. This includes the nomination of donors for various Faculty, University or community awards, leveraging University-wide recognition programming, maintaining and continuing to enhance a Faculty of Medicine donor wall, as well as the introduction of cost effective and meaningful gifts for donors (including creative medical illustrations that speak to the impact of their giving).

Alumni Relations

The Office of Advancement has optimized and enhanced alumni programming within the Faculty of Medicine to include meaningful and thoughtful engagement opportunities.

In 2016, a number of initiatives aimed to bring students and young alumni together for mutual benefit were launched, including the student advisor program, a student club funding initiative, and mentorship programs. For residents and fellows leaving the Faculty, family friendly graduation events are held by clinical departments.

The alumni relations program engages audiences by community of practice. Thirteen alumni associations are affiliated by specialty (i.e. Anesthesia, Surgery, Otolaryngology, etc.) and the Office of Advancement

builds capacity within each department for alumni to remain engaged with their academic home. A number of Alumni Relations tools are being leveraged to better engage our alumni, such as:

- Inviting alumni to high-touch events, such as breakfasts with Dean;
- Alumni profiles in the bi-monthly alumni e-newsletter;
- Inviting alumni to interact with student clubs as mentors, speakers, etc.;
- Asking alumni to provide observership opportunities for students;
- Inviting alumni to sit on awards selection committees;
- Reimagining of annual alumni signature events, including Inside the Issue, and Alumni Reunion;
- In addition, Senior Development Officers (SDOs) are always encouraged to invite their prospects to events and lectures and to participate in the Words of Wisdom program.

The Medical Alumni Association (MAA) is an independent association of U of T MD graduates. On behalf of the Faculty the Vice Dean, MD Program and the Executive Director of Advancement are exploring opportunities for partnership and collaboration for the future, as both organizations share the goal of supporting the Faculty of Medicine’s MD students and offering meaningful engagement opportunities to alumni.

Figure 4.3.3.2: Key Alumni Relations Metrics

	FY12/13	FY13/14	FY14/15	FY15/16	FY16/17	FY17/18
*Unique number of guests who attended an event	1436	1404	1919	2123	3771	4619
Unique number of alumni who volunteered for the Faculty	180	163	177	355	376	436
Unique number of alumni who donated	1292	1435	1161	1062	1032	1027
Total dollars raised from Faculty alumni donors	\$6,473,868	\$3,843,692	\$2,162,765	\$5,863,170	\$16,755,336	\$8,548,584

**Count of all attendees (alumni, donor, friend etc.) to a Faculty event.*

Advancement Communications

2017 marked a new chapter for communications on the Advancement team in the Faculty of Medicine, with a dedicated Senior Advancement Communications Officer position created, working within the broader Communications Office, and dedicated entirely to advancement priorities.

The integrated approach has also served to enhance, improve and catalyze the work of the Advancement team. Examples of enhancements that have been made include:

- Revamping the Faculty website Giving and Alumni web pages.
- Creating donor-related stories across the Faculty and U of T channels.
- Created new *Toronto Advantage* document, a positioning document promoting the Faculty of Medicine's unique value proposition, now used by faculty and staff across the Faculty.
- More compelling and personalized donor proposals and donor impact stories, leading to more meaningful stewardship and donor engagement.
- Optimized dedicated stewardship and alumni engagement spaces in *UofTMed* magazine, integrating with the broader content themes of the bi-annual alumni magazine.
- Developed compelling materials for fresh alumni and stewardship events, leading to increasing attendance and a better donor experience.
- Developed Dean-to-donor digital touch points designed to make donors feel included in the Faculty of Medicine community.
- Developed peer-to-peer alumni communication with a compelling and candid first-person voice, instilling a sense of belonging and pride without being overly promotional.
- Redesigned the *UofTMed* digital newsletter and increased open rates to over 40% (from 27–29%, comparable months year prior), with a particularly successful 2017 version with an open rate of above 50%, that garnered widespread social media attention, 54K views online, and reader responses which were then published in subsequent issues.

Strengths and Opportunities

Since the last external review, the Office of Advancement has grown significantly, and has focused strategically on raising funds for the Faculty of Medicine and engaging stakeholders in a thoughtful and meaningful way. While the Faculty has surpassed both its original and expanded Boundless Campaign goals the Office of Advancement continues to evaluate and fine tune plans and activities to ensure resources are optimized, internal and external relationships continue to be fostered, and opportunities to expand scope and impact are leveraged. The Office of Advancement has invested in building a strong relationship with the Division of University Advancement, specifically the principal gifts team, as well as with fully affiliated hospital partners and their foundations.

These excellent and professional relationships have enabled U of T and the Faculty of Medicine to act as a convener for large philanthropic investments. This includes a \$20M gift from an anonymous donor to establish the Medical Psychiatry Alliance, a \$30M commitment from the Heart and Stroke Foundation to fund summer scholarships and research, \$10M from the Brian and Joannah Lawson to establish the Lawson Centre for Child Nutrition, among many others. In addition to achieving annual goals, the Office is also constantly growing its donor pipeline to ensure sustained success in years to come. At the halfway mark of the FY2018–2019 year, there is more than \$95M in philanthropic gifts in the current solicitation pipeline. Established relationships with hospital foundations will continue to create opportunities

to attract multi-million dollar investments from a donor audience that is increasingly interested in collaboration among world leaders in health care.

Future Directions

Key objectives for FY 2019 (and beyond) include:

- Cultivation, solicitation and closing of major & principal gifts, with a goal of reaching and sustaining an annual revenue of \$50M+.
- The expansion and growth of our alumni relations program. This includes increasing the number of alumni who donate, attend events, and volunteer.
- Continued integration with the Communications Office to enhance the work of Advancement.
- Continued development and retention of Advancement team members, so that we continue to be recognized as an invaluable resource to the Faculty and respective departments, as a destination for advancement professionals to work, and a destination for philanthropists to give.

4.3.4 Communications

Following the recommendation of the 2010 External Review, the Faculty of Medicine prioritized communications and planning support with the establishment of the Office of Strategy, Communications and External Relations (OSCER) in 2011. The unit was responsible for four distinct functions: overseeing strategic planning activities; delivering communications support to the Dean and central Faculty units (including news/feature/speech writing, photography, videography, graphic design, and website support); coordinating communications among departments; and, supporting global health and international relations activities throughout the Faculty. OSCER, through its Executive Director, reported to the Deputy Dean, with a dotted-lined reporting relationship to the Dean.

The OSCER team used narrative-driven storytelling to support the Dean's priorities and, in 2013, led a redesign of the Faculty's website to better highlight Faculty news and events, as well as organize important content for learners, faculty and staff. The website redesign also included offering departments throughout the Faculty the ability to work with OSCER to develop their own consistent look-and-feel websites for a modest set-up and annual hosting fee. This approach, including committee oversight for functional improvements and new feature consideration, continues today and has proved very effective in establishing a consistent professional brand for the Faculty. This has helped address the "fuzzy branding" identified as a Faculty weakness in the 2010 external reviewers' report.

As of January 2015, OSCER reported to the Dean directly. In May 2015, Dean Young announced changes to the decanal leadership, including appointing a Vice Dean Partnerships whose office would assume responsibility for international relations, partnerships with affiliated hospitals, government and community organizations,

as well as strategic planning. Three (of 12) staff positions were eliminated and the new unit, renamed the Office of Communications (MedComms), reports directly to the Dean through an Executive Director. (This organizational structure is best practice, according to University of Toronto Communications).

The current Executive Director, Communications, who assumed the role in November 2015, leads a nine-person unit and is a member of the Dean's Executive Committee. MedComms focuses exclusively on delivering communications support for the Dean and central Faculty units, and acts as a trusted advisor and resource to ~20 staff embedded in departments across the Faculty; these individuals may have variable training and communications responsibilities, and are often in administrative roles reporting to Chairs or Business Officers.

In 2016, the Faculty's MD Program eliminated its embedded IFTE communications role and MedComms took on this function, allowing MD educational leaders access to the full range of communications expertise located in the central team. This model, renewable through an annual letter of agreement and workplan developed by the Vice Dean MD Program and Executive Director Communications, has proven to be responsive and productive. A similar agreement provides central communications support for the Lawson Centre for Child Nutrition.

Also in 2016, MedComms integrated a dedicated Advancement/Alumni Relations communications role into the team. This has proved extremely productive, as outlined above in Section 4.3.3.

This integrated Advancement support is part of three strategic pillars guiding MedComms activities:

1. Creatively promoting the Faculty's impact to external and internal audiences through earned, social, owned, and (only occasionally paid) media channels. Among the annual outputs:
 - [~200 news and features stories and ~20 videos](#) posted and shared; storytelling focus will continue to reflect the Faculty's new strategic domains i.e. collaboration, ground-breaking imagination, and excellence through equity.
 - 65+ speeches, messages and presentations, and an [annual Dean's Report](#); future directions will continue to emphasize digital over print production.
 - ~50 [Doctors' Notes](#), a popular weekly news column by Medicine faculty, commissioned by the *Toronto Star*, Canada's largest circulation daily newspaper.
 - 22 [MedEmail e-newsletters](#), a biweekly publication to 36,000 subscribers (clinicians, lecturers and researchers, staff and students, residents and fellows) across the Toronto Academic Health Science Network (TAHSN), as well as partners and media; the largest continuous e-newsletter in the broader Toronto medical community, *MedEmail* will continue to be the Faculty's essential digital communications property to reach the broadest audience of faculty and staff.

