![University of Toronto — Faculty of Medicine]

MEETING OF FACULTY COUNCIL
OF THE FACULTY OF MEDICINE

A meeting of Faculty Council will be held on **Monday, February 10, 2020**, from 4:00 p.m. to 6:00 p.m. in the **Red Room, Donnelly Centre**, University of Toronto.

AGENDA

1 **Call to Order** — Speaker

2 **Minutes of the previous meeting of Faculty Council – October 21, 2019** — Speaker

    2.1   Business Arising

3 **Report from the Speaker** — Speaker

4 **Reports from the Dean's Office**

4.1	Report from the Dean's Office	S. Spadafora
4.2	Vice Dean, Research and Innovation	R. Hegele
4.3	Vice-Dean, Partnerships	L. Wilson
4.4	Vice-Deans, Education	P. Houston
		A. Kaplan

5 **Items for Approval**

    5.1   The Research and Education Committees of Faculty Council recommends the approval of the following motion:

        "THAT the proposal to establish the Centre for Machine Learning in Medicine as an EDU-C at the University of Toronto be approved as submitted." — K. Shojania / L. Mitchell

6 **Standing Committee Annual Reports**

    Appeals Committee — D. Templeton

7 **Faculty Council Forum** — L. De Nil

    Student Mistreatment — T. Pignatiello

8 **Adjournment** — Speaker

NEXT MEETING: April 27, 2020

FACULTY COUNCIL
FACULTY OF MEDICINE

Meeting Materials – February 10, 2020

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Faculty Council of the Faculty of Medicine
Minutes of the October 21, 2019 meeting
4:00 p.m.
Red Room, Donnelly Centre

Members Present: B. Steipe (Speaker), T. Coomber, R. Hegele, M. Connell, M. Farkouh, V. Rambihar, S. Myrehaug, S. Rauth, B. Mori, M. Akens, P. Houston, R. Kandel, H. Yang, S. Halani, S. Spadafora, A. Jakubowski, G. John, S. McMahon, R. Ponda, M. Ostrowski, A. Mortha, A. Giacca, C. MacMillian, M. Fefergrad, R. Kandel

1 Call to Order

2 Minutes of the previous meeting of Faculty Council – April 22, 2019

The minutes of the meeting of April 22, 2019 had been previously circulated. They were approved on a motion from S. Spadafora and seconded by B. Mori. There was no business arising.

3 Report from the Speaker

The Speaker indicated that, as per the Faculty Council By-Laws, the Executive Committee received and reviewed External Reviews for the Department of Occupational Science & Occupational Therapy and the Institute of Medical Science.

The Speaker noted that Dr. Luc De Nil has been acclaimed to the position of Deputy Speaker and that Dr. De Nil will be Chairing the next meeting.

4 Reports from the Dean's Office

4.1 Dean's Report

Dean Young noted that the Toronto Academic Health Sciences Network (TAHSN), as of October 1, will be part of U of T. The staff will be U of T staff and there is currently a search for a TAHSN manager. The Dean indicated that housing TAHSN within U of T speaks to the close relationship the Faculty has with the Hospital community.

The MD accreditation will take place in May. All the Rehabilitation Sciences Departments have undergone recent successful accreditations. PGME accreditation will take place in November. There has been a great deal of data collected for the MD accreditation. 100% of students feel they learn what they need to know to be able to practice medicine. Areas for improvements are the advising for electives that will prepare for careers; there is concern at, or above, the national average that students are being asked for personal favors in clinical settings; and there are too many issues of inappropriate comments.

There are a number of Extra Departmental Units under development. Machine Learning in Medicine is on track to be considered at the next Faculty Council meeting. Equity, Diversity, and Inclusion will continue to be important within the Faculty and may be developed as an EDU but other models are being considered.

The Dean is Chairing the Student Mental Health task force. The group is very engaged and will be coming up with bold recommendations shortly. There are a lot of great services on campus and those

who use these feel they get good services but there are still barriers to access such as communication and awareness.

Dean Young noted that he will be on study leave for six months beginning in January and Salvatore Spadafora, Vice Dean, Post MD will be Acting Dean and Lynn Wilson, Vice Dean, Partnerships will be Acting Vice Provost, Relations with Health Care Institutions.

4.2 Vice Dean, Research & Innovation

Dr. Richard Hegele noted that the Research Office has moved to room 119 of the Naylor Building. This is close to Medical Communications and Advancement. The Department of Medicine will be moving as well.

On October 23 from 2pm – 4pm, Dr. Tania Watts from Immunology will be hosting a CIHR town hall. This will be an opportunity for faculty to provide input that will be relayed to the CIHR President. The Gairdner Laureate Lectures will be taking place on October 24 in the MaRS building. There will be a number of lectures on that day including from Dr. Timothy Springer and Dr. Connie Eaves. On October 25, Dr. Matthew Fenton will be presenting NIH 101 which will provide an overview of the National Institutes of Health, its internal organization, its operations, how research priorities are established, and how funding decisions are made.

4.3 Vice-Dean, Partnerships

Dr. Lynn Wilson indicated that a faculty wellness program is being developed. This program will support health and wellbeing among the faculty. There are four action teams putting together evidence based recommendations for this program. Julie Maggi from Psychiatry and the Director of Resident Wellness and Dr. Wilson are currently writing the report. The final report will be shared with Faculty Council.

An orientation for new Chairs is being developed. This is currently focused on Clinical Chairs but it may be applied across the Faculty. The Clinical Chairs recently had a retreat focusing on learning environment, diversity, equity, and inclusion.

4.4 Vice-Deans, Education

A written report from the Education Vice-Deans is included in these minutes beginning on page 4.

5   Items for Approval

THAT the proposal to change the name of the "Department of Anesthesia" to the "Department of Anesthesiology and Pain Medicine" be approved as submitted.

Moved: B. Mori, Seconded: R. Kandel

Dr. Fiona Campbell indicated that the proposal to change the name of the Department of Anesthesia to "Department of Anesthesiology and Pain Medicine" emerged during the development of the Department of Anesthesia's 5-year Strategic Plan. Faculty members noted that the wide range of clinical and scholarly activities was no longer reflected in the department's name. Anesthesiologists are involved in many non-anesthesia activities, including the treatment of acute and chronic pain, intensive care, and a wide range of education and research activities. To better reflect the many clinical and academic contributions of the faculty, the change to the Department of Anesthesiology and Pain Medicine is being requested.

The proposed change has received strong support from the department. The Executive Council of the Department of Anesthesia unanimously endorsed the name change and a referendum sent to all members of the department indicated that 100% of the residents and 94% of faculty supported the change. The Chairs of all the clinical and basic science departments of the Faculty of Medicine approved the name change. The Director and the lead/partner Deans (Dentistry, Nursing and Pharmacy) of the University of Toronto Centre for

the Study of Pain (EDU:C), support the name change. As a clinical department, Anesthesia does not offer degree programs so this change will have no direct impact on students or programs.

The term "anesthesia" refers to a drug-induced state, whereas "anesthesiology" refers to an academic specialty. Currently, clinical activities extend well beyond the operating room to encompass many off-site services, including image-guided therapies, the management of acute and chronic pain, perioperative care, and intensive care. The Royal College of Physicians and Surgeons of Canada and professional organizations including the Canadian Anesthesiologists' Society use the word Anesthesiology.

The management of pain has become a core activity of the specialty. Anesthesiologists practice acute pain medicine every day. They also lead transitional, regional, and chronic pain programs across and within multiple institutions and are leaders in pain education. The Royal College of Physicians and Surgeons of Canada determined that residency programs in the subspecialty of Pain Medicine should be "housed in" and supported by Departments of Anesthesiology.

This change aligns with trends occurring at local, national and international levels to include the terms anesthesiology and pain medicine in the names of hospital and university departments. At the local level, three departments in fully affiliated hospitals include the word "pain," in their names and it is expected that other hospital departments will follow suit.

The motion passed.

6   Standing Committee Annual Reports

6.1 MRS Board of Examiners

Dr. Sarah Rauth indicated that the Medical Radiation Sciences Board of Examiners reviews cases of students in academic difficulty and determines the appropriate course of action, which may include promotion, remediation, failure, suspension and dismissal.

The MRS Board of Examiners met four times in 2019. The BOE has reviewed the cases of 15 students this year.

9 students were placed on Remediation. 6 of these were for course failure, 1 was for failure of two courses, 1 was due to an extension of a clinical course, and 1 was for professionalism (this student was also placed on Probation for course failure).

Four students were placed on Remediation with Probation. Three of these were for course failure. The fourth was due to a student being removed from a clinical site due to safety concerns prior to successful completion (or failure) of the course.

One student, who had been dismissed in 2018, had that decision held in abeyance due to new health information. The decision will be held in abeyance until the Board of Examiners approves a proposal from the Program either regarding the student's reintegration into the Program or to reinstate the dismissal decision.

Finally, one student was dismissed from the MRS Program.

7   Faculty Council Forum

Ms. Anita Balakrishna presented the Faculty Council Forum on Equity, Inclusion, and Diversity within the Faculty of Medicine.

8   Adjournment

The meeting was adjourned at 5:55pm

Council of Education Vice Deans
Faculty Council Report

October 21, 2019

Submitted by:
Patricia Houston, Vice Dean, MD Program
Allan S. Kaplan, Vice Dean, Graduate and Academic Affairs
Salvatore Spadafora, Vice-Dean, Post MD Education (PGME & CPD)

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A. Education Vice-Deans Integrative Activities

1. External Education and Teaching Awards | Call for Nominations

Each spring and fall, the Faculty's Teaching and Education Awards Committee has the privilege of recognizing individuals who are making significant contributions to medical education.

We are currently calling for nominations for the following awards:

> Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Awards
> University of Toronto President's Teaching Award

If you are interested in nominating someone for one of these awards, please submit the online nomination form and supporting documentation by 5PM on Monday, November 4, 2019. Nominations require a two-page letter of support from the nominator, the nominee's current CV and Teaching and Education Report, all of which should be emailed to medicine.awards@utoronto.ca by the deadline.   It is strongly recommended that the nominee's Department Chair be in support of the nomination. For more information, contact the Office of the Education Vice-Deans at medicine.awards@utoronto.ca or at (416) 946-8067.

2. 2019 Education Development Fund (EDF) Funded Projects

The Education Vice-Deans and the EDF Adjudication Committee Chair, Dr. Risa Freeman, are pleased to announce the recipients of the 2019 Education Development Fund competition:

PI Name	PI Department	Project title
Eileen Cheung	Department of Family and Community Medicine	An evaluation of the Toronto Addis Ababa Academic Collaboration in Emergency Medicine (TAAAC-EM) partnership
Alpna Munshi	Department of Psychiatry	Performance, success, and challenges - Experiences of IMG residents in the Department of Psychiatry
Sharon Peacock	Department of Anesthesia	Simulation curriculum in ultrasound-guided cannulation of the subclavian vein using a novel low cost, high fidelity 3D model

3. 2020 EDF Cycle | Timeline

The Education Development Fund 2020 cycle will commence with an initial call for applications in October. The application site is expected to open in early November and applications will be due on February 13, 2020 at 4 PM.

For further information, please refer to the [Education Development Fund website.](#)

4. Annual Education Achievement Celebration

The Faculty of Medicine's **18th Annual Education Achievement Celebration** will be held on **Wednesday, May 20, 2020,** from **4:30–6:30pm** in the **Great Hall at Hart House**. Doors will open at 4:00 pm.

B. MD Program

1. Admissions

MD Program			
	2017 Entry	**2018 Entry**	**2019 Entry**
Applications	3167	3262	3555
Full file review	2107	2048	2216
Interviews	607	639	636
Offers	310	301	307
Acceptances	261	254	268
Yield	84.2%	84.2%	87.3%

In addition to acceptances by domestic applicants:
- o 2 international applicants accepted offers for 2017 entry
- o 5 international applicants accepted offers for 2018 entry, plus 1 deferral for 2019 entry
- o 9 international applicants accepted offers for 2019 entry, plus 2 deferrals for 2020 entry

	Alternative Admission Pathways					
	MD/PhD		ISAP		BSAP	
	2018 Entry	**2019 Entry**	**2018 Entry**	**2019 Entry**	**2018 Entry**	**2019 Entry**
Applications	131	139	16	11	92	104
Full file review	86	111	7	6	52	56
Interviews	48	48	5	6	31	31
Offers	9	10	5	5	17	15
Acceptances	8	9	2	4	15 (+ 1 deferral)	15

2. Accreditation

The MD Program's next full accreditation review site visit is scheduled to take place May 3 – 7, 2020. In preparation for that site visit, an Independent Student Analysis (ISA) has been conducted by our medical students, with a full report released in July 2019 (available of the MD Program accreditation webpage). The ISA Report was informed by a student-administered survey that featured 58 core questions specific to accreditation requirements. Student leaders consulted with their colleagues to add additional questions they felt were pertinent to their U of T medical school experience.

