

Cyclical Review: Final Assessment Report and Implementation Plan

1 Review Summary

Program Reviewed:	Doctor of Medicine, MD (UTQAP Review)
Division Reviewed:	Faculty of Medicine (Provostial non-UTQAP Review)
Commissioning Officer:	Vice-President and Provost
Reviewers (Name, Affiliation):	<ol style="list-style-type: none"> 1. Dr. David Brenner, Vice Chancellor – Health Sciences, Dean, School of Medicine, University of California, San Diego 2. Dr. Dermot Kelleher, Dean, Faculty of Medicine, Vice-President, Health, University of British Columbia 3. Dr. Moira Whyte, Vice-Principal and Head of the College of Medicine and Veterinary Medicine, University of Edinburgh
Date of Review Visit:	February 27 – March 1, 2019
Date Reported to AP&P:	October 30, 2019

Previous Review

Date: Faculty of Medicine, 2010-11; MD Program Canadian Medical Schools-Liaison Committee on Medical Education (CACMS-LCME) accreditation in 2012

Summary of Findings and Recommendations

- **Faculty of Medicine:** Since 2010-11 Review, the Faculty has addressed the following items:
 - Successful expansion of the MD Program to UTM
 - Internationalization of the MD program
 - Development of a robust communications office and better branding of the Faculty
 - Thematic alignment of research across departmental lines
 - Enhanced collaboration and harmonization across TAHSN

- Significant investment in infrastructure and facilities, including the launch of a new Master Plan process
- Review and rationalization of EDUs, along with the development of networks, to better focus on core areas of strength
- **MD Program:** CACMS-LCME accreditation in 2012 yielded a series of recommendations which were resolved by November 2015. The MD program is now in compliance with all of the CACMS-LCME standards.

Current Review: Documentation and Consultation

Documentation Provided to Reviewers

The following documents were provided:

- Site Visit Schedule
- Terms of Reference, 2019
- Self-Study (links to appendices embedded), 2019
- Medicine External Review Report, 2010
- Administrative Response to the External Review, 2010
- *Towards 2030: The View from 2012*

Consultation Process

The reviewers met directly with the following:

- Vice-President and Provost
- Vice-Provost, Academic Programs
- Dean, Faculty of Medicine and Vice Provost, Relations with Health Care Institutions
- Vice Dean, MD Program
- MD Program: Recruitment & Admissions representatives
- MD Program: MD/PhD and Medical Student Research Opportunities representatives
- MD students
- MD Program: Student Services representatives
- MD Program: Curriculum Design, Content and Delivery representatives
- MD Program: Student Assessment and Program Evaluation representatives
- MD Program: Hospital Partnerships representatives (incl. Academy Directors)
- Dean's Executive Leadership team
- Toronto Academic Health Science Network (TAHSN) CEOs
- Deans and Principals of Cognate Divisions/Campuses (or delegates):
 - Faculty of Applied Science & Engineering
 - Dalla Lana School of Public Health
 - Faculty of Arts & Science
 - University of Toronto Scarborough
 - Faculty of Kinesiology and Physical Education

Final Assessment Report and Implementation Plan: Faculty of Medicine (non UTQAP Review); MD Program (UTQAP Review)

- Lawrence S. Bloomberg Faculty of Nursing
- Faculty of Dentistry
- University of Toronto Mississauga
- Rotman School of Management
- Factor-Inwentash Faculty of Social Work
- Faculty of Medicine Department Chairs
- Post MD Education representatives
- Graduate and Undergraduate Education representatives
- Graduate Students
- Research representatives
- Space and Infrastructure representatives
- Senior Administrative Staff
- Impact / Outreach / Accessibility / Diversity representatives
- Faculty of Medicine Decanal Search Committee

Current Review – MD Program: Findings and Recommendations

1. Undergraduate Program

The reviewers observed the following strengths:

- Overall: this is a leading Faculty of Medicine by international standards with very high rankings across a range of international surveys.
- Admissions requirements
 - Admission requirements are similar to other schools and appropriate for the requirements of the program
- Curriculum and program delivery
 - Curriculum structure is in line with international best practices and is well received by students and faculty
 - Substantially changed, very engaging Foundations curriculum (Years 1 and 2) fully reflects the current state of the discipline
 - Faculty actively seek student feedback on the new curriculum and are making changes in real time
 - Students satisfied with the well-structured and effective clerkships, though they offer varied responsibilities
 - Thoughtful input into the design of the clinical cases at the heart of the 72-week Foundations curriculum
 - Learning outcomes appropriately mapped using a spiral curriculum structure
 - Students in the third year of the program were aware of how the spiral curriculum was informing their progression in clerkship programs
 - Significant self-learning time designated during the Foundations curriculum

- Students in both curricula (old and new) expressed satisfaction with their experience and opportunities
- Students spoke very highly of almost all their clinical experiences
- Innovation
 - Significant evidence of innovation in program content and delivery including multiple opportunities for research experience
 - Innovative dual degree and additional program options such as ones with Engineering; MSc in Health Policy, Management and Evaluation (Strategic Leadership and Innovation); Computing for Medicine certificate; and the Graduate Diploma in Health Research
 - Attractive Health Science Research component includes the capacity to track review of research articles to the spiral curriculum
 - Innovative and very useful early inter-professional learning opportunities through the Family Medicine Learning Experience
- Accessibility and diversity
 - Faculty members' and Dean's strong leadership and commitment to diversity and inclusion allows under-represented groups to access medical education
 - MD program has developed enhanced-support admissions processes to increase recruitment of an Indigenous student cohort and a Black student cohort; Faculty has built strong community relationships in advancing these programs and has achieved significant recruitment, particularly in the Black student cohort
 - Excellent achievements by Associate Dean, Diversity & Inclusion around equality of opportunity for gender and race; disability identified as an area for further work
- Assessment of learning
 - Impressive range of different assessment approaches, including quizzes, MCQs and OSCEs
 - Commendable portfolio approach in assessing students' reflectiveness on their learning experiences
 - Current Y4 students feel very well-prepared by the program for clinical practice
- Student engagement, experience and program support services
 - Impressive work of the Office of Health Professions Student Affairs (OHPSA); the Resilience Curriculum and the focus on student wellness were noted as particularly commendable
 - Very effective SCORE program for returners from absence
 - High quality, timely student support is accessed by approximately 25% of students
 - Students pleased with mental health support
- Quality indicators – undergraduate students
 - Large numbers of very high quality applicants
 - Admitted students have exceptional GPA and MCAT scores
 - Rigorous mini-interview process
 - Completion rates and time-to-completion are high and comparable to other medical schools

- Quality indicators – alumni
 - Dean helped resolve issues with the Canadian Resident Matching Service (CaRMS) match last year, and this year’s match was highly successful
- Quality indicators – faculty
 - High quality educational experience across programs and sites, delivered by extremely well-qualified and committed faculty
 - Internal assessment used to identify clear future aspirations
- Student funding
 - Realigned to target benefit to those with greater need

The reviewers identified the following **areas of concern**:

- Admissions requirements
 - Capacity in MD-PhD program is limited to 8 students per year due to inadequate funding
- Curriculum and program delivery
 - Some lack of clarity in curriculum documentation around the systematic approach to learning, described by some students as organ-based and by others as specialty-based
 - Clinical curriculum is very traditional; a serious and highly commendable attempt at a novel longitudinal clerkship experience was discontinued because it was expensive, labor intensive, and not feasible to generalize
 - Much of the Year 4 elective time is occupied by the process of preparing for and applying to the CaRMS match, which is highly stressful time when learning experiences may be sub-optimal
 - Current Year 4 curriculum misses opportunities, such as reviewing basic knowledge after the clinical experience, genomics and informatics
- Innovation
 - Students see project component of the Health Science Research program (writing a grant application) as artificial and of limited value
 - Community-Based Service-Learning (CBSL) component was seen as having mixed value by students as their time was variably utilized
- Student engagement, experience and program support services
 - Student surveys reported 60% of students reported harassment (this includes student to student harassment)
 - Need for improving students’ interpersonal skills has been recognized by faculty with action plans being considered
 - Career advice and support has been identified as an area for further development