- Four active social media accounts: [Twitter](#) (2), [Instagram](#) and [Facebook](#). 2018-19 will see a review of channel strategy, particularly regarding Facebook.
 - [UofTMed alumni magazine](#), produced in-house (at <\$2 per unit) and mailed twice a year to 22,000 alumni, donors and prospective donors. Awarded 2016 special constituency Magazine of the Year by CASE, the Council for Advancement and Support of Education in Washington, DC, *UofTMed* was the only non-commercial finalist at Canada's 2017 National Magazine Awards as best editorial package (an issue on physician mental health). A 2017 survey of readers showed 40% read every issue and nearly half spend 20-30 minutes with the magazine; 80% say the magazine makes them feel proud to be a U of T alumnus. This is the flagship offering for alumni and donors and will continue to set U of T Medicine apart from its competitors.
2. Minimizing risks to the Faculty's reputation through effective issues management, key message development and agile media relations. Faculty of Medicine media mentions, provided by U of T central communications, numbered more than 3,100 in FY2017-18, with 88% reflecting positive sentiment. MedComms monitors risks to reputation closely and continues to strengthen its commitment to transparency and proactive media relations.
 3. Developing systems and standards for department-based administrative staff and communicators to strive for continuous improvement. This includes mentoring and creating a community of practice for information-sharing and professional development in communications; delivering training sessions, including media training on request, to departments and faculty groups; and, ongoing website development and support for participating departments.

The Executive Director, Communications also represents the Faculty on: the University of Toronto Communications' Best Practices Group; TAHSN Public Affairs Committee; and, the Association of Faculties of Medicine of Canada's Network on Institutional Advancement and Communications (NIAC).

The staff group at MedComms is a team of experienced, highly professional and energetic communicators who value knowledge-building, information-sharing and creativity. They have built strong and productive working relationships, and their collective leadership and insights are sought by academic and professional colleagues across the Faculty, throughout the University and beyond. In 2016, the University's VP Communications selected MedComms' Executive Director to help program and co-chair the inaugural U of T-wide [Field Day conference](#), which provides professional development and networking opportunities for 200+ communications staff across U of T's three campuses. The Executive Director presents annually and facilitates discussions among NIAC's communications leaders of Canada's 17 medical faculties; and, most recently, members of the MedComms team have been invited to give presentations on our integrated approach to communications at the CASE Editor's Forum 2018 in Seattle and CASE District II Conference 2018 in Washington, DC.

4.3.5 Human Resources

The Faculty of Medicine Human Resources office has a staff of 12 who provide professional services and support to departments and units in the areas of academic and administrative HR. On the academic side, members of the HR team manage and support the appointment, renewal and promotion processes for over 8,000 faculty members, and have responsibility for data reporting and implementing measures designed to make the HR systems more efficient and effective. In the area of administrative HR, staff provide a wide range of services related to job evaluation, recruitment, talent management, labour/employee relations, reorganizations, benefits, staffing reviews, and investigations.

Administrative, Technical and Research Staff

The Faculty of Medicine is supported by over 870 appointed administrative, technical and research staff. The overall number of non-academic employees has remained constant over the last several years although the level of recruitment continues to be high, averaging between 120 and 150 postings each year. The current gender breakdown is 72% female, 28% male.

In 2013, Human Resources launched the Staff IMPACT Awards Program designed to honour and celebrate appointed staff whose work and dedication contribute greatly to the realization of the Faculty's mission and vision. The program includes seven award categories and the winners are announced at an annual staff recognition event attended by 400 to 500 staff. Information on this year's award winners is available at: medicine.utoronto.ca/news/medicine-celebrates-staff-impact.

The results of the most recent University-wide employee experience survey conducted in late 2014 showed that the vast majority of staff in the Faculty of Medicine continue to have a strong sense of pride in working at U of T, are motivated in their job, and consider U of T a good place to work.

In years ahead, efforts will continue to focus on recruitment, retention and engagement of highly qualified staff and the implementation of measures aimed at ensuring that technology is fully leveraged in the delivery of services and information. The launch of the Ignite Your Talent project in 2017 provided unionized staff with the opportunity to discuss their career goals and ideas on how the Faculty can better support their career growth and professional development. As a result, HR will be implementing a new informal mentorship program for staff along with in-house training and other initiatives aimed at engaging and supporting staff.

4.3.6 Information and Communications Technology (ICT)

The Discovery Commons unit launched in 2006 to build and maintain an effective and sustainable ICT infrastructure and technical support team to enable students, staff, and faculty to achieve academic success. Today Discovery Commons is well-established, with a significant level of integration with the University's Information and Technology Services (I+TS) division.

Discovery Commons has conducted several important initiatives, including a 2013 audit of major systems and data needs for the Faculty, and a 2015 review of the MD Program's learner information system MedSIS and Post MD Program's POWER system. The Faculty went on to join the Elentra consortium, which develops an integrated teaching and learning platform specific to medical schools. As of September 2018, 8 of the 13 English-speaking Canadian medical schools are members of the Elentra consortium.

The Faculty's IT strategy focuses on cost and value optimization. Discovery Commons receives approximately 35% of its annual funding from the Faculty, leaving a cost recovery target of 65%, typically on an hourly rate basis. While Discovery Commons has successfully recovered its costs over the past 5 years, the cost recovery model negotiated individually with programs and departments can prove a disincentive to finding systemic solutions for the whole Faculty. Notable examples of Discovery Commons' approach to cost efficiencies include:

- Use of the University's private cloud data centre for supported production applications;
- The 2018 move from a staff-maintained Exchange server to Office 365 for email and calendars;
- The use of a vendor-managed online exam platform;
- A content delivery network for recorded lecture playback; and
- An upcoming migration to Voice Over Internet Protocol (VOIP).

Discovery Commons has streamlined and standardized Faculty human resource processes for promotions, appointments, and re-appointments; implemented an HR system (FOCUS) to identify and promote data integrity and eliminate the need for departments to maintain shadow systems; and partnered with the Office of Communications to establish a low-cost managed service (called WebPac) to standardize public-facing websites for departments across the Faculty.

Since 2014, Discovery Commons has decommissioned 62 program applications – and, as of September 2018, had catalogued another 98 applications actively in use across the Faculty for education and administrative purposes. Discovery Commons is directly responsible for the management of 51 of these active applications, in addition to being a technical resource for consultation on other systems.

Privacy and security of data are increasingly important. In 2014 following a significant data breach, Discovery Commons undertook the development (in collaboration with the University's Information Security and Enterprise Architecture group) and implementation of a formal Information Risk

Management Program, the first of its kind at the University, which remains a benchmark and resource used by other Faculties as they develop their own programs.

4.3.7 Legal Counsel

The Faculty of Medicine has had part-time legal counsel on staff for the past 18 years but hired its first full-time lawyer in 2016. The initial focus was on agreements with the affiliated hospitals, but the portfolio has grown to include corporate matters, litigation risk management and dispute resolution. Faculty legal counsel processes approximately 200 contracts per year on a range of matters, including organizational policy, academic contracts, international and domestic research agreements and student matters. The office works collaboratively with both University and hospital lawyers and has achieved several milestones, including: renewal of affiliation agreements; harmonized processes around conflict of interest, sexual harassment, and sexual violence; and a streamlined process for visiting MD elective students to ease mobility within the network of affiliated hospitals. The Faculty's Legal Counsel reports to the Dean but works closely with the Vice Dean, Partnerships.

4.4 Faculty

The Faculty of Medicine has experienced tremendous growth in its faculty complement since the last external review. The opening of the Mississauga Academy of Medicine in 2011 gave rise to a significant increase in the clinical (MD) part-time and adjunct faculty at our community affiliates. Growth has also resulted from the expansion of non-MD programs. At the end of 2009, the total faculty count was approximately 5,800; by December 2011 it was more than 6,800, and by July 2017 that number had increased to 8,141. The following table provides the breakdown of full-time and non-full-time faculty by rank and gender, as of July 2017.

Figure 4.4.1: Faculty by Rank and Gender, July 2017

Academic Rank	Faculty Full-Time		Faculty Non-Full-Time	
	Female	Male	Female	Male
Professor	175	545	89	231
Associate Professor	283	485	92	153
Assistant Professor	567	664	439	579
Other Rank	281	196	1939	1423
Total:	1306 41%	1890 59%	2559 52%	2386 48%
All Academic Totals:	Females	Males	Total 8141	
	3865 47%	4276 53%		

This table includes tenure stream/tenured, teaching stream, non-tenured, part-time, clinical (MD), status only and adjunct faculty.

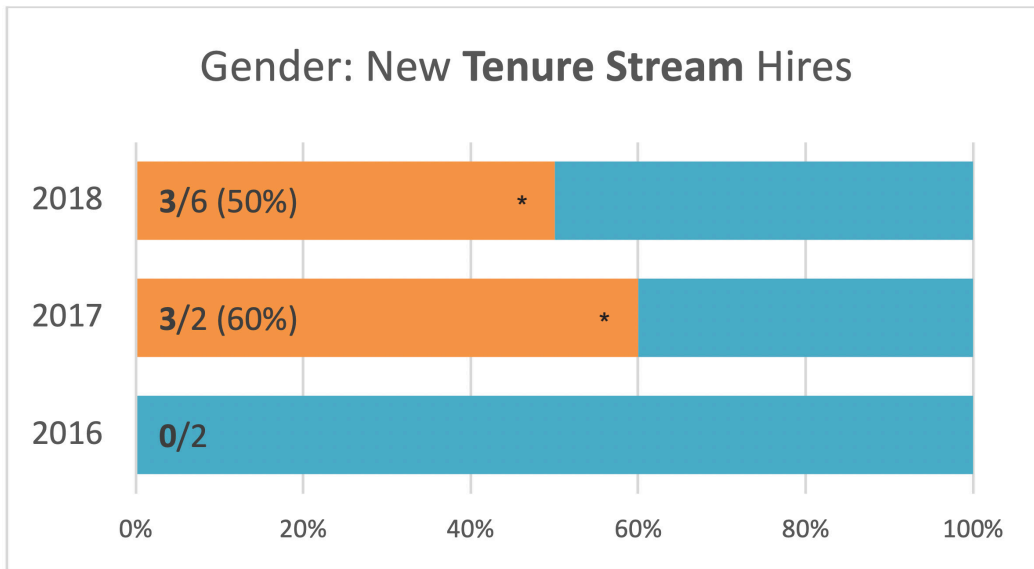
In addition to the overall increase in faculty complement, the total number of female faculty has increased by approximately 3% since 2011. A growing number of women are also being promoted. In 2018, female faculty accounted for over 47% of the 87 faculty promoted to Associate Professor (compared to 31% in 2010). The percentage of female faculty promoted to Professor has remained fairly constant; in 2018, 36% of the 56 faculty promoted to Professor were women. However, with the growth in the number of women at Associate Professor rank, over the next five years we expect to see growth in the number of women at the rank of Professor.