None of the recommendations included in the ISA Report came as a surprise to MD Program leadership. Work is already underway to address keys areas of improvement identified in the ISA Report, including a respect to student diversity, needs-based financial support, mistreatment reporting, career advising and CaRMS preparation, and counselling services.

The ISA survey data regarding the percentage of students who reported that they have personally experienced mistreatment (Table 1) is concerning. Equally concerning is AFMC Graduation Questionnaire (GQ) data regarding the percentage of U of T MD students who indicate that they are aware of medical school mistreatment reporting procedures (Table 2). Work is underway both within the MD Program and by the Faculty of Medicine Strategic Plan Optimizing Our Learning Environments (OLE) Working Group to remove barriers experienced by learners and enable education and hospital leaders to address and prevent unprofessional behaviour.

Table 1: 2019 U of T Independent Student Analysis (ISA) Survey Data
"I have personally experienced mistreatment" [%]

Academy	Year 1	Year 2	Year 3	Year 4
FitzGerald	1.9	5.3	30.2	41.2
Mississauga	7.4	10.4	17.0	44.9
Peters-Boyd	1.6	6.9	10.2	25.0
Wightman-Berris	7.0	10.7	9.7	25.7

Table 2: AFMC Graduation Questionnaire (GQ) Data
"Do you know the procedure at your school for reporting the mistreatment of medical students?" [%]

Academy	2017		2018		2019	
	U of T	National	U of T	National	U of T	National
FitzGerald	86.1		74.4		66.7	
Mississauga	89.7		76.9		52.5	
Peters-Boyd	88.6	79.2	80.9	79.9	73.8	83.5
Wightman-Berris	84.9		45.8		73.2	

Along with a Data Collection Instrument (DCI) in which the MD Program is required to provide a comprehensive collection of data on all aspects of the MD Program, the ISA Report will inform the Medical School Self-study (MSS), which began in September 2019. The self-study involves five MSS subcommittees, comprised of more than 85 people including students, faculty and staff selected to represent the diversity of individuals and institutions that support the MD Program. Each subcommittee will focus on two or three accreditation standards, as follows:

Accreditation Standards	MSS Subcommittee Co-Chairs
o 1 Mission, planning, organization and integrity o 2 Leadership and administration o 3 Academic and learning environments	Leslie Nickell David McKnight
o 4 Faculty preparation, productivity, participation, and policies o 5 Educational resources and infrastructure	Alison Freeland Dev Chopra
o 6 Competencies, curricular objectives and curricular design o 7 Curricular content	Molly Zirkle Rick Penciner
o 8 Curricular management, evaluation, and enhancement o 9 Teaching, supervision, assessment, and student and patient safety	Risa Freeman Mahan Kulasegaram
o 10 Medical student selection, assignment, and progress o 11 Medical student academic support, career advising, and educational records o 12 Medical student health services, personal counseling, and financial aid services	Jackie James Don McMillan

The MSS will occur throughout the fall, with a report due to external review team in early 2020.

Included below is a graphic that provides an overview of accreditation timelines:
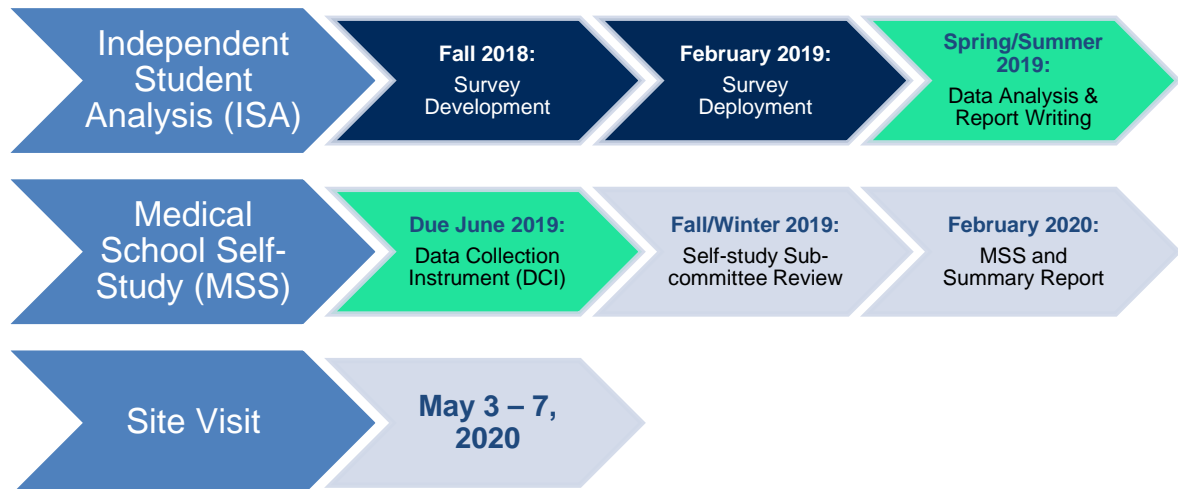
3. Governance & Leadership

Recent (since April 2019) MD Program leadership appointments.

- Hana Lee was appointed as Interim Director, Enrolment Services and Faculty Registrar in the Office of the Vice Dean, MD Program for a 1-year term effective June 27, 2019.
- Dr. Mirek Otremba was appointed as the MD Program Director, Clinical Skills effective April 1, 2019. In this role, Dr. Otremba is responsible for the overall design, development, implementation, and evaluation of the clinical skills components of the curriculum, including ensuring appropriate content, integration and assessment of clinical skills in Clerkship.
- Dr. Giovanna Sirianni was appointed as the inaugural MD Program Faculty Lead, Workplace Based Assessment beginning on June 3, 2019. In this role, Dr. Sirianni is responsible for planning and implementing a workplace based assessment framework that supports longitudinal competency achievement as well as a renewed clerkship OSCE.

C. Post MD Education (PGME & CPD)

Postgraduate Medical Education

1. Governance, Staffing, Leadership

Jaylin Bradbury joined PGME as a Wellness counsellor in July 2019, replacing Chris Trevelyan. She will be working with Anita Gupta, and Drs. Julie Maggi and Heather Flett in the Wellness Office. Jaylin previously worked in the University's Koffler Student Services Centre providing short-term counseling to undergraduate and graduate students. Chloe Chaitov, Department of Medicine program administrator, joined us in July on the POWER Help Desk as a maternity leave replacement for Ariel Ng. Additionally, Dawn Martin left PGME in September 2019 to return to private practice on a full-time basis. Dawn worked at PGME in various capacities for over 12 years, most recently as a Communications Specialist working with residents in difficulty.

2. Competency Based Medical Education (CBME)

Program Implementation – Update & Plans for 2019-2020
2019-20 marks the third academic year of residency programs transitioning to the Royal

College's CBD curriculum. As we roll out CBD, an additional 14 residency programs launched in July 2019 joining 9 programs in their second and third year of implementation. Details on specific programs are below:

July 2017	July 2018	July 2019
▪ Anesthesia ▪ Otolaryngology – OHNS	▪ Emergency Medicine ▪ Forensic Pathology ▪ Medical Oncology ▪ Nephrology (Adult & Peds) ▪ Surgical Foundations (9 programs) ▪ Urology	▪ Anatomical Pathology ▪ Cardiac Surgery ▪ Critical Care (Adult & Peds) ▪ Gastroenterology (Adult & Peds) ▪ General Internal Medicine ▪ Geriatric Medicine ▪ Internal Medicine ▪ Neurosurgery ▪ Obstetrics & Gynecology ▪ Radiation Oncology ▪ Rheumatology (Adult & Peds)

Implementation support is being offered in 2019-20 through a mini-conference format, with 13 half-day sessions – 10 offered for newly launching programs and 3 provided for continued launch programs. These sessions are in addition to one-on-one consultation and training, group training/information sessions and an extensive resource bank of guidelines, templates, videos and Qs and As to help guide programs with the onboarding process.

CBME - Faculty and Learner Development
Dr. Susan Glover Takahashi and Dr. Filipe Santos co-facilitated the first series of training faculty and learner co-leads in *Developing a Feedback and Learning Culture* over the spring and summer. The participants will now work to implement feedback and coaching systems with the faculty and learners in their department, specialty, program or site. Fall and Spring offerings of the series are planned.

Centrally, the focus is to support departments and programs to identify the resources needed to meet their CBME faculty and learner development needs. This spring and summer included meetings with many Faculty Leads as well as providing dozens of workshops and training sessions for hundreds of learners, faculty and administrators in many locations and formats. Additionally, many print, web and video resources were developed. The faculty and learner development work is collaboratively planned with the input and guidance of departmental and divisional education leaders, the PostMD team, and the Centre for Faculty Development.

CBME - Systems
PGME is using the on-line platform, *Elentra,* to support the assessment of Entrustable Professional Activities (EPAs) and other workplace based assessment tools. As of July 2019, all of the programs launched in CBD are successfully using *Elentra*. Since the inception of *Elentra* for CBME in 2018, over 6,000 EPA assessments have been completed in this

platform. In addition, Family Medicine is also using *Elentra*, and to date have completed almost 4,000 fieldnotes. Analytics and reporting to support CBME is being provided by PGME using Tableau, an on-line data visualization platform.

Best Practices in Evaluation and Assessment Committee (BPEA)
The PGME team has been collaborating with program leaders to manage the high volume of content and customization needed by our programs. This work is directed and overseen by our Best Practices in Evaluation and Assessment (BPEA) Committee which reports to the Postgraduate Medical Education Advisory Committee (PGMEAC).

Our approach has been to work with the CFPC, the Royal College and our national peer institutions during the transition to competency-based models to: (1) establish clear minimum National expectations for the CBME models (2) influence the national design through our advocacy and dialog with the Colleges (3) discern principles and expectations we should pursue at the University of Toronto to inform development of local minimum standards.

This is the core work of BPEA. Using evidence derived from a year's worth of effort, the committee established the literature base for various aspects of CBME and then used this to develop local guidelines and standards. We then worked within these to co-develop optimal solutions within each department.

3. Accreditation & Internal Reviews

We are nearing the end of the internal review portion of this accreditation cycle. The Associate Dean, PGME met with each of the Department Chairs to provide them with a summary of the areas for improvement identified through the internal reviews for all the programs in their respective departments. The accreditation team is currently developing similar summary reports for the site leads so that they can be up to date on the new accreditation standards and the areas for improvement related to each learning site as identified through internal reviews.

The on-site survey visit for all residency and Areas of Focused Competence (AFC) training programs will take place from November 22-27, 2020. Workshops were held in the Spring for program directors and program administrators to review the new accreditation standards and are now in the process of preparing the required documentation. Individual consultations were held throughout the summer to help with program specific issues and document development. PGME will continue working with partners to ensure that all of the accreditation standards are met in preparation for the on-site survey in November 2020.

4. Conferences, Workshops, Projects & Initiatives

Conferences, Symposia, Meetings & Sessions

- ***CBD Implementation Mini-Conference #5*** – Tuesday, April 2, 2019 and Thursday, April 11, 2019 – These were part of a series of mini-conferences offered throughout the year to align programs to any changes in the CBD implementation process, provide the materials for completion during each step, and allow programs to share/discuss knowledge and ideas with colleagues.

- ***Accreditation Questionnaire Workshops*** – Tuesday, May 21, 2019, Friday, May 31, 2019, Tuesday, June 18, 2019 and Friday, June 21, 2019 – These sessions provided tips and instructions for programs to complete their Accreditation Questionnaire (AQ). Sessions included information on submission timelines, required documents, template wording, central policies, navigating the AQ tip sheet, and a Q and A session.

- ***Feedback & Coaching Train the Trainer*** – Tuesday, May 28, 2019, Tuesday, June 18, 2019 and Tuesday, July 9, 2019 – PGME & CFD have launched a new educational offering to support Faculty and Learners in the giving and receiving of feedback and coaching. WHY? Residents and faculty have repeatedly identified that one of the hurdles to implementation of CBME is support in giving feedback and providing coaching to the learner. The program was offered over a series of 3 workshops (with some 'homework' between sessions).

- ***[All Program and Family Medicine Site Directors' Meeting](#)*** – Friday, May 31, 2019 – Dr. Kevin Imrie delivered the 2018 Charles Mickle Fellowship Address, Trainee Leadership Awards were presented, the agenda also incorporated [updates from all PGME Units](#) as well as updates from the Program Administrator's Advisory Committee and PGME's Leadership Certificate Program which commences in September 2019.

Resident Education, Development & Forums

- ***OHIP Billing Education for University of Toronto Residency Programs*** – OMA Course – April 2019 to July 2019. These sessions were incorporated into the academic half-days. They provided residents with an introduction to the basic principles of OHIP billing, claims, codes and payment reconciliation as well as outlining basic legal and financial requirement to starting a practice. OMA provided sessions to Occupational Health, multiple Family Medicine Sites, General Surgery, Paediatric Specialty programs, Anesthesia, and PMR.

- ***Resident Leadership Forum*** – *Round Table Café* – Wednesday, June 26, 2019 – Chief and Senior Residents had the opportunity to participate in scenario-based discussions with PGME Leaders with time for networking and connection after the session.