The reviewers made the following **recommendations**:

- Admissions requirements:
 - Capacity in MD-PhD program should be increased if adequate funding is available

- Curriculum and program delivery
 - Incorporate elements of the novel longitudinal clerkship experience into a hybrid model in the future
 - Monitor how effectively self-learning time is being used
 - Support the emerging consensus that exit to PhD for MD PhD students would best occur at the end of Y2
- Innovation
 - Review the learning objectives of the Health Science Research program and the CBSL

2. Faculty/Research

The reviewers observed the following **strengths**:

- Overall quality
 - Excellent research of faculty members and the wider Toronto ecosystem of hospital partners and institutes
 - Research strengths underpin the basic science curriculum and support from other Faculties areas is strong, notably from the new Dalla Lana School of Public Health and the Faculty of Arts & Science
- Research
 - Research income attests international standing
 - Substantial opportunity for student research experience during self-learning time and in the summers in Y1, Y2 and Y4
 - Wide and impressive range of research opportunities for students, beginning early in Year 1, and supplemented by further opportunities, including the successful Comprehensive Research Experience for Medical Students (CREMS) program
- Faculty
 - Good balance of staff across the program
 - Strong education science expertise among the faculty provides an opportunity to assess aspects of the curriculum that are most associated with positive outcomes for preparedness for practice

The reviewers identified the following **areas of concern**:

- Research
 - Research overheads provided by CIHR are inadequate and do not allow full cost recovery
- Faculty
 - Ability to recruit high-quality teaching faculty, particularly for underpinning basic science, will be hampered by the tight fiscal situation and poor-quality research space

The reviewers made the following **recommendations**:

- Research
 - Consider whether research opportunities are equally accessible to students at Mississauga Academy of Medicine (MAM)
 - Invest in the quality of research space in order to continue to recruit excellent researchers and undertake cutting-edge science
- Faculty
 - Identify resources that may be required to strengthen certain teams, e.g. OHPSA, in light of increasing student demand

3. Administration

The reviewers observed the following **strengths**:

- Relationships
 - Faculty is committed to, and succeeds in, fostering an academic community in which learning and scholarship flourish
 - Clear commitment to the principles of equity, diversity and inclusion
 - High morale among the faculty, students and staff
 - Students at all levels appreciate support from faculty and staff
 - Faculty and staff strongly supportive of the Dean's strategic approach and commitment to equity and diversity
 - Strong, collegial relationships with other Faculties have led to significant strategic developments, including with the Biomedical Engineering program and partnerships with the Faculty of Science & Arts
 - Collegial relationships with academic departments
 - Interesting international partnerships, including a major contribution to the University's Addis Ababa collaboration and an interesting research partnership with the prestigious Zhejiang University in Hangzhou, China.
 - Family Medicine has the prestigious status of a WHO collaborating centre
 - Crucial relationship with TAHSN is working well, with opportunities to strengthen the partnership; Dean and others are contributing to this
 - Almost all hospital CEOs described the value of TAHSN committees for Practice, Clinical, Education and Research
 - Good relationships with the community hospitals
 - Dean coordinates the relationship with external government, the Royal Colleges and the Association of Faculties of Medicine of Canada, building communication and trust
- Organizational and financial structure
 - Leadership is effective, strategic and popular
 - Management and leadership have successfully addressed the challenge of a balanced budget and have invested in a transformation of the MD program
 - Traditional Departmental model with good integration for education across the academies
 - Dean has effectively rebalanced budgets across the Faculty

- Senior management's robust process for space review and allocation for new research space is seen as open and objective by faculty
- Sufficient resources invested in the MD program and its new curriculum
- Adequate but not luxurious space for students and program delivery
- Beneficial investment in new Anatomy facilities, Admissions and Enrolment Office, and an MD Student Lounge
- International comparators
 - Revised MD program is high quality and internationally competitive