The following table shows a breakdown of faculty appointments by type and sector, and by type and gender, as of July 2017.

Figure 4.4.2A: Faculty by Appointment Type and Sector / Gender, July 2017

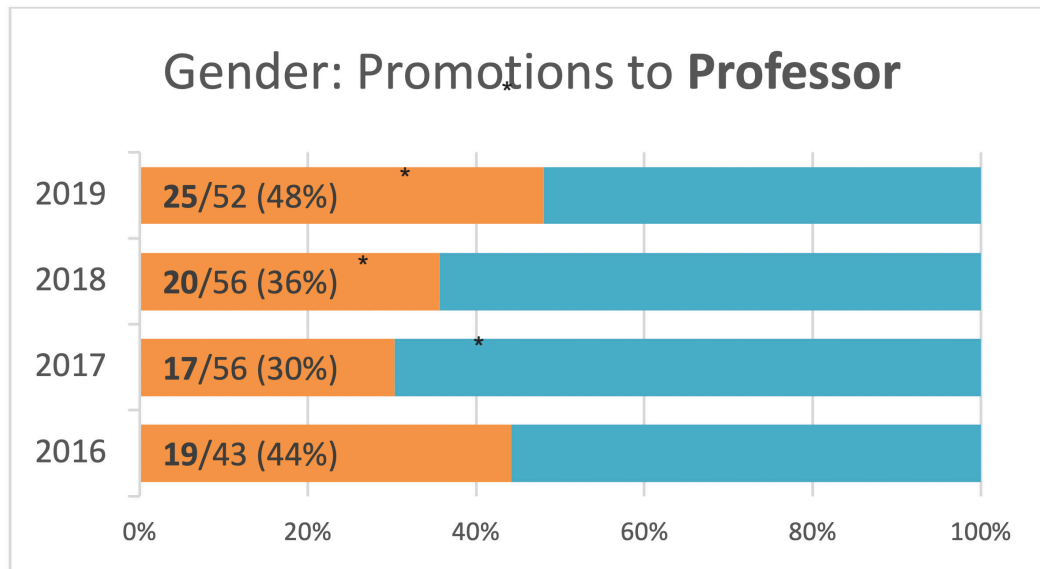
Appointment Type	Sector			Gender	
	Basic	Clinical	Rehab	Female	Male
Appointed	133	52	52	115	122
Clinical	0	6140	0	2536	3604
Status Only / Adjunct	282	565	917	1214	550
Total	415	6757	969	3865	4276
Percent	5%	83%	12%	47%	53%

Figure 4.4.2B



*Orange = Female Blue = Male

Figure 4.4.2C



*Orange = Female Blue = Male

Tenured/Tenure Stream Faculty

The number of tenured/tenure-stream faculty in the Faculty of Medicine has decreased from 192 in December 2011 to 153 in 2017. The decline is due to various factors including the establishment of the Dalla Lana School of Public Health (DLSPH) as a separate Faculty, and the subsequent move of the Institute of Health Policy, Management and Evaluation to the DLSPH (these two changes accounted for the move of approximately 37 tenured/tenure-stream faculty) and a number of retirements over the past several years. Recent fiscal challenges have also had an impact on the ability of departments to recruit new tenure stream faculty.

Academic Physician Faculty

Clinical (MD) faculty currently account for approximately 75% of the total number of academics in the Faculty of Medicine (6,140 of 8,141). Clinical faculty are licensed physicians who hold joint appointments between a clinical entity (fully affiliated hospital, or partially-affiliated hospital, or an affiliated community practice or other entity with a relationship to the University of Toronto) and a clinical department in the Faculty of Medicine at U of T. While some clinical faculty draw some of their income as employees of the University, most are not on the University payroll and almost all draw additional income from a variety of sources. Their compensation normally involves remuneration through variously independent medical practice (solo or group), a practice plan which pools independent clinical earnings, or alternative funding arrangements with block payments for clinical services within a practice plan, or salaries from an affiliated institution, or combinations thereof.

Approval of the [Policy for Clinical Faculty](#) in December 2004, along with the development of the [Procedures Manual for Policy for Clinical Faculty](#), provides a structured framework and management of academic physicians. Revisions to the Procedures Manual in 2008, 2013 and 2016 have provided clarity of content. The Senior Advisor on Clinical Affairs and his staff have continued to work with clinical departments and local clinical care services to develop and implement practice plans that conform to the principles of the Clinical Faculty Policy and the Procedures Manual for Policy for Clinical Faculty. They have also worked with hospital medical affairs and legal offices to develop and implement a set of harmonized hospital medical staff appointment categories that can be synchronized with clinical faculty appointment categories more easily, and are consistent with the Policy for Clinical Faculty and hospital-university affiliation agreements.

Acknowledging the challenges of time-stretched clinical faculty, the Faculty struck an advisory committee in 2017/18 to survey clinical faculty and examine non-remunerative ways to ensure they feel valued for their contributions. Recommendations to the Dean include greater visibility by the Department Chairs, letters of recognition for clinical faculty, and encouraging academic leaders to visit hospital sites.

The Faculty of Medicine also continues to be involved with the implementation of the province-wide Alternate Funding Plan (AFP) in Academic Health Sciences Centres (AHSC) aimed at supporting the recruitment, maintenance and academic work of our approximately 2,000 full-time clinical (MD) faculty who belong to practice plans. First introduced in 2003, the current AFP Phase III Agreement funding of \$225M per year across Ontario, of which U of T physicians received \$90 million, has enabled substantial growth of the academic mission at small and large teaching hospitals through remuneration of teaching and research, while providing enhanced clinical productivity for patients. The Senior Advisor on Clinical Affairs and two decanal AFP advisors represent the Dean/University on the seven AFP Governance organizations, where decisions are made about allocation of the AFP funds to physicians.

The AFP funding envelope has not, however, kept pace with the growth in the number of clinical faculty required, both in AHSC and community hospitals, to increase undergraduate and postgraduate enrolment in order to meet the physician human resource requirements of the province. The fiscal challenges that have emerged as the result of a fixed AFP envelope with a growing number of physicians are recognized by the Faculty's senior academic leadership and remain a work in progress. The current arbitration between the Ontario Medical Association and the provincial government, and any outcomes around AFP funding, are being closely monitored.

Recent Initiatives

A number of initiatives have been introduced to better manage and streamline the Faculty's academic processes and improve the accuracy of faculty data for reporting purposes. These have included:

[Step-by-Step Guide to Applying for an Academic Appointment](#)

Introduced in 2013, this web-based guide provides a single source of information on the policies and application processes for academic appointments in the Faculty of Medicine. It presents individuals with a series of questions that allow them quickly to determine the appropriate category for which to apply and the documents required to initiate an application.

Laserfiche: Online academic appointment processing and document management system

Human Resources, in collaboration with [Discovery Commons](#) (the Faculty's technology service platform) commenced a major project in 2010 aimed at replacing paper-based methods with a new online system (Laserfiche) for managing academic appointment processes, with the long-term goal of creating a complete electronic personnel file for faculty from the time of application through to retirement/termination.

Effective 2018, this new system has significantly improved appointment processing and management. New appointments, re-appointments and promotions are more efficient because contributors and reviewers can access electronic files instantaneously and at their convenience. Information sharing

is easier because departments and HR can access faculty files stored in Laserfiche promptly and simultaneously and the reporting function has allowed departments to be more proactive with reviews and re-appointments. Laserfiche also provides a tool to help increase the data integrity of faculty HR records through its metadata and reporting function.

Focus: HR appointments and records management and reporting system

Focus is a reporting and relationship management tool that allows departments to track and manage demographic data about their faculty members. Managed by the Faculty's HR office, Focus was developed and is supported by Discovery Commons. It accepts information from multiple sources (primarily the Human Resource Information System (HRIS)), allows departments to create their own custom information fields and provides powerful tools to generate pre-filtered reports and send emails to targeted audiences.

Using Focus, departments can personally connect with their faculty members. Individual Focus records provide departments with a holistic view of each faculty member's profile. Academic appointments and associations at the University are available by listing all primary and concurrent/cross appointments that each faculty member holds. With this information, departments can reach out to faculty to offer the appropriate mentorship and support for promotion and recognition, and Focus reports are used to identify those who may be ready for academic rank promotion, qualify for research awards or are due for a performance or continuing appointment review. Focus also provides tools to create dynamic, custom listservs to facilitate contributions of service (e.g. committee memberships) and other group-specific communications.

MedHR: An intranet for Faculty of Medicine's administrative and academic HR documents and resources

MedHR is an intranet for administrative and academic HR policies, procedures and documents. Faculty-specific information such as policies and procedures, process timelines, manuals, meeting notes, memoranda and best practices are collected and shared with department administrators, business officers and appointment coordinators through MedHR. The information is presented through document libraries and topic-specific information webpages and serves as learning resources for new staff and the communication of HR information with departments. In turn, departments will be better equipped to manage appointments.