- ***New Resident Welcome Reception*** – Thursday, June 27, 2019 – An informal welcome reception for residents to meet and network with their future colleagues, program directors and Postgraduate Medical Education leadership team. The reception also provided access to helpful resources such as PARO, MD Financial Management, CMA, OMA, HealthForceOntario, Office of Advancement, Postgraduate Wellness Office, Gerstein Science Library, UofT Bookstore, RCPSC, and RBC Wealth Management.

- ***14th Annual Chief Resident Leadership Workshop*** - Tuesday, August 13, 2019 – Dean Trevor Young's opening remarks were followed by Dr. Bob Bell, Retired Orthopaedic Surgeon and Former Deputy Minster of Health Ontario, who delivered the keynote address "Three Qualities of Leadership". Dr. Heather Flett, Associate Director of our Postgraduate Wellness Office, provided an overview of the office's services along with an interactive discussion. Dr. Shelly Dev, Director of Education in the Department of Critical Care at Sunnybrook Health Sciences Centre, inspired attendees with a talk titled "Physician Wellbeing and Medical Culture: It's time for a Revolution". Drs. Suze Berkhout and David Wang shared insights from their experiences as a former and current Chief Resident in an interactive discussion moderated by Dr. Kaif Pardhan. Drs. Tracy Sarmiento and Gordon Locke joined us from PARO to speak about the PARO-CAHO Contract in the context of the Chief Resident role.

- ***MCCQE2 Remedial Workshops:*** *Tuesday, Aug 20 and Monday, Aug 26*. The sessions were offered to residents who were not successful in completing the MCCQE2. These interactive coaching sessions were facilitated by faculty and medical educators to support learners in preparation for their exam re-take. The first session focused on recent transformational changes in the MCC's examination blueprint, understanding the score report, and resources available to residents. The second session taught residents how to study for the exam, providing step-by-step instructions on understanding and mastering the key feature approach to answering questions. Materials developed will be posted online for broad resident use. The 2-part session will be repeated in Fall 2019, both in-person and remotely.

Program Administrator Development and Information Sessions

- ***Adobe Acrobat Pro Training*** – Thursday, April 4, 2019 – This session provided attendees with technical knowledge on how to use Adobe Acrobat Pro.

- *Appreciation Award & Event* – Wednesday, April 24, 2019 – The Medical Education Administrator Award was given out at this appreciation event for all of our medical education administrative support staff. In addition to the award, there were presentations from PAAC leadership, PGME leadership and an engaging and fun food trivia with prizes.

- *Introducing the New Administrator to Postgraduate Medical Education* – Thursday, May 2, 2019 - This session provided an introduction of the PG system and allowed new administrative staff who have been in their role for less than 6 months to meet key PGME staff members. Topics included: Faculty overview; PGME Organizational Chart & Overview; the PGME Website; Registration; Visa Trainees; Fellows; POWER; Payroll & Call Stipends; Electives; Accreditation. Attendees received a booklet of resources, a PGME contact list and a list of commonly used acronyms and definitions. This session is offered twice a year.

- *PARO Information Session* – Monday, May 6, 2019 – PARO hosted this event at their office to provide attendees with highlights of the PARO-CAHO Contract and respond to questions.

- *POWER: Preparing for the New Training Session* – Tuesday, May 7, 2019 and Wednesday, May 29, 2019 – This session provided attendees with the information they need to schedule rotations, assign teachers and other tasks to prepare for the session starting July 1.

- *Effective Time Management: Make your email and to do lists work for you* – Thursday, May 16, 2019 – This session provided attendees with tips, tricks and tools to assist with time management skills.

- *Taking Care of Yourself* – Wednesday, June 5, 2019 – This session provided attendees with strategies on self-care.

Leadership Certificate Program (Planning)
PGME launched a PG Leadership Certificate Program which is an immersive longitudinal programme designed to equip select postgraduate trainees with the knowledge and skills needed to contribute to local and systems level improvements in the delivery of health care.

A competitive process was used to select a diverse complement of trainees representing various levels of postgraduate training and specialties. Input from trainees was instrumental in developing program content. Speakers were selected from within and outside the

academic medical community, capitalizing primarily on the broad expertise across the University of Toronto. While traditional teaching methods are foundational, we anticipate that the program's greatest benefit will derive from participants developing and implementing an action learning project and from networking with their peers.

PGME's investment in leadership training is yet another investment in our trainees: making sure they have the tools they need to do the job society needs them to do. We are proud to be able to offer this enrichment opportunity.

SEAC Simulation Symposium (Planning)
The Simulation Education Advisory Committee (SEAC) is currently organizing its second symposium to bring together physicians, health professionals, educators and researchers to collaborate and discuss the latest developments in education, research and technology within the medical simulation sphere. This year's plenary speaker is Dr. Richard Cherry, Associate Dean, Learning with Simulation and Technology at Western University.

The symposium is taking place on Thursday, November 14, 2019
8:00 am – 1:00 pm at the Faculty Club:
https://facmed.registration.med.utoronto.ca/search/publicCourseSearchDetails.do?method=load&courseId=1783946

Physician Wellness Symposium
On June 11, 2019, Post MD Education, the MD Program and The Hospital for Sick Children, jointly supported the second biannual Physician Health Symposium at the University of Toronto. The symposium drew 161 attendees, featured 5 workshops, 16 oral presentations, a panel discussion, and 8 posters, focusing on physician health across the continuum of time, social place and culture. The keynote speaker, Dr. Jo Shapiro from Harvard University, spoke on peer support in clinical settings and the promotion of professional behavior is foundational to the wellbeing of learners and faculty from undergrad to postgrad, and beyond.

CMPA Safety Symposia: September 9, 10, 11, 2019
The CMPA's Safety Symposia is a one-day seminar designed to disseminate a national curriculum to improve patient safety by educating residents regarding risk and consent with relevant scenarios and court cases**.** First offered by CMPA at UofT in 2017, the training program is targeted to PGY2 residents in specialty programs (Sept 9/10) and PGY1 Family Medicine residents (Sept 11). This year, the CMPA sessions were held at the Beanfield Centre, Exhibition Grounds. A full outline of the Association's national dissemination program can be viewed on their website at https://www.cmpa-acpm.ca/en/education-events/resident-symposium

Graduation Ceremonies
Graduation Ceremonies - Drs. Bandiera, Schneeweiss, and Spadafora provided welcoming remarks at 12 graduation events for exiting residents and fellows in May and June 2019 at

Hart House, the Faculty Club, Victoria University, Arcadian Court, and other locations. Funding support for the events organized by clinical departments is provided in partnership with the Faculty of Medicine's Advancement Office

5. Awards & Publications

PGME continues to recognize members who are committed to the Faculty and Postgraduate Medical Education by acknowledging their efforts through various awards.

Recipient of the Spring 2019 **Medical Humanities Grant** is Dr. Briseida Mema, Department of Pediatric Critical Care Medicine.
The PGME Excellence Award winners were:
- Drs. Joan Lipa and Veronica Wadey, Department of Surgery (Development and Innovation)
- Dr. Peter Ferguson, Department of Surgery and Dr. Jeannette Goguen, Department of Medicine (Teaching Performance, Mentorship and Advocacy)

For all PG award winners for 2018-19, please see http://pg.postmd.utoronto.ca/about-pgme/awards/

6. CaRMS

PGY1 and Subspecialty Matches:
PGME had a very successful PGY1 CaRMS match in February 2019 and was the only school to fill all of its 407 (337 CMG and 70 IMG) positions in the first iteration. In total 160 PGY1 positions were filled in Family Medicine and 247 in Royal College Specialties.

The Pediatric Subspecialty Match occurred in June 2019 with 24 positions filled across 12 subspecialties. This was the last year of a Spring Pediatric Subspecialty Match. Starting in 2020, the match will occur in the Fall, aligning with the Medical Subspecialty CaRMS match.

CaRMS Initiatives:
CaRMS launched two new initiatives for 2020: 1) Best Practices in Applications and Selection to enhance transparency and clarity of selection processes based on more detailed program descriptions, and (2) On-line interview notification system to improve the reliability of communications to applicants about their application status. Both initiatives had considerable input from U of T faculty and staff in the development.

Best Practices in Applications and Selection:
PGME is continuing to implement the best practices and principles of the BPAS Report. The 2019 PGY1 CaRMS match represented the first CaRMS cycle where U of T residency

programs were required to implement 10 actions from the Report's 21 recommendations. An audit of selected programs is now underway to monitor their compliance with these guidelines. PGME is also scheduling additional workshops and training sessions in Fall 2019 for PDs and PAs on BPAS. The Association of Faculties of Medicine of Canada (AFMC) have adopted the principles of BPAS, and are receiving regular reports from all Faculties of Medicine on implementation progress.

7. Global Health

Global Health (GH) at Postgraduate Medical Education provides several education initiatives. Programming reflects a commitment to local and global social responsibility and accountability, and supports trainee interest in global health education, research and practice. Leadership includes Judy Kopelow, Global Health Manager, Strategic Initiatives, and Dr. Barry Pakes, Global Health Academic Lead. The PGME Global Health Education Sub-committee which reports to the Postgraduate Medical Education Advisory Committee (PGMEAC) engages global health leaders from across the Faculty of Medicine. We provide leadership and guidance for postgraduate Global Health Electives, including pre-departure training and preparation. The committee also adjudicates the Sheppard and Social Responsibility Awards.

The GH Education Initiative (GHEI) is now in its 10th year. This 2-year certificate program includes 26 modules (2-3 sessions per module) offered annually; 100+ participants per year; 100+ faculty per year; including new faculty who are GHEI graduates.

Faculty include guest Professor Jerome Singh on Global Health Governance; Dr. James Orbinski on Environment and Health; Professor Kerry Bowman on Cross-Cultural Communication; over 10 lead faculty on Child Global Health coordinated by Dr. Ashley Vandermorris, including Dr. Zulfiqar Bhutta; over 10 lead faculty on Global Infectious Diseases coordinated by Dr. Andrea Boggild; on themes r/t Transition to Global Health Professional Practice with Dr. Wendy Lai, Emergency Physician and President, Doctors without Borders - Canada and Dr. Stephen Hwang, Director, Centre for Urban Health Solutions, St. Michael's Hospital; Faculty of Medicine Diversity Strategist; on global health and human rights led by the Faculty of Law International Human Rights Program; enhanced themes on Cultural Competency with Office of Indigenous Health plus continuing global health education and leadership opportunities for GHEI alumni and PGME community.

As PGME transitions to Competency Based Medical Education, residents are encouraged to include competencies met during the GHEI program in their training portfolios. Examples of activities that demonstrate competence are: completion of self-reflections related to GHEI sessions, description of leadership roles, participation in the PGME Global Health Research Showcase and PGME Global Health Day. Participating in the GHEI program allows residents to achieve competency in areas of global health and meet the training objectives as detailed from this link.

The annual PGME Global Health calendar includes a variety of education events including the Annual Resident Global Health Research Showcase (January 30, 2020), the Annual Global Health Day (May 27, 2020) and regular GHEI Alumni events with keynote speakers and discussions. Each of these events engage residents through a resident planning committee and resident leadership. Visit Global Health at PGME from this link.

8. Other

Sponsored Trainee Update
As part of a broader Faculty of Medicine international strategy, the Dean of the Faculty of Medicine, Dr. Trevor Young led a delegation to the Middle East region in April 2019. Enhancing and expanding on existing postgraduate connections and collaborating with the MD Program and the School of Graduate Studies, delegation visits to partners and potential partners in the UAE, Kuwait, Qatar and Bahrain were organized. Subsequent visits were planned for July 2019 (UAE) and September 2019 (UAE and Kuwait) to meet with trainees with a focus on concierge type services, including applicant/learner engagement, support, consultation and advising on applications. This represents a new approach for the application and acceptance for sponsored trainees, with a focus on diversification of portfolios.

Opioid Prescribing and Treatment – Training Program
The Ontario medical schools and the Ontario Ministry of Health partnered to develop a series of on-line educational modules for practicing physicians called the **Opioid Clinical Primer.** The suite of modules is available free of charge and is aimed to equip physicians with basic knowledge of opioid prescribing and treatment of overuse and withdrawal. This link was distributed to all Residency and Fellowship program directors in August, recommending incorporation of the modules in the training curriculum as appropriate. The link is: https://machealth.ca/programs/opioids_clinical_primer/

Continuing Professional Development

1. Annual Report

The Post MD Education Annual Report is available at: https://annualreport.postmd.ca/.

2. Governance

The CPD Directors and Leaders Committee had their closing meeting of the academic year on

June 4, 2019 featuring guest speaker, Dr. Karen Leslie, Director, Centre for Faculty Development, who presented on competency models in CPD. The Committee reviewed the strategic priorities and recorded achievements. The next CPD Directors and Leaders meeting is scheduled for October 29, 2019.