5. SPACE AND INFRASTRUCTURE

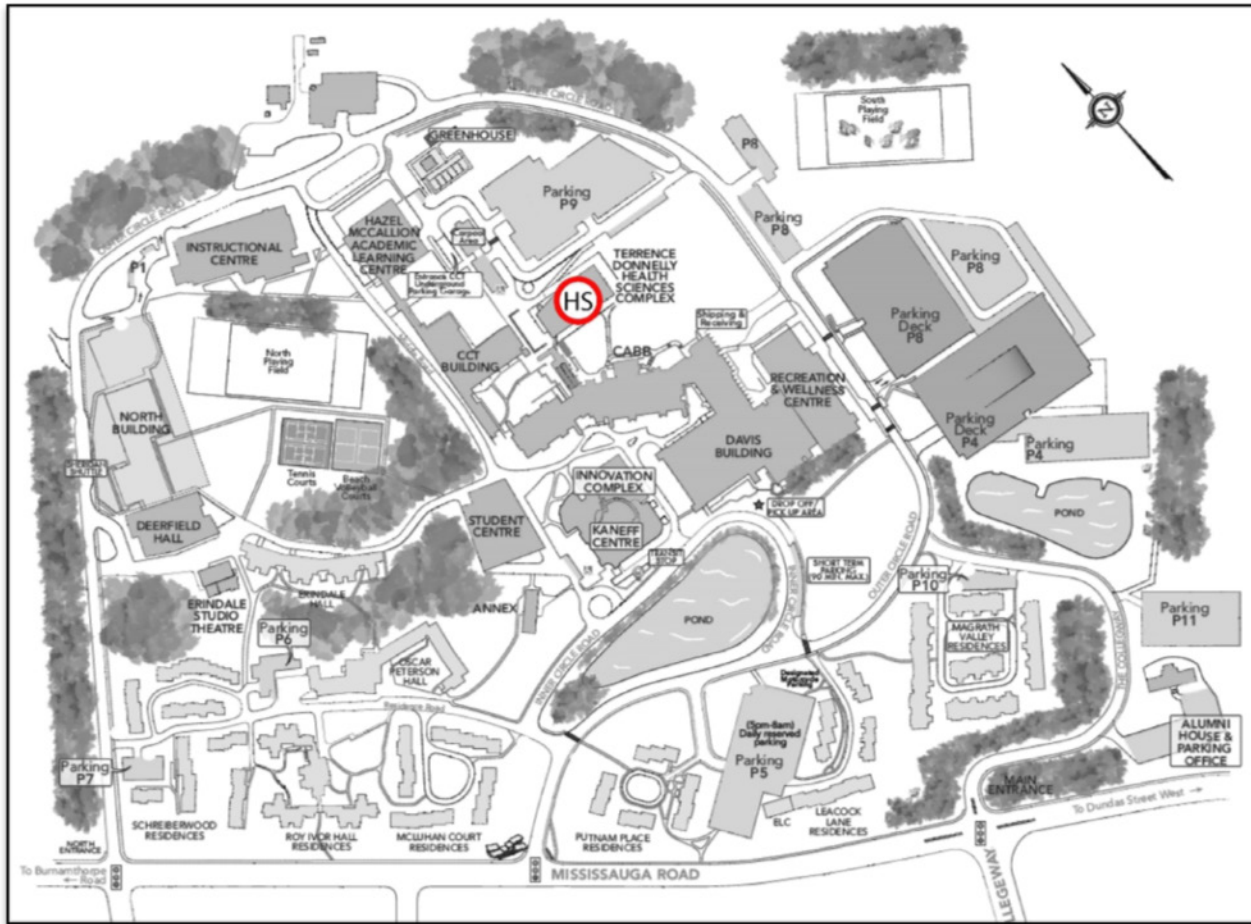
5.1 Laboratory Facilities and Space

Overview

The Faculty of Medicine at the University of Toronto is located on the southeast corner of the St. George campus (in 7 buildings) (see Figure 5.1.1) and on the Mississauga campus (in 1 building) (see Figure 5.1.2). There are also 6 leased facilities located in close proximity to the St. George campus (see Figure 5.1.3). Both leased and campus building range in size, age (dating from 1882 to 2011) and cost-efficiency (see [Appendix 20](#) for list of facilities).

Planning since the 2010 external review has included two Master Plans (one in 2012 re: facilities and one in 2014 re: research space – see below), as well as ongoing assessments and negotiations with the central University for space. There has been noteworthy improvement in the overall complement of on-campus space, in particular, in the quality of research space. The Master Plans were crucial in obtaining approvals to secure this new research space.

Figure 5.1.2: Faculty of Medicine – Mississauga Campus



Campus Facility - Mississauga Campus

HS – TERRENCE DONNELLY HEALTH SCIENCES COMPLEX, UTM

Space Planning

In 2012 and 2014, the Faculty’s Office of Facilities Management & Space Planning reviewed campus-based buildings and prepared comprehensive Master Plans for space:

In 2012, buildings were reviewed from a performance perspective against 13 key performance indicators. It was recommended that the oldest buildings (early 20th Century), which contained wet research laboratories, be vacated and repurposed for central administrative uses. These include: the Banting Institute; the Best Institute; and the FitzGerald building. The Faculty has worked toward that goal and only one building remains to be vacated, which will occur in early 2019 (the Best Institute). In addition, 92 College Street, used for administrative purposes was also vacated. Finally, two other older buildings will be vacated (88 College) or repurposed for administration (C. David Naylor building) in 2019.

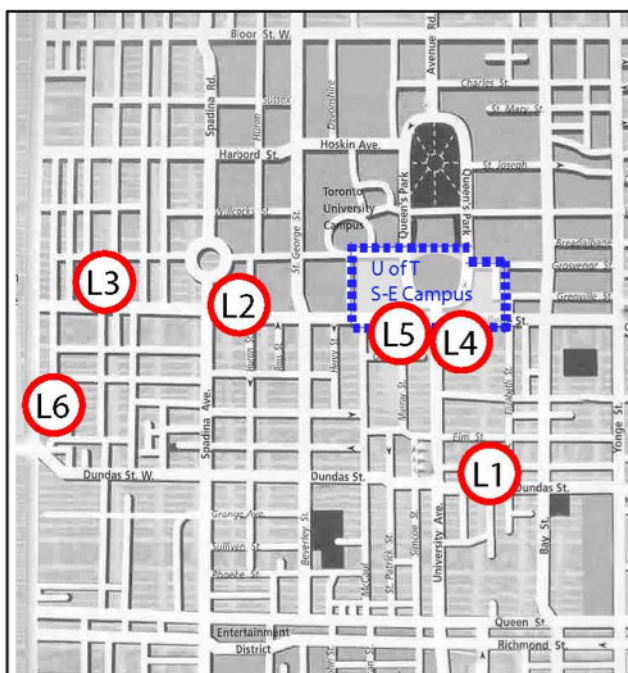
The 2014 Master Plan reviewed research space quality and quantity and was instrumental in the Faculty

obtaining significant new research space (in MaRS). The two newest research locations for the Faculty are both in leased space: 1) the Krembil Discovery Tower at Toronto Western Hospital, University Health Network (UHN) was completed and occupied in 2013. It accommodates 10 Principal Investigators specializing in neurodegenerative diseases; and 2) the MaRS Centre West Tower, which accommodates 34 Principal Investigators focusing on Infectious Diseases, Gene-Protein Regulation and Translational Biology and Biomedical Engineering in collaboration with the Institute for Biomaterials and Biomedical Engineering.

In addition, funding was secured through Federal Infrastructure Grants that allowed for over 20% of the Medical Sciences building wet research labs to be fully transformed into contemporary laboratories, as well as a full renovation of the gross anatomy teaching and support facilities.

The principles of Campus Space Allocation in the Faculty of Medicine, 2009 can be found in [Appendix 21](#).

Figure 5.1.3: St. George Campus Leased Space



Leased Facilities

Legend

- L1 — 123 EDWARD STREET
- L2 — CENTRE FOR ADDICTION & MENTAL HEALTH
- L3 — KENSINGTON HEALTH
- L4 — MaRS DISCOVERY CENTRE WEST TOWER
- L5 — STEWART BUILDING
- L6 — KREMBIL DISCOVERY TOWER

Despite higher operational costs, three factors led the Faculty to pursue leased space: i) sourcing new research facilities to replace outdated facilities in aging buildings; ii) new leasing arrangements in hospital-based space that was previously available at no charge; and, iii) vacating campus-based buildings to be used for University purposes.

While on-campus operational costs are lower, the ongoing maintenance of on-campus buildings is below industry standard. The central University, which provides property management services and manages deferred maintenance, continues to lag in work that is a major risk to the Faculty's ongoing

operations and results in a suboptimal environment for faculty, staff and students. Events and incidents have required significant resources to manage, including, but not limited to: flooding from broken water mains, ice storms and poorly maintained roofs; whole building electrical failure due to contractor activities elsewhere on campus and issues arising from contractor error on job sites in occupied buildings (from minor such as noise, to major such as failure to contain construction debris and managing potential hazardous material exposure). Even some newer buildings are now falling behind in terms of ability to serve the current research needs as science, technology, equipment, and safety standards have changed rapidly. Therefore, the Faculty justified a shift to off-campus leased research facilities even though it has serious cost implications and has resulted in overall higher operational costs.

All current space, both leased and on-campus, is completely full. With a very low commercial office vacancy rate in Toronto, and no new research buildings planned by partner hospitals or others, careful planning and consideration is required by the Faculty. Therefore, the shift to leased facilities, the continued aging of campus-based facilities, as well as ongoing emerging needs will be reviewed and analyzed in a forward thinking Master Plan ([Appendix 22](#)), currently in the development stage.

Staff

The Facilities Management and Space Planning (FMSP) office, created in 2006, now includes a Director, 4 planners, a designer, and 3 operations support staff. There has been a shift to centrally-managed or procured safety and security services. For example, the Faculty pays for security managed by Campus Police rather than employ security directly. Similarly, management of safety by the central University has eliminated the need for a dedicated Faculty safety person (see below). Issues that arise are managed through FMSP with the central University and a strong partnership has resulted in better and more consistent services.

Health and Safety

The Faculty maintains safety through the Joint Health and Safety Committees and currently there are four in operation: Faculty of Medicine (umbrella committee), Medical Sciences Building, Donnelly Centre, and Rehabilitation Sciences. The FitzGerald Committee has disbanded as the Faculty has completely vacated the building and it is currently a development site for other occupants. New committees for new locations are currently on hold pending the union ratification of the new multi-site agreement. All new locations are currently covered by the umbrella Faculty committee.

Improving Sustainability

There have been two significant projects to improve sustainability, both in the Medical Sciences Building (MSB):

- A retrofit that installed variable speed drives to air handling units, a new building automation system and wireless thermostatic room control has allowed for optimization, resulting in \$1M savings per year, and reduced the carbon footprint. As a result of this project, MSB is now the sixth most expensive building to run on campus instead of the second most costly.
- In the most recent lab renewal project, a number of constant air volume fume hoods were reduced to half and replaced with variable air fume hoods. As research laboratories exhaust 100% of the conditioned air, the cost associated with conditioning is very high. The constant air volume fume hoods exhaust hoods at exactly the same high rate regardless of whether the hood is in use or not, up to 17 air changes an hour in MSB, 24/7. The variable air rate hoods can be turned down to suit the work, and managed remotely off hours to reduce the amount of conditioned air being exhausted. This is one of the largest sources of energy cost to the Faculty.

Capital Projects

The following are the Faculty's major capital projects over the last 8 years:

- MD Program, \$35M building cost, includes space for the MD Program teaching and administrative offices in the Terrence Donnelly Health Sciences Complex, Mississauga campus;
- Department of Family and Community Medicine: \$3.5M fit out of 2 floors for the departmental administrative offices in the Rehabilitation Sciences Building, 500 University;
- Tanz Centre for Research in Neurodegenerative Diseases: \$8M fit-out of on floor of wet research laboratories, dry labs and associated administration in the Krembil Discovery Tower, Toronto Western Hospital, University Health Network;
- Basic Sciences: \$30M fit-out of three floors of wet research laboratories and associated dry labs in MaRS Centre West Tower, 14th to 16th floors; and
- Division of Anatomy and Basic Life Sciences Laboratories: \$40M full renovation of gross anatomy teaching and support facilities, including the morgue; and, transformative renovation of approximately 20% of all wet research laboratories, plus multiple minor renovations; complete new environment rooms, sterilization facilities, and freezer farms; and renovations for new 1Ghz nuclear magnetic resonance machine.

Completed Renovations of Note

Medical Sciences Building

- MD Program new student lounge, new Enrolment Services suite, and new administrative office suite,
- Life Sciences Administration suite for the Institute of Medical Sciences and Graduate and Life Sciences Education,
- 3D CFI Facility,
- Flow Cytometry Facility,
- CFO and HR administrative office suites, and
- Basic Life Sciences, Canadian Biosafety Standard updates and upgrades to research and teaching laboratories in the Medical Sciences Building.

Rehabilitation Sciences Building, 500 University

- Continuing Professional Development administration update,
- Classroom AV upgrades, and
- Classroom renovations to support larger enrolments in the rehab sector.

Old Administration Building, 263 McCaul

- New MD Program student study space,
- Medical Imaging, administrative offices,
- Translation Research Program administrative offices and seminar room, including space for Biomedical Communications undergraduate teaching,
- Auditorium and seminar room renovations,
- History of Medicine, Cardiovascular Sciences Collaborative Program offices, and Physician Assistant Program offices.

Other

- Stewart building upgrades for the Departments of Surgery and Radiation Oncology administrative offices.
- Advancement and Medicine Communications suites in the C. David Naylor building.

Projects in Planning or Construction

C. David Naylor Building

- Department of Medicine administrative offices,
- Departments of Anesthesia and OB/GYN administrative offices,
- Office of Health Professions Student Affairs office expansion,
- Nutritional Sciences, Nutrition Intervention Centre,
- Department of Otolaryngology administrative offices,
- Department of Research administrative offices, and
- AODA compliance and HVAC renewal.

Medical Sciences Building

- Molecular Genetics, laboratory renovations and move; office upgrades and move,
- Lab Medicine Pathobiology, IVF Simulation Lab,
- Physiology, Opto-physiology lab upgrades,
- Multiple lab upgrades and refresh for new hires,
- Laboratory renovations for the relocation of the Toronto Recombinant Antibody Centre from the Best Institute, and
- Division of Teaching Labs, ongoing upgrades for compliance.

MaRS

- Additional autoclave installation, and
- Renovation to expand the Drosophila research.

88 College Street

- Planning in process for vacating building within 2 years.

Summary

Although great progress has been made in terms of the quality of space available for both academic and research needs, significant challenges continue to create risk for the Faculty. Deferred maintenance, the ongoing responsibility of the central University is falling behind annually, and there continue to be risks such as flooding from leaking roofs and blocked drains. The Faculty's largest single building, the Medical Sciences Building dates from 1968 and houses a vivarium, *in vitro* CL3 laboratory, flow cytometry, gross anatomy, campus teaching facilities, and basic science biomedical research labs, and continues to require significant renovations. All Faculty buildings are *at capacity*, and new initiatives will be difficult to house within existing facilities. Leased space, which comes at a higher cost than campus-based space, continues to strain Faculty finances. A new Master Plan process is currently underway to identify needs for the foreseeable future; this will assist the Faculty's position with the University that a new building is likely necessary, both from a research and from a pedagogical perspective.

6. INTERNAL AND EXTERNAL RELATIONSHIPS

The Faculty of Medicine seeks and sustains partnerships that foster mutual learning, capacity building and fruitful academic collaboration. These relationships enrich students, faculty and staff and maintain the Faculty's presence as a champion of advancing new knowledge, better health and equity around the world.

Office of Vice Dean, Partnerships

The Office of the Vice Dean, Partnerships (OVDP) was established in January 2016 to oversee relations with health care institutions, international activity, global health efforts, and to support government relations. The OVDP, working closely with Faculty legal counsel, assists and advises research, education and graduate program leaders, faculty, and staff in managing a wide range of inward-facing activities: development of FOM guidelines for contracts; affiliation agreement renewals; and developing resources for Chairs and interested faculty to promote best practices in international partnerships, government relations and hospital collaborations.

The office also conducts outward-facing activities including: hosting inbound delegations and participating in outbound delegations; maintaining and strengthening existing international partnerships; and developing new international partnerships that are aligned with Faculty and U of T priorities.

The OVDP is guided by principles of openness to different forms of partnership (top-down and grassroots); willingness to share and enter into consulting agreements with international partners on our best practices where appropriate; and frequent and open communication with University, divisional, and hospital international offices, promoting cooperation and collaboration everywhere possible.

6.1 Internal Relationships

Central University - Simcoe Hall

The Faculty is an active participant in the University of Toronto's academic and operational activities. The Dean and Vice Deans are members of several Simcoe Hall committees and governing boards, enabling a strong understanding of University business, and an opportunity to provide and receive strategic advice on current and future initiatives. For example, relationships with the offices of the Vice President, Research and Innovation and the Vice President, International, allow the Faculty to advance large, complex projects that would otherwise be logistically and operationally challenging.

School of Graduate Studies (SGS)

The School of Graduate Studies (SGS) has supported the Faculty of Medicine's efforts to address the changing employment landscape for graduates of its Master's and doctoral programs. Current data indicate that nearly 70% of the Faculty's PhD graduates pursue non-academic careers and require a different skill set to prepare for work in industry, government and other professional settings. SGS co-sponsors the Faculty's graduate professional development series, which includes guest speakers, and sessions on networking, interviewing skills and non-academic resume preparation. The SGS and Faculty have collaborated in reducing the time to completion in PhD programs.

Campuses and Divisions

U of T Mississauga (UTM)

UTM is a pivotal partner for the Faculty of Medicine. The UTM-based Mississauga Academy of Medicine (MAM) provides medical education to 216 students across the four years of U of T's MD Program. MAM works closely with Trillium Health Partners (THP) in Peel Region to link U of T's teaching and research training with a variety of clinical learning settings. Dr. Alison Freeland, Associate Dean, Medical Education (Regional) and Vice-President of Quality, Education & Patient Relations at THP, joined the Faculty in 2015. She reports to both the Dean of Medicine and the THP CEO, and therefore is able to support MAM's academic mission and the relationship between the University and THP. Thanks to strong support from both the Dean of Medicine and UTM leadership, MAM is on a growth trajectory with an MScOT satellite program launched in September 2018 by the Faculty's Department of Occupational Science and Occupational Therapy.

U of T Scarborough Campus (UTSC)

The Faculty of Medicine, along with other health science faculties represented through the Council of Health Sciences, has partnered with UTSC to collaboratively discuss a proposed new Health Sciences Hub, incorporating a Scarborough Academy of Medicine, on the UTSC campus.