Current Departmental CPD Directors and Leaders

First name	Last name	Representation
Branka	Agic	Dalla Lana School of Public Health
Anna	Banerji	Indigenous and Refugee Health Lead, PostMD Education
Yvonne	Chan	Otolaryngology – Head and Neck Surgery
Mark	Feldman	Paediatrics
Ralph	George	General Surgery
Debbie	Hebert	Occupational Science & Occupational Therapy
Kartik	Jhaveri	Medical Imaging
Anna	Plotkin	Laboratory Medicine & Pathobiology
Raj	Rasasingham	Psychiatry
Jeremy	Rezmovitz	Family and Community Medicine
Suzan	Schneeweiss	Chair and CPD Associate Dean
Allan	Slomovic	Ophthalmology and Vision Science
Robin	Sutherland-Harris	Physical Therapy
Ewa	Szumacher	Radiation Oncology
Pascal	Van Lieshout	Speech-Language Pathology
Rory	Windrim	Obstetrics & Gynaecology
Brian	Wong	Medicine

3. Enrollment and Accreditation

During 2018-19, CPD accredited 386 programs with a total of 45,203 enrolled learners. This shows a consistent number of accredited programs with 385 in 2017-18 and 384 in 2016-17. There was, however, an increase in the number of learners enrolled at CPD from 40,505 in 2017-18 and 40,574 in 2016-17.

4. CPD Academic Activity

Academic Plan
CPD continues to track its progress in four key strategic priority areas on an online dashboard: https://www.cpd.utoronto.ca/about-us/strategic-plan-2017-2022/strategy-progress/.

Future of Medical Education in CPD Project
CPD has been involved in the Royal College and the CFPC's joint-national project, *The Future of Medical Education (FMEC)-CPD*. Following the publication of the FMEC report, Associate

Dean Schneeweiss has worked with CPD Deans across Canada to develop an action plan to create and implement a national CPD professional certificate program. The program's aim is to enable leaders in CPD provider organizations to acquire and reinforce the competencies required to design, implement, and evaluate educational interventions. A concept paper will be presented at the 11th National Accreditation Conference in October 2019.

Education Conferences
Canadian Conference for Medical Education (CCME)
The CPD community had a strong showing at the Annual CCME conference held April 2019 in Niagara Falls, ON. In total, 2 workshops, 13 orals, and 6 poster presentations were delivered.

Association for Medical Education in Europe (AMEE)
CPD participated in the Annual AMEE conference held August 2019 in Vienna, Austria. CPD colleagues delivered 1 symposium, 1 workshop, 2 orals, and 1 poster presentations. Additionally, Associate Dean Suzan Schneeweiss and Educational Consultant, Jane Tipping, were invited to deliver the *Essential Skills in Medical Education* (ESME)-CPD program, which was run as a master-class and pre-conference course.

Academic Programs
Safer Opioid Prescribing Program
The Safer Opioid Prescribing Program has been awarded the 2019 CFPC Continuing Professional Development (CPD) Program Award, which will be formally presented at the 10th National CPD Accreditation Conference in October. As a 2019 Award recipient, the program will be featured at the Family Medicine Forum 2019.
CPD has continued to work with Saegus (subsidiary of CMPA) to expand the Safer Opioid Prescribing workshops across Canada. In addition to workshops previously delivered in Edmonton and Halifax, an interprofessional workshop is scheduled in Regina, Saskatchewan in January 2020.

Opioids Clinical Primer
U of T CPD has been involved in the development and promotion of the Opioids Clinical Primer, a province wide CPD effort supported by the Ontario Ministry of Health and Long-Term Care. The Primer consists of a series of six, free, interactive, accredited online courses intended to provide primary care practitioners with concrete tools to assist with safer opioid prescribing, assessing and managing opioid use disorder and chronic pain. All six courses are accredited and live:
1. *Opioid Use Disorder in Primary Care: Principles of Assessment and Management*
2. *Managing Patients with Opioid Use Disorder in Primary Care with Buprenorphine*
3. *Safer Prescribing Opioids Strategies*
4. *Mental Health, Chronic Pain, and Substance Use: Addressing the Connections*
5. *Strategies for Managing Chronic Pain: Moving Beyond Opioids*
6. *Treating Opioid Use Disorder: Initiating Buprenorphine in Primary Care, ED, and Inpatient Settings*

CPD Faculty Development Programs

CPD continues to lead internationally in CPD faculty development. A fifth cohort - 24 participants from across Canada and abroad- completed the CPD Foundations certificate program in July 2019. The Essential Skills in Medical Education-CPD Program that was delivered at AMEE in August 2019, has been designated as an Essential Skills in Medical Education Program (ESME), and booked for AMEE 2020 in Glasgow, Scotland.

5. CACME Accreditation

CPD is preparing for an interim CACME (Committee on Accreditation of Continuing Medical Education) accreditation review in March 2020.

6. CPD Accreditation

The CPD office has made refinements to its accreditation application process. The CPD office now requires all new Program Directors or Conference Chairs to complete an education consultation session prior to applying for accreditation. By making the consultation mandatory, CPD is ensuring that all faculty are aware of the resources available, and are briefed on the accreditation requirements and process of submitting an application.
CPD has also revised the learning needs assessment section of the accreditation application. CPD's new application system, CadmiumCD, (to launch in Autumn 2019) clearly distinguishes between perceived and unperceived learning needs, and requires applicants to submit a summary detailing their process for assessing each. To support faculty in this process, CPD has published a revised Quick Tip guide to assessing learning needs with an extensive list of sources of health outcomes data. This resource is available online:
https://www.cpd.utoronto.ca/wp-content/uploads/2019/01/Assessing-Learning-Needs-2.pdf. CPD is also finalizing a guide for Scientific Planning Committees, which outlines the roles and responsibilities for better understanding of the planning cycle and the accreditation process.

7. CPD Research and Scholarship

CPD Research and Development Grants

The next cycle of applications for the CPD Research and Development Grant closes on October 30, 2019. Grants up to a maximum of $5,000 are awarded to support research and scholarly activities focused on the continuing professional development of practicing healthcare professionals.

Congratulations to Rosa Dragonetti, Department of Family and Community Medicine; Co-Applicant, Dr. Peter Selby; and Collaborator, Dr. Latika Nirula; who were the recipients of a CPD Research and Development grant awarded in July 2019 for their project "Simulation Training for Implementing an Opioid De-implementation Clinical Pathway". Details on past recipients are posted on the CPD website: https://www.cpd.utoronto.ca/scholarship/grants/.

8. CPD Awards

The next cycle of applications for CPD Awards in 2018-19 will close on December 2, 2019 at 5pm. There are 8 awards available annually, and all faculty affiliated with University of Toronto Faculty of Medicine are eligible for these awards.

For complete award listings and details about updated award terms and nomination requirements see, https://www.cpd.utoronto.ca/scholarship/awards-fellowships/.

Last year's award winners (2017-18) are listed here: https://www.cpd.utoronto.ca/blog/2019/03/29/celebrating-excellence-at-cpd-2017-2018-award-winners/.

9. Refugee and Indigenous Health

The biennial North American Refugee Health Conference (NARHC) was held 14-16 June 2019 in Toronto at the Sheraton Centre Toronto Hotel. NARHC 2019 had 639 registered attendees and more than 200 abstract presenters. Primary topics addressed included the Rohingya refugee crisis, trauma, and resiliency. This was the third North American Refugee Health Conference hosted by U of T CPD and led by Dr. Anna Banerji, Conference Chair and Faculty Lead, Indigenous and Refugee Health, Post MD Education, University of Toronto.

Dr. Banerji and Indigenous Co-Chair, Michele-Elise Burnett, are leading efforts to organize the 2020 Indigenous Health Conference, to be held May 21-23, 2020 in Niagara Falls, ON. The conference theme is *Building Our Future* and it will focus on cultivating youth as tomorrow's leaders and agents of change. Topics will include youth leadership, suicide prevention, impacts of colonization, Missing and Murdered Indigenous Women and Girls, determinants of health, and Indigenous ways of knowing.

D. Graduate and Life Sciences Education (GLSE)

Undergraduate Life Sciences Education

1. Events

Special Session for Domestic & International Students Considering Course-Based & Professional Master's Programs
We have a captive audience of domestic and international students at U of T (across 3 campuses) and GLSE is organizing a special event to meet representatives from our course-based and professional programs that are offered in the Faculty of Medicine. This recruitment session will start with Dr. Allan Kaplan, Graduate and Academic Affairs giving opening remarks, followed by a representative from the School of Graduate Studies to talk about services for domestic and international students. Each department will have a chance to present their program and field questions. The event will be held on October 4, 2019 at 12:00pm-2:00pm in the Medical Sciences Building.

Programs include:
Biomedical Communications
Applied Immunology
Medical Genomics
Laboratory Medicine and Pathobiology
Medical Physiology (Fall 2020)
Applied Clinical Pharmacology
Physical Therapy
School of Graduate Studies
Speech-Language Pathology
Translational Research

Eighth Annual Graduate Recruitment Fair in the Faculty of Medicine
The recruitment fair will be held on October 10, 2019, Medical Sciences Building at 10:30am – 2:00pm. Exhibitors in attendance will include our undergraduate and graduate units, as well as hospitals and the School of Graduate Studies. Approximately over 1000 students are expected to visit this fair.

Graduate and Professional Schools Fair
GLSE will attend the University of Toronto Mississauga and University of Toronto Scarborough Graduate and Professional Schools Fair in the fall. We provide support to the 13 graduate departments.

2. Mentorship Program - Undergraduate and Graduate

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. We will be pairing senior undergraduate/graduate students from across the 8 Life Sciences and 13 different graduate programs offered in the Faculty of Medicine.

Undergraduate and Graduate mentors will give an overview of the nature of their research and how it may tie in with concepts undergraduate students have learned in their lectures. Additionally, students will have an opportunity to shadow graduate students as they perform their experiments and daily tasks. The shadowing program will be held in February 2020 and will happen again in June and July 2020.

Creating Mentorship Impact: Graduate Student Mentorship Program
This Program is in partnership with Dr. Nana Lee, Director of Graduate Professional Development in order to improve graduate mentorship at the Faculty of Medicine. This program aims to give mentees an opportunity to appreciate the innovative research conducted in the Faculty of Medicine and learn from senior colleagues' perspectives in graduate training and developing as a whole scientist and career preparation. Dr. Nana Lee will share best practices of the mentorship programming with other departments and student associations so we can all learn from each other. The seminar will be held in October.

3. Student Engagement

GLSE Recruitment Student Group
Graduate and Life Sciences Education Recruitment Student Group was established September 2016, which is a group of 11 undergraduate and graduate student volunteers for a yearlong commitment. Group members will deliver outreach recruitment activities to educate undergraduate students about the summer research opportunities and graduate programs (MSc & PhD) available throughout the Faculty of Medicine. Each volunteer should have 5 goals they would like to achieve after this experience. Students will receive a Co-curricular record.

4. Social Media

The GLSE Instagram Working Group (@ScienceTOu, established in November 2017) is comprised of staff and undergraduate and graduate students in the Basic Sciences and Rehab, working together to showcase outstanding scientists at the Faculty of Medicine. They started recruiting new students in September 2019.

5. GLSE Talks: One Minute Video Competition

GLSE video competition is for all undergraduate and graduate students undertaking a research project. The competition invites students to showcase their ongoing (or potential) research projects in a brief and creative one-minute video presentation. The competition winner this past year was Joanne Wong from the Institute of Medical Science. Her video was entitled *What is the Canadian Public's Understanding of Palliative Care?*

6. GLSE Poster Competition

The GLSE Poster Competition promoted student talent during the Third Annual Special Session for Domestic and International Students Considering Course-Based and Professional Master's Programs.   The competition winner this year was Stella Bing Xin Song from the Departments of Pharmacology and Toxicology and Psychology.

7. Recruitment Material

Recruitment material, including a brochure and poster, were created for the Amgen Scholars Canada Program, which occurred in the July/August 2019.

Graduate Education

1. Creating Mentorship Impact: Graduate Student Mentorship Program (see above)

In partnership with Dr. Nana Lee, Director of Graduate Professional Development, GLSE sought to improve graduate mentorship at the Faculty of Medicine. Dr. Nana Lee led seminars for graduate students on September 18, October 5, 2018 and on April 26, 2019.

2. Establishing Best Practices for Graduate Supervisors Aimed at Reducing Time to Completion (TTC): A Faculty Development Program

The purpose of this initiative was to explore methods to optimize supervisory mentorship for graduate student research progress and professional development aimed at reducing times to completion.

Target Audience:
- Faculty who currently have or are planning to train graduate students;
- Faculty who are interested in establishing their own graduate professional development workshop series, course, or program for their department.

This Innovative Graduate Faculty Development Program is being coordinated by Dr. Nana Lee, GLSE's Director of Mentorship and Graduate Professional Development.

Topics include:
- Emotional Intelligence (EQ): How it Affects Lab Productivity
- Introduction to Design Thinking in the Lab and in Your Classroom Part I
- Applying Design Thinking in Your Lab and Classroom to Optimize Research Impact Part II
- Helping Your Students Help You in a Diverse and Inclusive World
- Building a Strategic Research and Business Plan for your Lab and The Individual Development (IDP) Plan: the US and Canadian Perspective
- GPD Best Practices and Next Steps

3. Graduate Awards

a) Faculty of Medicine (FoM) OSOTF, GSEF, PPEF, Departmental Endowed Awards and Expendable Awards

- 23 FoM-wide OSOTF, Expendable and Other Endowed Funds were adjudicated by the FoM Graduate Awards Committee chaired by the Vice Dean, Graduate and Life Sciences Education (GLSE) in June and July 2019 with over $840,000 awarded to graduate students for the 2019-20 academic year.

- 264 OSOTF, GSEF, PPEF, Departmental Expendable and Endowed Funds with over $15.7 million was distributed to 20 graduate units and centres, 11 clinical departments, and 8 affiliated hospitals for distribution for the 2019-20 academic year.

- A total of $3,662,735 University of Toronto Fellowships was distributed in May 2019 to 10 graduate units for 2019-20 graduate students funding.

- 68 QEII-GSST (49 doctoral-steam awards and 19 clinician/surgical-scientist trainee awards) at $15,000 each were distributed for the 2019-20 academic year (total $1,020,000).

- $229,000.00 Doctoral Completion Award (DCA) has been allocated to 10 graduate units for 2019-20 academic year. The DCA is to support full-time PhD students who are beyond the funded cohort and within time-limit for the degree.

- $210,378 plus additional $733,333 (in lieu of the UTAPS program) was distributed to 5 graduate units with professional master's programs and 3 graduate units with course based masters in June 2019.   Effective July 1, 2017, the Professional Master's programs (not including course based) in the Faculty of Medicine has phased out of the University Advanced Planning for Students (UTAPS) and transitioned to a divisionally managed program.

b) FoM GSEF Merit Scholarships for International Students

The Office of the Vice-Dean, GLSE, adjudicated the fifth year of merit-based scholarships valued at $5,000 each to international graduate students entering their second year of studies in 2019-20. Eleven scholarships were awarded.

c) External Studentships

Over 20 graduate studentships, including CIHR CGS D and other external doctoral research awards are paid through GLSE via ROSI to doctoral-stream students with Principal Investigators affiliated with the Faculty of Medicine.

d) Graduate Faculty Teaching Awards

The Graduate Faculty Teaching Award Competition deadline will be December 2, 2019. Six awards will be adjudicated by the FoM Graduate Awards Committee in three categories:
- Early Career Excellence in Graduate Teaching & Mentorship
- Mid-Career Excellence in Graduate Teaching & Mentorship
- Sustained Excellence in Graduate Teaching & Mentorship

Each awardee will receive a framed certificate and $1,000 cash prize.

e) Postdoctoral Fellowships

The FoM Postdoctoral Fellowships Review Committee adjudicated the 2019 *Banting Postdoctoral Fellowships* in August 2019 and forwarded 9 nominations to the University for submission to the CIHR and NSERC agencies for nation-wide review. Each Fellowship is worth $70,000 per year for two years. The Vanier-Banting Secretariat will notify applicants of the results of their application in February 2020. Last year, Dr. Thomas Alderson (Department of Biochemistry) supervised by Dr. Lewis Kay, was awarded the Banting (CIHR) Postdoctoral Fellowship.

The inaugural *Provost's Postdoctoral Fellowship Program: Supporting Researchers from Underrepresented Groups* was announced through the School of Graduate Studies (SGS). This exciting new fellowships opportunity will hire postdoctoral fellows from underrepresented groups, specifically Indigenous and Black researchers located on U of T campus. The GLSE Office widely advertised the new program across the Faculty of Medicine and will adjudicate and will put forward nominations to SGS by November 1, 2019. Nominees will be notified in December 2019 of the results of the adjudication.

f) JJ Berry Smith Doctoral Supervision Award: Honorable Mentions

The JJ Berry Smith Doctoral Supervision Award recognizes outstanding performance in the multiple roles associated with doctoral (PhD) supervision in the University of Toronto. Two awards are offered annually, one in the Humanities and Social Sciences and one in the Physical and Life Sciences. The FoM Graduate Awards Committee reviewed 3 applications and forwarded 2 nominations: Dr. Denise Belsham (Physiology) and Dr. Tania Watts (Immunology) to the Dean of Graduate Studies and Vice-Provost, Graduate Education. Dr. Watts was selected as the winner by the School of Graduate Studies this year and was acknowledged for her outstanding contribution to the doctoral supervision and graduate education in the Faculty of Medicine at the Governor General's Gold Medals and the JJ Berry Smith Doctoral Supervision Award Reception on May 22, 2019. Dr. Watts is Faculty of Medicine's fourth winner following Dr. Ori Rotstein in the previous year, Dr. Eleftherios Diamandis (2014), and Dr. Brenda Andrews (inaugural winner in 2012).

4. Curricular Changes 2018/2019 (as of September 2019)

a) New Program: MHSc in Medical Physiology

On December 4, 2018, the Master of Health Science (MHSc) in Medical Physiology

received it final approval from the University of Toronto. Currently, this proposal is with the Ministry of Training, Universities and Colleges for approval and we hope to hear before the end of the calendar year for a start date of September 2020.

b) New Program: Master of Health Science in Laboratory Medicine

The Department of Laboratory Medicine and Pathobiology (LMP), in close collaboration with the Department of Obstetrics and Gynecology (OB/GYN), has submitted a proposal to create a two year full-time professional Master's graduate program (Master of Health Science) in Laboratory Medicine to educate clinical laboratory medicine scientists in one of two fields: Pathologists' Assistant (PA) or Clinical Embryologists (CE).

The proposal has completed governance (divisional and university) and obtained the approval of the Ontario Universities Council on Quality Assurance in late August 2019. Final approval is pending with the Ministry of Training, Universities and Colleges. The program is tentatively scheduled to start Fall 2020.

5. Growth in Graduate Enrolment and Report on Fall 2019 Graduate Enrolment

Over the last 5 years, overall graduate enrolment (measured in total headcount) has increased by approximately 20%. Both the headcount of domestic and international PhDs has increased; the latter with the most significant increase (33%). This is primarily due to the University's decision to lower the international PhD tuition rates to equal the tuition of their domestic counterparts.

PhD Total Headcount (Domestic and International)

	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Domestic (DOM)	**834**	**832**	**841**	**867**	**882**
Annual % Change		-0.2%	1.1%	3.1%	1.7%
5 Year % Change					5.8%
International (INTL)	**115**	**119**	**125**	**134**	**153**
Annual % Change		3.5%	5.0%	7.2%	14.2%
5 Year % Change					33.0%

The most notable achievement is the growth in international students over the last 10 years; in this the Faculty achieved a growth of 113%.

In contrast, there was initial growth in the domestic MSc research stream programs but this

has since tapered off due to the more attractive option of lower tuition for PhD research stream programs. We anticipated a decline in enrolment, as noted in Fall 2018, and forecast a similar trend regarding international student moving forward.

MSc Total Headcount (Domestic and International)

	Fall 2014	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
Domestic	**650**	**715**	**793**	**885**	**844**
Annual % Change		10.0%	10.9%	11.6%	-4.6%
5 Yr % Change					29.8%
International	**57**	**68**	**73**	**62**	**48**
Annual % Change		19.3%	7.4%	-15.1%	-22.6%
5 Yr % Change					-15.8%

Among the Professional Masters Programs, there has been consistent growth in enrolments with a relatively large increase in Fall 2018. This is due to the establishment of a new professional program (MHSc in Medical Genomics) and growth in the professional programs in the Rehabilitation Sector. As evidenced in the table below, the rehabilitation programs (MSc in Physical Therapy, MSc in Occupational Therapy and MHSc in Speech-Language Pathology) account for the majority of this growth in the professional Masters programs.

Professional Masters (PMAS) Total Headcount (Domestic and International)

	Fall 2014	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
Domestic	**476**	**495**	**524**	**549**	**606**
Annual % Change		4.0%	5.9%	4.8%	10.4%
5 Yr % Change					27.3%
Rehabilitation Sector					
Domestic	**475**	**479**	**485**	**505**	**552**
Annual % Change		1.1%	1.3%	4.1%	9.3%
5 Yr % Change					16.5%

Outcome of the Recruitment and Admissions Working Group
This group was established to explore and address issues that contributed to the significant number of MSc acceptances that did not convert to registered students. For Fall 2018, 53 Masters positions were not filled. To address this, a Recruitment and Admissions Working

Group was established and met periodically starting in Winter 2019 to review enrolment data, reasons for declines and other related matters. Based on the group's findings, roughly 25% of those who did not show up requested a deferral; an unprecedented number based on data collected over the last 5 years. A handful accepted an offer from a professional school (e.g. Dentistry, Medicine). The remaining had accepted an offer from FOM but did not register. Recognizing this latter group as a missed opportunity, the Working Group came up with the following recommendations:

1) Follow-up with every outstanding offer of acceptance within 2-3 weeks of notification
2) Remain engaged with students who have accepted our offer of acceptance
   This can range from timely emails before August 30 to invite them to any departmental events over the summer. Some departments have since created a meet and greet event for new incoming students over the summer to meet faculty, current students and staff
3) Provide tips for students to help them prepare for their first few weeks as a graduate student in the Faculty of Medicine
4) Develop an informal mentorship program between incoming and senior students

Over the course of the summer, the Vice Dean met with each graduate department starting in June 2019 to present these recommendations.   As of August 27, 2019, application data from the School of Graduate Studies suggests that FOM will likely hit its graduate enrolment targets for September 2019.   Final enrolment numbers for Fall 2019 will be reported in the near future.

6. Graduate Supervisory Experience Project

Over the course of the summer, GLSE has collaborated with Discovery Commons to build the online system that will administer the survey to evaluate faculty supervisors. The anticipated launch of the pilot survey is sometime in September 2019. To date, all faculty supervisors and their Chairs have been informed by email about this pilot survey and GLSE's plan for full implementation before the end of the calendar year.

7. FOM Rehabilitation Sector Strategic Planning Working Group

Faculty of Medicine began consultation with more than 400 people across all sectors and partnering institutions (i.e. hospitals) that constitute UofT Medicine last year. One of the recommendations from this exercise was to establish strategic working groups to address three priority domains (Ecosystem of Collaboration, Ground-breaking Imagination, and Excellence Through Equity) and two enablers to support these domains (Excellence Through Equity and Infrastructure and Policies, Procedures and Technology). The **FOM Rehabilitation Sector Strategic Planning Working Group,** under the leadership of Dr. Kaplan, was established and charged with the task of expanding rehabilitation research and clinical capacity to address burgeoning demographic needs.

This committee is comprised of faculty and rehabilitation graduate students who have met monthly starting January 2019 and additional meetings will be added as necessary. Members will consist of the Departmental Chairs of all four academic rehabilitation graduate units, along with invited faculty and students. The Working Group will continue to meet through 2019 with the goal of producing clear deliverables to accomplish the above goals.

The members of the FOM Rehab Strategic Planning Working Group are:

- Kaki Narh Blackwood, Education Vice Deans
- Angela Colantonio, Director, Rehabilitation Science Institute
- Allan Kaplan, Decanal Sponsor
- Jaimie Coleman, Department of Physical Therapy
- Siobhan Donaghy, Department of Occupational Sciences and Occupational Therapy
- Leanna Graham, Director, Professional Practice & Policy, Collaborative Academic Practice, University Health Network, Toronto General Hospital
- Susan Jaglal, Interim Chair, Department of Physical Therapy
- Allan Kaplan, Decanal Sponsor, Vice Dean, Graduate and Academic Affairs
- Rosemary Martino, Graduate Department of Rehabilitation Sciences
- Erin Miller, Student Representative
- Golda Milo-Manson, Vice-President, Medicine and Academic Affairs, Holland Bloorview Kids Rehabilitation Hospital
- Susan Rappolt, Chair, Department of Occupational Sciences and Occupational Therapy
- Larry Robertson, Program Director, Physical Medicine and Rehabilitation Residency Program and Program Chief, St. John's Hospital
- Samantha Seaton, Student Representative
- Pascal van Lieshout, Chair, Department of Speech-Language Pathology
- Jennifer Wadds, Department of Speech-Language Pathology
- Yana Yunusova, Graduate Department of Rehabilitation Science
- Rachel Zulla, Graduate Affairs Officer, Graduate and Life Sciences Education

The committee divided into three Advisory Groups to focus on key priorities

1) Advisory Committee – Increasing teaching capacity in the Rehabilitation Sector
2) Advisory Committee – Research Capacity
3) Advisory Committee – Curriculum Initiatives

E. Physician Assistant Program

1. Admissions

In the 2018-19 admission cycle, the BScPA Program was in its second year of the new, earlier application deadline of January 15 and we noted an upswing in applicant numbers, resulting in a total 465 applicants. For the 2019 cycle, the review and rating of applicant health care experience was completed earlier in the process, thereby enabling a more focused file review, of only those applicants meeting the health care experience requirement. This resulted in a lower number of files reviewed for the 2019 entry (class of 2021) than previous years with similar number of applicants.