Faculty of Applied Science and Engineering

The Faculty of Medicine's relationship with the Faculty of Applied Science and Engineering continues to thrive. With participation of over 100 faculty members and 24 academic and hospital partners, the Institute for Biomaterials and Biomedical Engineering (IBBME) exemplifies the potential of intra-institutional partnership to develop solutions that address global challenges in human health. [Medicine by Design](#) (launched in 2015) is a convergence of medicine, engineering and other related disciplines, with a goal of leading research in regenerative medicine and cell therapy. The establishing grant of \$114 million from the Canada First Research Excellence Fund (CFREF) represents the single largest research award in the history of the University of Toronto.

Faculty of Arts & Science

Basic science faculty in Medicine teach almost 12,000 Arts & Science undergraduate students annually. These teaching contributions span 8 programs and 156 courses. Academic reviews Medicine's basic science departments and their programs include undergraduate Arts & Science teaching. Current exciting collaborations include the recently developed course in computing for medical students and teaching of narrative in medicine. Dr. Allan Kaplan, Vice Dean, Graduate and Academic Affairs, co-chairs the Arts & Science Curriculum Committee.

Dalla Lana School of Public Health

After becoming an independent Faculty in 2013, the Dalla Lana School of Public Health (DLSPH) went on to integrate the Institute of Health Policy Management and Evaluation (IHPME) in 2014, and the Joint Centre for Bioethics in 2015 – all formerly in Medicine. A number of collaborative arrangements and shared education offerings were affected in the MD Program, the Department of Family and Community Medicine, and the University's nutrition-focused degrees (the MPH offered by the School and the MSc offered by the Faculty of Medicine). Over the past two years, work has been done by the two Deans to strengthen partnerships and consider new opportunities, recognizing the benefits for recruitment and retention of post-MD trainees by having more integrated programs, particularly in the areas of quality and safety, and clinical public health.

Council of Health Sciences

The Faculty of Medicine is a member of the Council of Health Sciences (CHS), a standing committee of the Division of the Vice-President and Provost. The CHS consists of two groups: the CHS Executive group, which comprises the Deans of the seven health science faculties³; and the CHS Extended group, which includes the CHS Executive group members and:

- One Chair (or Director/Academic Head) representing each health professional program in the health sciences Faculties⁴;
- One Associate/Assistant/Vice Dean as appointed by each Executive Member;
- Associate Vice-Provost, Relations with Health Care Institutions (non-voting member); and
- Manager, Toronto Academic Health Science Network (non-voting member).

The CHS discusses a range of issues and provides a useful forum for information sharing and identifying shared priorities, such as sharing of initiatives in response to the Truth and Reconciliation Steering Committee Recommendations, and development of University-wide student placement agreements

3 The seven health science Faculties: Dalla Lana School of Public Health, Faculty of Dentistry, Faculty of Kinesiology and Physical Education, Faculty of Medicine, Factor-Inwentash Faculty of Social Work, Lawrence S. Bloomberg Faculty of Nursing, and the Leslie Dan Faculty of Pharmacy. Note that all but the Faculty of Medicine are single-department Faculties.

4 This would include: Department of Occupational Science and Occupational Therapy, Department of Physical Therapy, Physician

with health authorities across Canada, which has streamlined processes for placements of thousands of students. The CHS is currently undertaking a comparative review of the academic strategic plans for each of the seven health sciences Faculties in order to identify shared priorities and to leverage activities underway in each of the Faculties.

6.2 External Relationships

Affiliated Teaching Hospitals and Community Health Sector

The Faculty of Medicine is the only medical school in the Greater Toronto Area, enabling a powerful relationship with its surrounding affiliated hospitals. Currently, there are nine hospitals fully affiliated with the University of Toronto. Each of these nine hospitals has a world-class research institute, and all of the scientists employed by the institutes are appointed to the University of Toronto. There are also 15 community hospitals affiliated with the U of T, including four associate affiliates and 11 community-affiliated hospitals (see table below). The U of T/hospital affiliation agreements identify that the [University Governing Council Policy for Clinical Faculty](#) requires all full-time MD faculty members to be appointed to an affiliated hospital and to be part of a practice plan with income sharing to support academic activities of its members. These University-hospital relationships foster excellence in clinical education and research, and make possible the widely distributed nature of the Faculty of Medicine's education programs. The Dean of Medicine (or a delegate) sits on the Board of Directors of each TAHSN fully affiliated hospital, as well as Trillium Health Partners, a TAHSN associate member affiliated hospital.

Fully Affiliated Hospitals (9)	TAHSN Associate Member Affiliated Hospitals (4)
<ul style="list-style-type: none"> ● Baycrest Health Sciences ● Holland Bloorview Kids Rehabilitation Hospital ● Sinai Health System (includes Bridgepoint) ● Unity Health Toronto (formerly St. Michael's Hospital) ● Sunnybrook Health Sciences Centre ● Centre for Addiction and Mental Health ● The Hospital for Sick Children (SickKids) ● University Health Network (includes Toronto Rehab, Princess Margaret, Toronto General and Toronto Western) ● Women's College Hospital 	<ul style="list-style-type: none"> ● Michael Garron Hospital ● North York General Hospital ● St. Joseph's Health Centre* ● Trillium Health Partners (includes Credit Valley Hospital, Mississauga Hospital, Queensway Health Centre) <p style="text-align: center;"><i>*U of T maintains an affiliation agreement with St. Joseph's Health Centre, which is now part of Unity Health Toronto.</i></p>
Community Hospitals (11)	Non-Hospital Clinical Sites (8)
<ul style="list-style-type: none"> ● Humber River Hospital ● Lakeridge Health ● Markham-Stouffville Hospital ● Ontario Shores Centre for Mental Health Sciences ● Providence Healthcare (part of Unity Health Toronto) ● Scarborough and Rouge Hospital ● Southlake Regional Health Centre ● The Royal Victoria Regional Health Centre ● Waypoint Centre for Mental Health Care ● West Park Healthcare Centre ● William Osler Health System 	<ul style="list-style-type: none"> ● Canadian Blood Services ● Ontario Forensic Pathology Services ● Surrey Place Centre ● The George Hull Centre for Children and Families ● The SickKids Centre for Community Mental Health ● The Kensington Eye Institute ● The Kensington Health Centre ● Youthdale Treatment Centres
Other Affiliates (2)	
<ul style="list-style-type: none"> ● City of Toronto / Toronto Public Health ● Public Health Ontario 	

TAHSN

TAHSN was established 12 years ago and is comprised of the University of Toronto and 13 affiliated academic hospitals (see table above). TAHSN is governed by the hospital CEOs and the University of Toronto Dean of Medicine, who meet regularly to establish strategic priorities and oversee ensuing initiatives. The Dean is a member of the TAHSN CEO Committee. TAHSN has standing committees of Research, Education, and Medical Affairs and Practice, each of which is co-chaired by a university and hospital representative, and has members appointed from both sectors.

TAHSN has seen a growing emphasis on undertaking strategic projects, which enhance collaboration, innovation and harmonization across institutions. Examples of key TAHSN initiatives over the past five

years include:

- Leveraging research and clinical synergies (i.e. development of the Toronto Dementia Research Alliance);
- Improving the learner environment: collaboration on development of the TAHSN escalation policy, and facilitating the implementation of the “Voices of” survey for Faculty of Medicine learners in TAHSN hospitals;
- Harmonization and streamlining of Hospital-University appointments and reappointment processes, including development of the Clinician Management and Re-appointment System (CMaRS), a web-based application to support common re-credentialing, and harmonization of hospital physician appointment categories; and
- Development of a TAHSN-wide interprofessional care competency framework, in collaboration with the University of Toronto’s Centre for Interprofessional Education.

Community-Affiliated Hospitals

Community-affiliated hospitals play an integral role for the Faculty. Four of the 15 community hospitals (Trillium Health Partners, St. Joseph’s Health Centre, North York General Hospital, and Michael Garron Hospital) have become TAHSN associate affiliates by virtue of their large number of medical training days on behalf of the University of Toronto, and their increasing research activities. Trillium Health Partners provides clinical training for medical students and occupational therapy students based full-time at the Mississauga campus.

Nine of the 14 core academic family medicine teaching units of the Department of Family and Community Medicine are situated at community-affiliated hospitals. They are supported in part through Faculty of Medicine funding. In 2012, community preceptor funding was attained for clinical teachers at these hospitals and at non-hospital clinical sites. This was an important step forward in supporting distributed medical education throughout Ontario. A number of faculty at our associate affiliates have full-time appointments. These Family Medicine and Emergency Medicine faculty devote at least 80% of their time to the academic mission and belong to a conforming practice plan.

The Faculty of Medicine’s relationship with clinicians and administrators at our community-affiliated hospitals is strengthened through activities such as:

- Faculty development (both on-site and on-campus);
- Mentorship programs;
- Inclusion of Medical Education Directors and Vice-Presidents of Education on key committees such as the Clinical Relations Committee and the Hospital University Education Committee;
- Support for promotion through the ranks;
- Site visits led by the Vice Dean, Partnerships and including senior Faculty of Medicine academic

- leaders; and
- Inclusion in the pilot phase of implementation of “Valuing our Clinical Faculty” task force recommendations.

Academic Collaborations

Dean Young co-chairs the provincial Council of Ontario Faculties of Medicine (COFM), a committee that facilitates coordination and communication between the six faculties of medicine at Ontario universities, and provides advice to the Council of Ontario Universities (COU) on matters related to medical education and research. A number of U of T faculty also currently chair the following COFM subcommittees: Distributed Medical Education; Postgraduate Medicine; Research; and the Truth and Reconciliation COFM Circle working group. Examples of COFM’s key activities include: working with government and medical student groups to address the growing number of Ontario medical graduates who remain unmatched after the national CaRMS match; ensuring that the interests of academic physicians are represented during the negotiation of the Physician Services Agreement; and assessing the financial and clinical scheduling impact of the potential reduction in Saudi-sponsored trainees.