We continue to work closely with Enrollment Services, MD Program. A new position was piloted in January 2019, 'PA Admissions Coordinator'. This role is embedded within the Registrar's office and is responsible for processing all the PA applicant submission documents.

	Jan 2010 Entry	Jan 2011 Entry	Jan 2012 Entry	Jan 2013 Entry	Jan 2014 Entry	Sept 2014 Entry	Sept 2015 Entry	Sept 2016 Entry	Sept 2017 Entry	Sept 2018 Entry	Sept 2019 Entry
Applicants	160	152	236	215	259	244	413	388	515	433	465
Files Reviewed	117	71	91	90	91	107	190	251	304	317	276
Interviews	64	49	59	66	66	66	66	80	84	88	88
Admitted	24	14	21	30	30	34	29	30	30	28	30
Graduates	17	11	16	27	26	29	26	30	28		

2. Retention

Retention rates remain stable and high.

Class of	# Admits	# Graduates	Retention rate
2011	24	17	71%
2012	14	11	79%
2013	21	16	76%
2014	30	27	90%
2015	30	26	87%
2016	34	29	85%
2017	29	26	90%
2018	30	30	100%
2019	30	28	93%
2020	28	26	93%
Total	**270**	**236**	**87%**
# of students active in cohort as of May 7 2019			

3. Graduate Employment

The Career Start Funding has been renewed for the 2019 graduates in Ontario. Employment opportunities for physician assistants seem to be increasing in many disciplines and locations. We will be conducting a graduate survey, in collaboration with McMaster, to obtain more comprehensive and reliable data about what PA positions our graduates are working in, and where they are working. We will endeavor to track changes in location over time, particularly related to Northern Ontario locations.

4. Curriculum

The BScPA Program successfully completed the transition to the University's new Learning Management Engine (LME), Quercus.

In the 2018-19 academic year, the following curricular changes were implemented:
- introduction of 2 new practical exams, 1 prior to the start of year 1 clinical experiences and 2nd prior to the start of year 2 clinical rotations
- major modifications to e-Problem Based Learning to improve learner experience based on student feedback
- completion of mapping year 2 OSCE stations/items to Entrustable Professional Activities
- improved access for students to write examinations from home with online proctoring
- implementation of a new, easier system of student clinical experience case logging
- modification of the year one, 1st semester course, 'Intro to PA' to 'PA Professional Competencies', to be delivered over 3 semesters, approved by the Faculty Education Committee on May 30, 2019, effective September 2019.

5. HR

There have been significant changes in faculty/staffing during the 2018-19 academic year. In addition to the new Medical Director starting in September 2018, we have created a new position, PA Research and Academic Scholar, with the mandate to advance our program's scholarship and student scholarly activities, as well as contribute to the PA Profession scholarship at large. The introduction of this role, effective July 2019, increases our core complement of faculty at the central PA office which also includes an Academic Coordinator and Program Director. In the Fall of 2019, we will be introducing a new position, Program Coordinator, replacing the former Program Manager role, which was eliminated in the summer of 2019.

D. Medical Radiation Sciences Program

1. Enrollment

Currently MRS has a total of <u>277</u> in the Program, as of September 1, 2019

- Radiological Technology - 112
- Nuclear Medicine & Molecular Imaging - 45
- Radiation Therapy – 120

2. Accreditation

In January 2019, the MRS Program welcomed Accreditation Canada for an on-site visit. The ten-person team consisted of accreditors for all three disciplines, a representative from the College of Medical Radiation Technologists of Ontario, as well as an observer from a comparative program.

The Program met every single Criterion, including all the Critical Criterion, within each of the five Requirements to receive full Accreditation for all three streams.

The Accreditation team commented profusely about the strong bond and relationship that our clinical partners, including managers, clinical coordinators, students and graduates, have with the program. They spoke about the pride that all our didactic and clinical faculty have for the program, as well as the strong commitment to our program from both our didactic and clinical students.

3. Curriculum Renewal

With the September 2019 incoming cohort the curricular renewal exercise beginning back in August 2016 will be realized. The MRS Program continues to develop and implement curriculum changes founded with extensive stakeholder input, and approved at the May 29, 2018 Education Committee.

4. Agreements

The MRS Program is governed by two agreements:

- UofT and Michener (Umbrella agreement) – Memorandum of Understanding
- Joint Program agreement specific to the MRS Program

Each agreement has a "survival clause" so that the agreements are still in affect after the expiry date. The current MOU (umbrella agreement) is due to expire September 1, 2019 and the renewal of the agreement is being managed by the Office of the Associate Vice Provost, Relations with Health Care Institutions, and Dr. Lyn Wilson. The current joint agreement is due to expire February 29, 2020 and will be managed once the umbrella agreement is signed off.

Proposal to Establish the Centre for Machine Learning in Medicine (MLM) as an EDU-C at the University of Toronto

November 14, 2019

A. Executive Summary

It is proposed that a multi-disciplinary Extra-Departmental Unit (EDU) Type C be established to be called the Centre for Machine Learning in Medicine (MLM), effective July 1, 2020. This Centre will be the interface that links clinical medicine and medical research with the development and application of Machine Learning (ML) tools for medical purposes. It will advance the knowledge and application of ML to healthcare through inter-disciplinary research, scholarship and education by placing physicians and medical researchers with questions alongside ML experts who are best able to develop tools to identify the answers. It will also facilitate access to clinical data and support the appropriate use of such data.

This work cannot be successfully addressed by a single discipline, department or research group. Thus, there is an unmet need for a home to bring together these disparate groups so a network of individuals committed to advancing the role of ML in medicine can be established.

The mission of MLM is to provide a site for collaboration for researchers, learners (including enrolled students, Post MD learners and individuals seeking professional development) from multiple disciplines and professions (i.e. computer scientists, statisticians, healthcare providers, etc.) to advance medicine through ML. Measurable outcomes will include: contributions to advancing knowledge in ML and medicine; translation of research findings into practice; and, a medical community familiar with the methods of ML and its application to patient care. The knowledge, apps, tools and practices developed through this Centre will generate new discoveries that improve healthcare and create models of care that are scalable globally.

B. Centre Overview

Definition and Role of Machine Learning in Medicine

Artificial intelligence refers to a broad range of technologies in which computers mimic the cognitive functions of humans. Machine learning refers more specifically to the development of algorithms that allows computers to learn from examples rather than rules. Machine learning algorithms constitute the heart of technologies such as voice and facial recognition technology, natural word analysis, and robotics, among others. The University of Toronto is home to the paradigm changing work of Professor Geoffrey Hinton in the field of ML, especially deep learning and neural networks. The potential impact of this work on the delivery of medical care and human health is enormous. With ML "the wisdom contained in the decisions made by

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clinicians and the outcome of billions of patients will inform the care of each patient" (Rajkomar A et al NEJM 2019), which will make the implementation of precision medicine a reality.

This technology has already driven widely publicized examples such as evaluating the retina to detect diabetic retinopathy with accuracy comparable to ophthalmologists, and similar applications to other medical images, such as those obtained from radiographs, pathology slides, and pictures of skin lesions. Already 26 ML clinical medical decision support technologies are approved by the Food and Drug Administration in the United States. For instance, DreaMed Advisor Pro is a diabetes treatment decision support product that analyzes data from continuous glucose monitors, insulin pumps and self-monitoring to determine an insulin delivery recommendation. IDx-DR autonomously detects retinopathy in adults who have diabetes, and Viz.ai Contact application analyzes CT scans and identifies individuals who might have had a stroke. In the United States, the Centre for Medicare and Medicaid Services (CMS) recently announced a $1.65-million (USD) call to develop AI products for healthcare. CMS, together with the Office of the National Coordinator for Health IT, put out proposed rules for comment that will allow open data-sharing technology and prevent hospitals from blocking information sharing in the USA. Government leaders in Canada, the United States and China have identified AI as a priority for economic development and have provided funds to support research in this science.

Goals

There are currently many individual labs and sites of ML research and activity related to medicine and healthcare more broadly in the Faculty of Medicine and throughout the University of Toronto. There are also different educational approaches being utilized to provide computer skills training for medical students, graduate students, and postgraduate trainees. Many of these individuals and departments are unaware of activities outside of their specific endeavor. MLM will create the collaborative environment needed to develop the comprehensive training programs, research, and state-of-the art tools for disease prediction, diagnosis, and treatment. As a result, duplication of activities will be reduced and the ability to develop new collaborative projects enhanced. MLM will provide a site to bring together those that do (computer and data scientists) with those who use and translate (e.g. physicians and other healthcare providers). Additionally, it can serve as a focus for philanthropic initiatives.

Specifically, the goals of the MLM are:
1) Support the development of ML tools for healthcare settings by supporting collaborations between clinicians and AI/ML experts;
2) Facilitate access and use of clinical data for ML tool development;
3) Develop an educated medical and scientific workforce able to assess and implement new advances in healthcare based on machine learning;
4) Develop thought leaders in the application of machine learning in healthcare who will have a global reach; and,
5) Work with translational programs and commercialization partners to develop machine learning-based innovations and products that can be applied in healthcare settings.

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C. Centre Rationale

Leveraging University of Toronto Advantages

The University of Toronto is one of the world's leading institutions in AI and machine/deep learning. For more than 30 years, U of T has been at the forefront of research in computational linguistics and natural language processing, knowledge representation and reasoning, neural networks, computational biology, bioinformatics and more. U of T's research in AI is among the most cited and published in Canada. At the same time, U of T is home to one of the world's top medical schools. From the discovery of insulin and stem cells to the development of the first electronic heart pacemaker and first successful single lung transplant, the U of T Faculty of Medicine is recognized around the world as a clinical research powerhouse. This Centre will bring together these core strengths in order to revolutionize medical practise and research and by doing so, transform the care delivered to patients throughout our communities and around the world.

The Centre will also be a coordinated, public-facing "storefront" for ML expertise within the Faculty of Medicine. It will connect academic stakeholders within the Faculty and across U of T, as well as build strategic relationships with global, leading academic partners and external stakeholders. The Centre aims to catalyze collaboration between researchers within U of T Medicine who might otherwise not work together, as well as with other academic units and U of T's affiliated hospitals.

This Centre will draw on the University's strengths in health services research, computer science, science and health policy to build a critical mass of health care providers with the tools to provide a person-focused model of care at the cutting edge of medicine. Specifically, it will establish meaningful collaborations among U of T experts, including those associated with in the [Vector Institute,](#) the [machine learning group](#) in the Department of Computer Science as well as the [Centre for Healthcare Engineering](#) and the newly established [Centre for Analytics and Artificial Intelligence Engineering](#) (CARTE) in the Faculty of Applied Science and Engineering. It is recognized that CARTE has interest in patient interfaces to enhance usability as one of its research aims. MLM can help facilitate access to such data but also, importantly, guide how the data are used to answer the questions urgently needed by the health system and health practitioners. MLM will be unique by having the application of ML to medicine as its sole focus. While CARTE seeks to advance usability of analytic and artificial intelligence tools, MLM seeks to apply those tools and ML to advance the practise of medicine.

Similarly, MLM will complement the Dalla Lana School of Public Health's Joint Centre for Bioethics' partnership with [AMS Healthcare](#) to develop the [Ethics & AI for Good Health program](#). This initiative will provide important insights into the ethical applications of AI and ML that can inform the research undertaken through the Centre and MLM researchers can contribute to the program's development. While the AMS Healthcare program is focused on ethics research, knowledge translation and training, it does not propose to undertake direct AI/ML research, which will be one of MLM's foci. Additionally, the Office of Diversity and

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Inclusion in the Faculty of Medicine has agreed to be involved in MLM. This is critical to ensure ML algorithms can be widely applied.

Leveraging Regional Advantages

As the only medical school in the Greater Toronto Area, the Faculty of Medicine has numerous existing partnerships and relations that can benefit this endeavor. For example, GEMINI, a platform that provides high quality data and analytics about clinical care provided to general medical patients, is being used to help front-line care providers identify and prioritize targets for quality improvement interventions. It delivers timely and actionable feedback to physicians and administrators. GEMINI is a partnership involving U of T-affiliated hospitals Unity Health Toronto, Sinai Health System, Sunnybrook Health Sciences Centre, Trillium Health Partners and the University Health Network. It is being expanded to include all clinical services, not just general internal medicine, and it is being expanded to include additional hospitals. This is a unique and potentially game changing collaboration that will harness Toronto's diverse demographic composition to create a unique dataset for conducting machine learning driven healthcare research. Currently, machine learning researchers most commonly use data from MIMIC-III ('Medical Information Mart for Intensive Care'), drawn from critical units at a single medical centre in Boston. A data set from multiple hospitals, involving Toronto's diverse population and patients admitted to general wards not just ICUs would represent an unparalleled resource for clinical researchers, trainees, and machine learning experts.

The University of Toronto Practice-Based Research Network (UTOPIAN) also provides unique data focused on primary care. It is a network of over 1700 family physicians in practices within the 14 academic sites of the Department of Family and Community Medicine (DFCM) throughout the GTA and beyond. The network brings together DFCM researchers, primary care clinicians and practices from all its academic sites to answer important healthcare questions and translate findings into practice. Using Electronic Medical Records (EMRs), UTOPIAN can access de-identified patient data from contributing practices which can be used to examine clinical information that is not readily available anywhere else (e.g. medication duration, dose and frequency; lifestyle information such as smoking, exercise, and diet, etc.). EMRs provide a comprehensive set of longitudinal patient health data and are a unique resource for medical research that is relevant to the reality of healthcare in Ontario and generalizable to patients internationally. EMRs are available through the UTOPIAN Data Safe Haven.

MLM will also benefit from U of T's leadership within the Toronto Academic Health Science Network (TAHSN) and in collaborative centres such as the Institute for Clinical and Evaluative Sciences (ICES), the Centre for Quality Improvement and Patient Safety (C-QuIPS; an EDU-C in the Faculty of Medicine that supports the Quality Improvement and Patient Safety concentration of the MSc in Health Policy Management and Evaluation in DLSPH's Institute for Health Policy, Management and Evaluation) and the Institute for Health System Solutions and Virtual Care (WIHV). The Centre will also have the opportunity to collaborate with the Toronto-based Canadian Institute for Health Information (CIHI), which is an independent, not-for-profit organization that is a data source and provides essential information on Canada's health systems and the health of Canadians. CIHI provides comparable and actionable hospital-based

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data and information that are used to accelerate improvements in health care, health system performance and population health across Canada. And, being situated in the provincial capital, the Centre will have direct access to Cancer Care Ontario which has a unique database of Ontario cancer diagnoses, care and outcomes, and is currently the Ontario government's principal advisor on the cancer and renal disease, and Health Quality Ontario, which is the provincial lead on the quality of health care. While these organizations are undergoing reorganization, the successor body – Ontario Health – will include these essential functions. MLM will be ready to work with Ontario Health to utilize data to answer important policy questions to improve Ontario's health system.

The Centre further benefits from being located in Toronto as this region has one of the world's most diverse populations. This will enable researchers to adapt and scale healthcare solutions to international contexts. And, being present in the Toronto-Waterloo Region Corridor, U of T is part of a global centre of talent, growth, innovation and discovery. The corridor is the second largest technology cluster in North America and home to 15,000 tech companies, 200,000 tech workers and 5,200 tech start-ups. This, further propelled by U of T's new Schwartz Reisman Innovation Centre, will provide rich opportunities for collaborations with industry and spur economic development. MLM will work with the University's Innovations and Partnerships Office, MaRS and the Faculty of Medicine's start-up accelerator, H2i, to develop a commercialization approach for the Centre. It will also work with the MHSc in Translational Research in the Health Sciences, based in the Faculty of Medicine, to develop a program to train individuals to help in the translation of the newly developed tools.

Finally, the Centre will animate part of the Faculty of Medicine's 2018-2023 Academic Strategic Plan, which identified the following goal: "Build capacity to reflect the emerging role of artificial intelligence in health professions." In addition, the University of Toronto's Strategic Research Plan 2018-2023 names "Data Analytics, Computation, and Artificial Intelligence" as one of three focus areas within the theme of "INNOVATE: Technologies for the Future."

D. University of Toronto Leads and Partners

The Centre will be led by the Faculty of Medicine, but will collaborate with key partners at the University of Toronto. It is expected that faculty and research staff from departments, centres and institutes within the Faculty of Medicine, the University and/or affiliated institutions may be involved with the Centre.

Faculty of Medicine Lead Departments

- **Laboratory Medicine and Pathobiology (LMP)**
  This unique department is at the interface of basic science and clinical practice. It has faculty that are focused on the basic sciences, investigating disease pathogenesis, translating research findings into the clinic, developing novel diagnostics, genetics and molecular medicine, artificial intelligence, and developing continuous quality improvement programs with the goal of impacting health. LMP's broad scholarship is further reflected by its clinical expertise in pathology, clinical chemistry, microbiology,

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forensics, and transfusion medicine, which provides readily accessible opportunities for collaboration. The department has a major role in educating both science and clinical trainees thus shaping the future of lab based diagnostics. It also offers the MHSc in Translational Research in the Health Sciences. It is developing a nidus of AI in computer science and medicine with tenure-track faculty.

- **Medicine (DoM)**
  The Department is a research powerhouse with more than $162-million in annual research funding, generating new knowledge with the goal of meaningfully impacting internal medicine training and the care and health outcomes of patients and their families. DoM worked with the Department of Computer Science and Vector Institute to recruit Dr. Marzyeh Ghassemi to the University of Toronto following her doctorate and post-doctorate training at the Massachusetts Institute of Technology. Dr. Ghassemi's research has included creating and applying machine learning algorithms towards improved prediction and stratification of relevant human risks with clinical collaborations at Beth Israel Deaconess Medical Center and Massachusetts General Hospital.

- **Family and Community Medicine (DFCM)**
  DFCM is comprised of clinical and academic leaders who are breaking new ground on issues including inner city health, addiction medicine, global health, palliative care, immigrant and aboriginal health, and far more. Encompassing more than 1600 faculty across the province – from rural villages to urban centres – they shape the future of family medicine in Canada. Through our education program, they provide an innovative, comprehensive and diverse learning experience for students and residents.

- **Medical Imaging**
  The Department is the oldest academic imaging department in Canada and one of the oldest in North America. The Department has grown to become an early adopter of every new technological breakthrough occurring in this vital specialty. It has eight clinical divisions affiliated with 17 hospital sites across Toronto.

- **Paediatrics**
  The state-of-the-art clinical care provided by the Department faculty is recognized by patients who come, not only from the Toronto region, but also from many other regions of Ontario, Canada, and around the world. The Department supports excellence in fundamental, translational and clinical research.

- **Psychiatry**
  The Department of Psychiatry strives to transform the understanding and treatment of mental illness and addiction for the patients of tomorrow. One of U of T's affiliated hospital, the Centre for Addiction and Mental Health, has made AI a strategic research priority by establishing the Krembil Centre for Neuroinformatics and recruiting Dr. Sean Hill to lead it. Dr. Hill was previously the co-Director of Blue Brain, a Swiss brain

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initiative, where he led the Neuroinformatics division, based at Campus Biotech in Geneva, Switzerland.

Key University of Toronto Partners

- **Dalla Lana School of Public Health**
  The Dalla Lana School of Public Health (DLSPH) is an internationally recognized community of scientists, teachers, students, practitioners, policy makers and citizens who are deeply motivated by this challenge, and who collaborate widely to move health and health systems forward. DLSPH is also home to the Institute of Health Policy, Management and Evaluation and the Joint Centre for Bioethics, which will both be vital partners to the Centre.

- **Graduate Department of Computer Science (Tri-campus)**
  The Graduate Department of Computer Science is a tri-campus unit that offers graduate programs in the field of computer science. It is known for its work in neural networks, computer graphics, machine learning, theory, human-computer interaction (HCI), scientific computation, computer performance evaluation, and more. The faculty's innovative approaches and paradigms have had widespread international impact. The Department collaborates with many distinct units across U of T, solving problems through interdisciplinary inquiry, from robotics and computer vision, to computer animation, and bioinformatics.

- **Faculty of Applied Science and Engineering**
  The Faculty of Applied Science & Engineering (FASE) at the University of Toronto is Canada's number one engineering school and among the world's best. Its diverse community includes more than 5,200 undergraduates, 2,500 graduate students, 345 staff, 266 faculty and over 50,000 alumni. FASE will established expertise in computer engineering, data analytics and biomedical engineering.

E. Research Aims

One of the fundamental contributions the Centre will make to research in this field is by facilitating access to data, forming clear and unique research questions that add to– but do not duplicate – previous work, assist with research ethics board approvals, and advocate for privacy issues. Further, it will seek to develop expertise in supporting collaborative grant applications and identifying unique funding opportunities.

Four research themes will form the foci of the Centre, organized programmatically. The specific research questions and deliverables reflect a blend of current research programs of the Faculty as well as new areas of exploration requiring integration of various faculty's disciplines. These are not mutually exclusive areas and will likely blend together in some topics. Additionally, as new areas emerge with the continued learning they will be incorporated.

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The four themes are:
1) **"omics" diagnostics**, for example the resulting data and ML-identified data patterns will be used to develop prediction support tools for early detection of disease, diagnosis, treatment, and comparative analyses of treatment outcomes;
2) **Imaging** that includes pathology, medical imaging, ophthalmology, and new advanced visualization tools such as high-resolution microscopy;
3) **Analytics** that inform quality improvements in clinical settings and ensure greater efficiency and effectiveness in care delivery; and,
4) **Patient experience** which includes use of POCT (point of care) sensors and resultant data interpretation.

ML has the potential to analyze and identify patterns in large and complex datasets more accurately and efficiently than has previously been possible. These four aims cover various modalities of health data and applications. Further, the Centre will help faculty facilitate access to relevant health datasets, and identifying funding opportunities.

F. Educational Aims
The Centre will be a focal point for the development of ML-related curriculum to benefit learners (including enrolled student, Post MD learners, and individuals seeking continuing professional development), faculty and researchers in medicine and health science. The Centre's initial objectives will include:
1. Describe the differences amongst machine learning, neural networks, and deep learning, in order to have basic literacy in artificial intelligence.
2. Describe the role of physicians in using artificial intelligence to improve patient care and experience.
3. Teach basic ML skills so users will understand the benefits and limitations of this technology and teach basic medical knowledge to computer scientists
4. Recognize the conditions and future applications where AI could potentially benefit clinical decision making and management.
5. Describe the challenges associated with artificial intelligence including ethical and security concerns.

The Centre will also support the development of a Collaborative Specialization Program (CS) in the application of machine learning in medicine and the health sciences whose faulty will be members of the Centre. This CSP will be available to Master and Doctoral graduate students across the health sciences as well as from other faculties at the University of Toronto. The Centre will identify existing course offerings that can support this CS. For example, the MHSc in Translational Research in the Health Sciences in LMP can provide opportunities for students in the CSP to study commercialization strategies.

At the same time, the Centre can also facilitate ML-related research and learning opportunities for students. For example, the Centre can utilize its network to identify research projects

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pertaining to ML in medicine for MD students participating in Comprehensive Research Experience for Medical Students (CREMS). Similarly, the Centre can help facilitate the identification of capstone projects and supervisors from amongst the Centre members for students in the MHSc in Translational Research in the Health Science.

Finally, the Centre will offer learning opportunities, open to the University community and partner institutions, through lectures and seminar series. Ultimately, this Centre will have as its mandate the goal of ensuring information flow between the Centre and key receptors (e.g. practitioners, policy makers, governments, NGOs, industry, the public). Additionally, it will promote entrepreneurship and commercialization as well as education in implementation science.

G. Membership and Governance

Definition of Membership

The Centre will be primarily composed of faculty members at the University of Toronto who will spearhead research and education that integrates and aligns with their expertise and interests to create cutting-edge scholarship in the area of machine learning in medicine. Members will have the breadth and depth of expertise necessary to engage in dynamic research collaborations in ML to deliver impact and promote change as well as to teach.

In addition to those faculty members that are members, the Centre will welcome the participation of learners (including enrolled students, Post MD learners and individuals seeking professional development), researchers from affiliated institutions, and others who will, in the opinion of the Centre's Director, contribute to the success and vibrancy of MLM.

Centre Governance Structure

A Director will be appointed by and report to the Dean of Medicine. The Dean will chair the Centre's Executive Committee, which will be composed of the Centre's Director and the Chairs (or their delegates) of the Departments of DFCM, LMP, Medicine, Medical Imaging, and Paediatrics, and Computer Science. In addition, a representative from the Faculty of Applied Science and Engineering (appointed by the Dean of FASE) will be a member of the Executive Committee, as will be the Research Director of the Vector Institute, who can provide an external perspective on the work of the Centre. This committee will be responsible for setting research and educational priorities for the Centre.

The inaugural interim Director, until one is appointed by the Dean and filed with the Office of the Provost, will be Dr. Muhammad Mamdani. Dr. Mamdani is the Director of the Li Ka Shing Centre for Healthcare Analytics Research and Training (CHART) of the Li Ka Shing Knowledge Institute of St. Michael's Hospital in Toronto. He is also Professor in the Leslie Dan Faculty of Pharmacy, the Department of Medicine of the Faculty of Medicine, and the Institute of Health Policy, Management and Evaluation of the Dalla Lana Faculty of Public Health. He is also adjunct Senior Scientist at the Institute for Clinical Evaluative Sciences (ICES). Prior to joining the Li Ka Shing Knowledge Institute and St. Michael's Hospital, Dr. Mamdani was a Director of Outcomes

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Research at Pfizer Global Pharmaceuticals in New York. Dr. Mamdani's research interests include pharmacoepidemiology, pharmacoeconomics, and drug policy. He has published approximately 350 research studies in peer-reviewed medical journals, including leading journals such as the New England Journal of Medicine, the Lancet, the Journal of the American Medical Association, the British Medical Journal, and Annals of Internal Medicine.