Nationally, Dean Young co-chairs the Board of the Association of Faculties of Medicine of Canada (AFMC). Some of AFMC’s recent activities include: the development of a student portal for Canadian and international medical students applying for visiting electives; advocating for the social accountability of medicine; and advising on health human resources, i.e. the numbers and types of doctors trained and how they are distributed and move throughout Canada.

Government Relations

Dean Young, with support from members of his decanal team and often in collaboration with the University of Toronto Government Relations Office, works with both the provincial and federal governments. Provincially, the relationship with the Ontario Ministry of Health and Long-Term Care is particularly strong given the funding provided by this Ministry that supports clinical education and academic physicians.

The Faculty’s government relations activities recent include advocacy around issues such as medical students unmatched to residency positions, health human resources planning, and funding for research and education. The Faculty also worked closely with the central University in advocating for adoption of recommendations of Canada’s Fundamental Science Review Panel Report (the ‘Naylor Report’), which laid the groundwork for the renewal of basic science research in Canada.

A number of U of T faculty hold, or have held, prominent federal and provincial government positions, including Dr. Jane Philpott, current federal President of the Treasury Board (previously Minister of

Health and Minister of Indigenous Services), and Dr. Joshua Tepper, former President and CEO of Health Quality Ontario and now CEO of North York General Hospital. Dr. Danielle Martin, VP Medical Affairs and Health System Solutions at Women's College Hospital, is a key advisor to all levels of government on the importance of maintaining Canada's national health care system.

International Relations

The Faculty of Medicine's international activities have flourished over the past eight years. In both scope and quality, considerable growth has taken place involving a broader cross section of faculty, students and staff. Underpinning this success is a strong, collaborative and collegial relationship with the University of Toronto's Office of the Vice President International. As one of the University's most active divisions in the area of international relations, Medicine is a critical representative that helps U of T extend its global engagement in research, capacity building and system change. The appointment of U of T's current Vice President International, a new Executive Director International, and associated portfolio restructuring have significantly enhanced overall productivity.

International relations in the Faculty of Medicine encompasses a range of activity. The Faculty has 87 active agreements focused on (but not limited to) learner experiences, faculty and student exchanges, fee-for-service consultancy, collaborative doctoral programs, and complex, multi-national research collaborations. Each relationship that is formalized into an agreement is carefully developed to ensure mutual benefit, ethical engagement, and alignment with the Faculty's overarching strategic goals.

The Faculty continues to be a major contributor to the Toronto Addis Ababa Academic Collaboration (TAAAC), a partnership that is now 15 years old. TAAAC is a strong, comprehensive and enduring educational collaboration between U of T, Canada and Addis Ababa University (AAU), Ethiopia. TAAAC's constituent Faculties and divisions work together to build capacity in health professions education and other graduate programs. In addition to the development of excellent academic programs, TAAAC has also fostered increased skills in cross-cultural education and collaborative research.

From the beginning, TAAAC has aimed to be relational and has placed ownership of the co-developed curriculum at AAU. TAAAC has helped AAU develop culturally appropriate programming that is sustainable with local resources and to develop capacity-building, co-teaching models. The collaboration has been successful in prevention of "brain drain" from Ethiopia. Many new graduates have become faculty at AAU.

Over 200 faculty and staff from U of T and 50 senior residents, fellows, or PhD candidates have visited AAU to participate in learning and teaching in the various residency, fellowship, Master's, and PhD programs in health sciences, engineering, and social sciences. On the AAU side, 222 AAU graduates have become faculty with assistance from TAAAC. Nine Faculty of Medicine departments participate in the

collaboration, which has achieved the following milestones in medical education in the past eight years:

- Creation of Ethiopia's first-ever Family Medicine residency program;
- Creation of Ethiopia's first-ever Emergency Medicine residency program;
- Establishment of the first Palliative Care outpatient department at the Black Lion Hospital;
- Launch of a Critical Care Fellowship;
- Initiation of a Video-Assisted Thoracic Surgery (VATS) thoracic training program;
- Creation of a Master's degree in health professions teaching and education;
- Provision of intensive educational support for a new Speech Language Pathology undergraduate training program;
- Pairing Family Medicine and Psychiatry AAU residents for a one-month elective in the Assosa refugee camps to develop services for SGBV refugees; and
- Initiation of the first Master's in Clinical Psychology in the Department of Psychiatry.

Joint Research Centres in China

In 2015 and 2018, the Faculty established two joint research centres with Zhejiang University School of Medicine (Hangzhou, China), in molecular genetics and neuroscience, respectively. These programs include cross-appointments of faculty to both institutions, and collaborative doctoral programs where students from each university are required to spend between six months and two years at the partner institution. While the students can only be granted a degree by their home institution, their parchments include a special notation indicating their involvement in this collaborative program.

WHO Collaborating Centres

The Department of Nutritional Sciences and the Department of Family and Community Medicine were both awarded the official designation as a World Health Organization Collaborating Centre in 2016 and 2018, respectively. The Collaborative Centre on Family Medicine and Primary Care is the first Centre in the world to focus on Family Medicine, and one of few with a focus on primary care.

Other University- and Faculty-led Programs

[U of T's 'Global U'](#) encourages students to think about international matters through coursework, co-curricular and/or volunteer commitments and gives them recognition for these initiatives.

The [International Doctoral Cluster](#) is a research and doctoral education arrangement in a well-defined area/issue of research that brings together a critical mass of complementary talent (faculty, postdocs, and graduate students) at U of T and partner institutions (academic/corporate/NGOs). The goals of an IDC are to support cross-disciplinary and cross-border collaborations to catalyze new ideas and transformational innovations, resulting in knowledge transfer, high impact academic papers, highly qualified personnel, and licenses/spin-offs. The Joint Centre for Genetics Research and Education at

Zhejiang University has received IDC funding, which is provided by the Office of the Vice President, International and the Faculty of Medicine.

U of T's [School of Cities Alliance](#) will be U of T's official presence in India. Funded in part by Tata Trust, an Indian philanthropic organization, the plan includes a building in either Mumbai or Bangalore (location has not been confirmed) as a space to foster mutual learning, capacity building, research collaboration, industry networking, and partnership. The leaders of Tata Trust are keen to make medicine and global health a priority focus, representing a significant opportunity for the Faculty of Medicine to engage in a multi-disciplinary partnership with Indian higher education institutions, the health care sector, and industry.

In 2018, following nearly 18 months of cultivation and relationship development, the Faculty (as represented by the Centre for Faculty Development) came to an agreement with Delta University (Mansoura, Egypt) to provide comprehensive faculty development offerings as they launch a new medical school.

National Networks and Social Impact

Faculty researchers lead national networks studying areas such as prevention of diabetes complications ([Diabetes Action Canada](#)), surveillance of common primary care problems (CPCSSN - [Canadian Primary Care Sentinel Surveillance Network](#)), and prevention of chronic diseases in primary care ([BETTER - Building on Existing Tools To Improve Chronic Disease Prevention and Screening in Primary Care](#)).

Faculty researchers have had great impact on social issues internationally, through studies such as: provision of antiretroviral therapy for communities in Malawi; provision of micronutrients to children in developing countries through Sprinkles; advancing maternal, newborn and child health in Kenya; and development of the International Centre for Disability Research, which encompasses ten developing nations.

International MD Students

Beginning in 2016, the Faculty began a strategic student recruitment campaign directed at prospective international MD students. Six international students were accepted into the MD Program for the 2018-19 academic year.

7. RECOMMENDATIONS FROM PREVIOUS EXTERNAL REVIEW

The last external review of the Faculty of Medicine was conducted in October 2010 by Dr. Alastair Buchan of the University of Oxford, Dr. Richard Levin of McGill University, and Dr. Joseph B. Martin of Harvard Medical School. Their report can be found in **Appendix 23**, along with the administrative response provided by Dean Catharine Whiteside in **Appendix 24**.

As noted by the reviewers themselves their report summarized their “major observations and [did] not respond specifically to the questions posed in the terms of reference.” Indeed, a number of their observations and recommendations were not structurally possible and/or fell outside the jurisdiction of the Dean and the Faculty. In addition, the MD program was not the subject of the 2010 review (as it is now), but it did undergo a full accreditation review in 2012. Since 2010, the Faculty has undergone several key changes including a strategic planning process in 2011, the appointment of a new Dean and a leadership reorganization in 2015, as well as the development of a new Academic Strategic Plan in 2018.

As outlined throughout this document, the Faculty has made significant progress on many of the issues raised in the 2010 review:

- Successful expansion of the MD Program to UTM (Section 2.1);
- Internationalization of the MD program (Sections 2.1, 6.2);
- Development of a robust communications office and better branding of the Faculty (Section 4.3.4);
- Thematic alignment of research across departmental lines (Section 3.4);
- Enhanced collaboration and harmonization across TAHSN (Sections 3.5, 6.2);
- Significant investment in infrastructure and facilities, including the launch of a new Master Plan process (Section 5);
- Review and rationalization of EDUs, along with the development of networks, to better focus on core areas of strength (Section 4.2).

8. FUTURE DIRECTIONS

In early 2018, the Faculty began a five-year strategic planning process with a series of engagement sessions bringing together diverse voices to explore high level questions. Among them: How do we fully enable the [Toronto Advantage](#) – our extensive network of educational and research resources – to make a difference in the world? How do we anticipate what the world will need from our graduates and ensure they are poised to lead and create change in an increasingly complex world? And, with our resources, where should we be focusing our provincial, national and global leadership?

The Faculty convened 14 focus groups with existing committees and teams from across Medicine, and our steering committee reached out to key partners from across our network and into the international academic health sciences community. In total, more than 400 people were consulted online, by phone and in-person. These conversations included faculty, learners, staff, academic and clinical partners, innovation leaders and patients and focused on the full scope of the Faculty of Medicine – basic sciences, clinical and rehab sectors – encompassing all aspects of teaching, research and administration.

Among the multiple strengths for the Faculty, the community pointed to a singular openness to collaboration, ranging from cross-disciplinary research and interprofessional learning to the Faculty’s ability to connect diverse clinical sites through the TAHSN network. This openness to collaboration was matched by a perceived valuing of equity and inclusion, and a deep desire to fully enable diversity in all aspects, ranging from disciplinary and professional difference to the multitude of identities present at U of T and in the population of the Greater Toronto Area. Finally, the engagement sessions revealed a thirst to take the potential for innovation within the Faculty to a new level.

Throughout the planning process, it became clear that the Faculty of Medicine is well established in all of its realms for groundbreaking research and innovation, leading approaches to teaching, meaningful relationships with clinical sites, and economic sustainability. At the same time, there is a desire to take on even greater leadership on some of the biggest health, science and equity issues, including Indigenous health, partnering to improve clinical care and the health system, and ramping up the impact of research and innovation, through meaningful translation to clinical practice and through commercialization.

The resulting [2018–2023 Academic Strategic Plan](#) – titled Leadership in Advancing New Knowledge, Better Health and Equity – outlines three domains of focus:

1. **Ecosystem of Collaboration**

Over the next five years, the Faculty aims to actively promote, incentivize and support a new level of collaboration among our faculty, staff, learners, and academic health sciences partners. We will create tools, resources and venues to enable easy sharing of existing research, innovation and scholarship across the Faculty and among our academic partners.

For example, having successfully unified the first two years of the MD Program under the Foundations Curriculum (see Section 2.1.1 and 2.1.4.a), next steps involve continuing to integrate curricula across the learning continuum, ensuring a healthy and seamless transition of highly competent trainees moving into Post MD education and on to clinical practice. This includes not only the continued rollout of Competency-Based Medical Education (CBME) across postgraduate specialties (see Section 2.3.1), but also further incorporating competency-based principles through the MD Program and Continuing Professional Development (CPD) offerings. The MD Program will also actively integrate collaborative learning opportunities with other academic disciplines – such as computer science/artificial intelligence, engineering, and business/management – in order to develop analytical, technical and business acumen among new physicians.

In the collaborative sphere more broadly, the Dean of Medicine is part of a CEO-level working group to facilitate the next level of the TAHSN partnership, including determining where and how the Faculty and its clinical partners can collaborate more seamlessly across sites and programs. Key areas will be examined for network-wide improvements in services and training, including but not limited to: dementia care, post-surgical care, and care for patients with complex chronic illnesses. The Faculty's goals will be to optimize the learning environment – including ensuring health and well-being for our faculty and learners – as well as unlocking potential for innovations in research and education while improving systems of care.

Similarly, the Chief Administrative Officer will take a big-picture lens to the Faculty's physical ecosystem, beginning a Master Plan process in 2019 to examine the full complement of Medicine's educational, research and administrative spaces, many of which are 70+ years old and in need of major renewal. In collaboration with the central University, this process is expected to take approximately 18 months and will guide future planning for decades to come.

2. Groundbreaking Imagination

With respect to our research enterprise across all sectors – basic, clinical and rehab sciences – much work is under way to unlock potential by harmonizing research policies, and developing joint advocacy initiatives to government and other stakeholders for future investment in research and innovation. Our goal is to make robust research collaboration more rewarding and seamless Faculty-wide, University-wide and city-wide. This will go a long way to ensuring that U of T scientists continue to punch above their weight in the quality and impact of their research.

In our education portfolio, we will continue the integration of our clinician-scientist training program across all stages of medical education. And we will build capacity to reflect the emerging role of artificial intelligence in health professions, ensuring our graduates learn the principles of AI and its potential for applications in clinical decision-making, as well as integrating emerging technologies in disciplines such as Medical Imaging, and Laboratory Medicine and Pathobiology.

In addition, our Graduate Life Sciences Education (GLSE) portfolio – responsible for Master’s and PhD-level learners – is developing undergraduate research opportunities to demonstrate the value of advanced training in the research environment at U of T. GLSE will actively promote and identify new funding sources for mentored undergraduate research opportunities within the Faculty, including designing seminars for students to develop transferable professional skills during their undergraduate studies. And, working with our university partners, Medicine will examine the potential for a first-entry health sciences degree. For graduate students, the focus remains on developing adequate funding support, as well as ensuring effective career path supports are in place to guide students into a range of private, public and academic careers.

The Faculty will also work with University and hospital partners to build upon existing strengths and coordinate efforts in emerging areas such as machine learning as applied to health and healthcare, fulfilling the promise of regenerative medicine, implementing transformative technologies such as cryo-EM and microfluidics, and improving alignment and activity across the continuum of neuroscience. Increased activity in intellectual property, commercialization and entrepreneurship that builds upon and complements an existing culture of research excellence, with an emphasis on providing opportunities for trainees, is crucial to increasing the impact of our academic performance. Cross-pollination between researchers in biochemistry and molecular genetics, for example, have given rise to new productive collaborations in the Faculty’s open-concept MaRS Centre West lab spaces.

Similarly, we will increase rehabilitation research and clinical capacity to address burgeoning demographic needs in the areas of physical therapy, occupational therapy and speech-language pathology, potentially expanding our offerings at the Mississauga Academy of Medicine. And we are committed to growing our capacity for translational research, including piloting a Research Entrepreneur-in-Residence program to draw on the experience of faculty members who are successfully navigating commercial opportunities in Canada and worldwide.

These research and innovation endeavours will be amplified by strategic communications and philanthropy – building reputation and engagement among our network of alumni and donors, all of whom help advance U of T’s leadership in education and research. In 2021, the Faculty will mark the 100th anniversary of the discovery of insulin, an historic milestone that will give rise to a range of scientific, public engagement and fundraising opportunities

3. Excellence through Equity

The Faculty is committed to ensuring inclusion and equity are essential components of how we define and foster excellence in scholarship, clinical practice and health outcomes. We are creating a comprehensive equity, diversity and inclusion plan, including a review of current resources across the Faculty, development of interdisciplinary programs, and expansion of the “We All Belong” campaign, which focused initially on incoming MD students in 2018-19.

We will expand our Diversity Mentorship Program beyond first- and second-year MD Program learners, and broaden the mandate of the Office of Indigenous Medical Education to include support for all Indigenous learners, faculty and staff across the Faculty. As well, Continuing Professional Development efforts to promote health education among Indigenous, refugee, and vulnerable populations are resulting in new ways of collaborating. The Indigenous Health Conference 2018 provided the Faculty with an opportunity to engage broadly with Indigenous communities and to examine ways to integrate Western and Indigenous approaches to healthcare. As part of our commitment to diversity and equity, the Faculty is also examining socio-economic barriers to admissions, as well as recalibrating grant and bursary programs to maximize financial support for students most in need, and evaluating the potential of a multi-disciplinary health sciences hub at U of T's Scarborough campus to address an underserved and highly diverse population in the GTA.

Underlying all three of the Faculty's domains of focus – collaboration, imagination and equity – are two sets of enabling activities: supporting health and well-being in everything we do, and ensuring our infrastructure, policies and technology work to compel collaboration and support sustainability.

Health and well-being are inextricably linked to work culture and the learning environments that institutions and employers create and promote. The Faculty of Medicine aims to foster a culture and environment where health, well-being and resiliency are considered and integrated in all elements of our enterprise: from the places we work, learn and conduct research to the opportunities people have to express their diverse needs. Underlying that is a strong commitment to professionalism, the foundation on which leadership is built. In the years ahead, the Faculty will continue to refine its curricula to train adaptable, collaborative, inclusive clinicians and scientists, who act with the highest degree of integrity.

The Faculty is taking a leadership role and developing comprehensive strategy to advance professional values, including working with our clinical and research partners to optimize learning environments and deepen the integration of wellness, respect and resilience. Among the activities under way:

- Reviewing and clarifying TAHSN-wide policies, procedures, reporting processes – and researching best practices – with respect to intimidation, discrimination and harassment. The goal is to improve alignment across the Faculty and ensure clear communication to all our learners, faculty and staff;
- Creating a joint Faculty of Medicine/TAHSN equity and wellness initiative to support faculty, staff and learner health and well-being within the University and across teaching and research sites;
- Exploring tangible opportunities to reward professionalism and health-supporting behaviours from Faculty leaders; and
- Building on comprehensive Faculty survey data to create a set of metrics and programs that support a culture of wellness.

4. Enabling Success

Finally, we are working to streamline bureaucracy and eliminate areas of red tape across the Faculty and beyond: to foster easy transfer and management of data, knowledge, resources and people. We will work to further integrate the MD Program, Post MD education and Continuing Professional Development in staffing, activities, technology and learner support, including integrated IT platforms to allow a unified user experience for learners, and integrated data acquisition and management to monitor learner progress. And working with our TAHSN partners, we will create unified information management strategies for clinical and research data-sharing, liability, health and safety agreements, and contracts.

Overall, the Faculty has set an ambitious course for the next 5+ years. Our Academic Strategic Plan is not only an expression of a shared vision but also the framework through which we will make informed choices. Our work will be to stay focused – yet agile and responsive to change – as we drive toward the goals outlined above. We’ve got a strong foundation to build on, and a thoughtful, engaged community of learners, faculty, staff and clinical partners to work with.

With a strong commitment to underserved populations through a new health sciences hub at U of T’s Scarborough campus – as well as creating novel pathways for promising students, such as a first-entry Bachelor of Health Sciences degree – alongside renewed infrastructure for our MD Program, the Faculty of Medicine is poised to deepen its societal impact for decades to come.

APPENDICES

Please view the appendices online at medicine.utoronto.ca/faculty-review-2018-19