Leadership Organizational Structure
1) The **Director** will have oversight of all operations including finances, will be responsible for promoting the Centre and developing partnerships. This individual will represent the Centre at the Faculty of Medicine and University committees, as required. This individual will be a faculty member at the University of Toronto, though not required to be appointed to the Faculty of Medicine. The Director will prepare a comprehensive five-year strategic academic plan to be approved by the Executive Committee and the Dean of the Faculty of Medicine.
2) **Associate Director of Education** will support the development of novel educational programs – such as collaborative specialization and certificate programs related to ML in medicine/health sciences – and recruit leads to develop these programs where appropriate.
3) **Associate Director of Research** will be responsible for facilitating research collaborative initiatives and leading fundraising activities (i.e. support writing CFI proposals, developing philanthropy initiatives, etc.).

The leadership team will be responsible for setting the direction and managing the deliverables of the Centre, in collaboration with the Executive Committee. The Director, with the advice of the Executive Committee, will also appoint Centre members. The Director will provide membership acknowledgement letter with specific terms describing expected contributions of each faculty member with approval by their departmental chair or division director, recognizing that any association with the Centre constitutes a non-budgetary cross appointment.

Advisory Board
In accordance with the Provost's Statement on the Role of Advisory Bodies (April 30, 1998), the Director will establish an Advisory Board consisting of three internationally renowned thought leaders in the AI/ML field, one representative from industry and a learner[1] (including enrolled students, Post MD learners and individuals seeking professional development), to be identified by the Director. The Director of MLM will be an ex-officio member and will be responsible for organizing the meetings. They will meet once a year and will provide advice to the Director.

Academic administrative support
Two individuals will support the activities of the Centre, the Collaborative Specialization program, certificate programs, continuing education programs, and philanthropic events. They will also be responsible for communications and IT support.

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[1] The Director will seek to ensure the learner representative rotates between representatives drawn for the MD Program, Post MD, and Graduate Student constituencies.

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Location of EDU-C

The Centre will initially utilize collaborative space located in the Department of Laboratory Medicine and Pathobiology. The Director of the Centre, in collaboration with the Dean of Medicine and the Chief Administrative Officer of the Faculty of Medicine, will work to define the future space needs of the Centre and identify appropriate space within the next two years.

Financial Support and Fundraising

The Faculty of Medicine, through the Office of the Dean, has committed to provide funds to support Centre initiatives such as seed grants to facilitate collaboration, salaries, space renovation (if necessary), infrastructure support, and furniture. The Centre will attract new operational funding from public and private sources to support its research and education activities. These funds will be administered by the Department of Laboratory Medicine and Pathobiology. The Centre will facilitate opportunities for collaborative research grant applications that, if successful, will be held by the home department of the lead grant applicant (principle investigator). The proposed Centre, as an EDU:C, will not administer research funds or enter directly and on its own authority into commitments / agreements / contracts.

The initial two-to-five-year goal is to raise $10M with the support of Faculty of Medicine Advancement Office. This will be directed to supporting the establishment of one research chair, trainee programs, IT infrastructure, and knowledge exchange and community engagement activities. An Academic Business Plan will be prepared to be approved by the Dean of the Faculty of Medicine. The Business Plan will include revenue and cost and cash-flow breakdowns for the next three years. Revenues will include operating funds from the Faculty of Medicine and departments, private donations through fundraising, and leveraged grants. Fundraising will commence immediately by the Faculty of Medicine Advancement Office and the interim co-Director.

Timeline for Approvals

This proposal will be brought for approval before Faculty Council of the Faculty of Medicine. The approval will then be reported to the Office of the Vice-President and Provost. The projected start date of the Centre will be July 1, 2020.

Review

In accordance with [University of Toronto Guidelines for Extra-Departmental Units](), and in keeping with the practice of the Faculty of Medicine, the Centre will undergo a review conducted by the Dean every five years, or upon the (re)appointment of a Director. Reviews will be approved by the Dean of the Faculty of Medicine in consultation with any active, participating Deans, and be consistent with University-wide standards. The review will evaluate the sustainability, performance and achievements relative to the goals set out for the Centre as identified in this proposal. An outcome of a review could be the decision to close the Centre.

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Appendices
   A. List of participating faculty members
   B. Consultations undertaken

Appendix A: List of Participating Faculty Members

Faculty within the University of Toronto

Name	Title	Primary Department	Other Affiliations
Clyde Matava	Associate Professor	Department of Anesthesia, Faculty of Medicine (FoM)	Director of Anesthesia Informatics, Innovation and Technology, SickKids; President, Canadian Pediatric Anesthesia Society
Guy Petroz	Associate Professor	Department of Anesthesia, FoM	
Anna Goldenberg	Assistant Professor	Department of Computer Science, Faculty of Arts and Science (FAS)	Chair in Biomedical Informatics and Artificial Intelligence, SickKids
Frank Rudzicz	Associate Professor	Department of Computer Science, FAS	Scientist, Li Ka Shing Knowledge Institute, St. Michael's Hospital; Director of AI, Surgical Safety Technologies
Michael Brudno	Professor	Department of Computer Science, FAS	Director, Centre for Computational Medicine, SickKIds; Scientific Director, HPC4Health Consortium
Andrew Pinto	Assistant Professor	Department of Family and Community Medicine, FoM	Clinician-Scientist, St. Michael's Hospital; Associate Director for Clinical Research, University of Toronto Practice-Based Research Network (UTOPIAN)
Baieruss Trinos	Lecturer	Department of Family and Community Medicine, FoM	
Batya Grundland	Assistant Professor	Department of Family and Community Medicine, FoM	
Deanna Telner	Assistant Professor	Department of Family and Community Medicine, FoM	
Farhan Asrar	Assistant Professor	Department of Family and	Cross appointed, Dalla Lana School of Public Health; Physician Research Lead, Credit Valley

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		Community Medicine, FoM	Hospital and Summerville FMTUs, Trillum Health Partners
Marcus Law	Associate Professor	Department of Family and Community Medicine, FoM	Director, Foundations, MD Program
Michael Kidd	Professor and Chair	Department of Family and Community Medicine, FoM	
Noah Crampton	Lecturer	Department of Family and Community Medicine, FoM	
Risa Bordman	Associate Professor	Department of Family and Community Medicine, FoM	
Andrew Evans	Associate Professor	Department of Laboratory Medicine and Pathobiology, FoM	Clinician Investigator, Princess Margaret Cancer Centre
Rita Kandel	Professor and Chair	Department of Laboratory Medicine and Pathobiology, FoM	Chief of Pathology and Laboratory Medicine, Mount Sinai Hospital and Associate Scientist Lunenfeld Tanenebaum Research Institute
Bo Wang	Assistant Professor	Department of Medical Biophysics, FoM	Canada CIFAR Artificial Intelligence Chair Lead Artificial Intelligence; Scientist, Peter Munk Cardiac Centre and the Techna Institute at the University Health Network (UHN); Faculty Member, Vector Institute
Alan Moody	Professor and Chair	Department of Medical Imaging, FoM	Senior Scientist, Physical Sciences, Schulich Heart Research Program, Sunnybrook Research Institute
Kaveh Shojania	Professor and Vice Chair	Department of Medicine, FoM	Scientist, Evaluative Clinical Sciences, Veterans Research Program, Sunnybrook Research Institute; Director, Centre for Quality Improvement & Patient Safety, University of Toronto

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Trevor Jamieson	Associate Professor	Department of Medicine, FoM	Lead for Virtual Care, Women's College Hospital Institute for Health System Solutions and Virtual Care
David Wong	Associate Professor	Department of Ophthalmology and Vision Sciences, FoM	Ophthalmologist-in-chief, St. Michael's Hospital
Susan Jaglal	Interim Chair and Professor	Department of Physical Therapy, FoM	
Karl Zabjek	Associate Professor	Department of Physical Therapy, FoM	
Abigail Ortiz	Assistant Professor	Department of Psychiatry, FoM	Clinician Scientist and the Clinical Lead for Bipolar Disorders in the Mood and Anxiety Service, Centre for Addiction and Mental Health
Brian Hodges	Professor	Department of Psychiatry, FoM	Executive Vice President Education and Chief Medical Officer, University Health Network
David Gratzer	Assistant Professor	Department of Psychiatry, FoM	Associate Chief, General Adult Psychiatry and General Health Systems Division, Centre for Addiction and Mental Health
Sean Hill	Professor	Department of Psychiatry, FoM	Director of the Krembil Centre for Neuroinformatics, Centre for Addiction and Mental Health
Deryk Beal	Assistant Professor (status-appointed)	Department of Speech-Language Pathology, FoM	Clinician Scientist, Bloorview Holland Research Institute
Monika Molnar	Assistant Professor	Department of Speech-Language Pathology, FoM	
Rosemary Martino	Professor	Department of Speech-Language Pathology, FoM	
Yana Yunusova	Professor	Department of Speech-Language Pathology, FoM	
Marzyeh Ghassemi	Assistant Professor	Departments of Medicine (FoM) and Computer Science (FAS)	Faculty Member, Vector Institute

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Ana Andreazza	Associate Professor	Departments of Pharmacology & Toxicology and Psychiatry, FoM	Scientific Director & Founder, The Canada Mitochondrial Network; Collaborator Scientist, Centre for Addiction and Mental Health
Laura Rosella	Associate Professor	Institute of Health Policy, Management and Evaluation (IHPME), Dalla Lana School of Public Health (DLSPH)	Canada Research Chair in Population Health Analytics; Site Director ICES U of T; Faculty Affiliate, Vector Institute; Member; Banting and Best Diabetes Centre, Vulnerable Populations/Population Health
Muhammad Mamdani	Professor	IHMPE, DLSPH	Director, Li Ka Shing Centre for Healthcare Analytics Research and Training (CHART); Scientist, Keenan Research Centre of the Li Ka Shing Knowledge Institute, St. Michael's Hospital; Professor, Leslie Dan Faculty of Pharmacy; Adjunct Professor, King Saud University; Adjunct Scientist, Institute for Clinical Evaluative Sciences
Sacha Bhatia	Assistant Professor	IHMPE, DLSPH	Director, Institute for Health System Solutions and Virtual Care (WIHV), Women's College Hospital

Faculty External to the University of Toronto

Name	Title	Primary Department	Other Affiliations
Sonny Kohli	Assistant Professor	Department of Medicine, McMaster University	Attending Physician, Oakville Trafalgar Memorial; Chief Medical Officer, Cloud DX
April Khademi	Assistant Professor	Department of Electrical, Computer and Biomedical Engineering, Ryerson University	Affiliate Scientist, Keenan Research Centre for Biomedical Science, St. Michael's Hospital

Appendix B: Consultations Undertaken

Consultations within the Faculty of Medicine

Name/Group	Title	Affiliation	Date
Clinical Chairs	n/a	Faculty of Medicine	May 22, 2019

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Basic Science Chairs	n/a	Faculty of Medicine	June 11, 2019
Michael Kidd	Professor and Chair	Department of Family and Community Medicine	August 16, 2019
Michelle Griever	Associate Professor	Department of Family and Community Medicine, Director UTOPIAN	September 27,2019
Benoit Muslant	Professor and Chair	Department of Psychiatry	October 9, 2019
Rehabilitation Chairs	n/a	Faculty of Medicine	October 11, 2019
Gillian Hawker	Professor and Chair	Department of Medicine	October 11, 2019

Consultations external to the Faculty of Medicine

Name	Title	Affiliation	Date
Timothy Chan	Professor, Canada Research Chair in Novel Optimization and Analytics in Health, and Director of the Centre for Healthcare Engineering	Department of Mechanical and Industrial Engineering, Faculty of Applied Science and Engineering	March 6, 2019
Alison Paprica	Vice President, Health Strategy and Partnerships	Vector Institute	April 22, 2019
Adalsteinn Brown	Professor and Dean	Dalla Lana School of Public Health	June 3, 2019 (via email)
Marsha Chechik	Professor & Chair (Interim)	Graduate Department of Computer Science	August 6, 2019
Michael Brudno	Professor Associate Chair, Research	Department of Computer Science, Faculty of Arts and Science	
Christopher Yip	Professor and Dean	Faculty of Applied Science and Engineering	September 23, 2019

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Laura Rosella	Assistant Professor	Institute of Health Policy, Management and Evaluation	September 25, 2019
Melanie Woodin	Professor and Dean	Faculty of Arts and Science	September 27, 2019 & October 16, 2019 (via email)
Sasha Bhatia	Director	Institute for Health System Solutions and Virtual Care (WIHV), Women's College Hospital	October 8, 2019
Mike Molloy	Professor and Chair	Department of Computer and Mathematical Sciences, UTSC	November 12, 2019 (via email)
Konstantin Khanin	Professor and Chair	Department of Mathematical and Computational Sciences, UTM	
Isaac Straley	Chief Information Security Officer	Office of the Chief Information Officer	November 14, 2019
Sue McGlashan	Manager, Information Risk Management		

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