The reviewers identified the following **areas of concern**:

- Relationships
 - Research faculty and graduate students did report a lack of association with the University as compared to the host research institute, favouring stronger relationships with the partner institutions where the research was performed
- Organizational and financial structure
 - Current budget provides insufficient funds for continued success; leadership felt that the current budget model encourages silos and limits collaboration across U of T
 - Difficulties in strategic development of departmental strengths due to funding constraints
 - New MD program—with small group teaching—is more labor-intensive and may stretch resources across some areas of curriculum delivery
 - Lack of autonomy with regard to capital investment in research equipment and space
 - Medical Sciences Building (MSB) has some significant space constraints
 - Research space needs replacement or renovation, with approximately 80% of space in unsatisfactory to unusable space
 - Older space is designated by departments without benchmarks (such as \$ per square foot) and does not seem to be redistributed based on need
- International comparators
 - Success in fundraising is low by comparator standards both nationally and internationally, in light of the Faculty's international stature

The reviewers made the following **recommendations**:

- Organizational and financial structure
 - Unite the fundraising team at the Faculty level, rather than across departments
 - Coordinate some aspects of graduate student training at the Faculty level to support a Faculty identity
 - Engage in expansion to assist with recruitment: new and/or renovated research space and new investments in research cores
 - Expand the function of the chairs to work on greater synergies across TAHSN and U of T
 - Further monitor the resource-intensive nature of the MD program

- Form a space committee to assess space utilization and handle space for recruitment and redistribution
- Long-range planning and overall assessment
 - Develop some “big ticket” collaborative strategic proposals for fundraising in addition to the priorities of individual departments
 - Address future challenges around strategic research priorities and space/facilities in partnership with the University

Current Review – Faculty of Medicine: Findings and Recommendations

1. Teaching and Research

The reviewers observed the following **strengths**:

- Overall
 - Faculty of Medicine is consistently highly ranked in international standings relating to both research and educational activities
- Undergraduate education
 - Complementary programs—from certificate to diploma—broaden undergraduate medical students’ horizons
- Graduate and Post MD education
 - Well organized, co-ordinated, uniform-quality post-MD education
 - Novel IMS Master’s in Translational Research program, with very clever student incubator with connections to biotech experience and investors
- Faculty
 - Clear commitment to excellence in research and scholarly activity
 - Much of student and faculty research and scholarly activity takes place within the partner organizations supported by U of T structures
 - Many of the research programs address pressing societal needs, including for example mental health and addictions, and in international activities in places like Ethiopia
- Planning/vision
 - Faculty of Medicine Strategic Plan 2018-2023 emphasizes core objectives and initiatives in the following three areas (i) an ecosystem of collaboration (ii) ground-breaking imagination and (iii) excellence through equity
 - Dean and the Faculty of Medicine are committed to the Strategic Plan’s goals and achievement of its objectives, evidenced by admissions pathways for diverse students and increasing the coherence of the Toronto Academic Health Science Network (TAHSN)

The reviewers identified the following areas of **concern**:

- Graduate education

- Graduate supervision, principally for MD PhD students, is somewhat remote as many research sites are not at St. George
- MD PhD students would like to be better connected with the MD program while undertaking their PhD
- Some but not all departments have professional development personnel for their graduate students
- Faculty
 - PhD scientists within partner institutions do not receive the same faculty privileges as their MD counterparts; cause of some disenfranchisement

The reviewers made the following **recommendations**:

- Faculty
 - Consideration should be given to approaches that enhance inclusiveness for PhD scientists
- Planning/vision
 - Invest efforts to coordinate the TASHN research effort to enhance the University's ability to drive research strategy, including through coordination of research ethics, joint research management activities, and the creation of a joint research office

2. Organizational Structure & Resources

The reviewers observed the following **strengths**:

- Organizational structure
 - Uniform enthusiasm for the Dean's considerate, collaborative leadership of the Faculty of Medicine, particularly his commitment to diversity and inclusion, his skills in government relations, and his work to improve relations with the affiliated hospitals
- Financial resources
 - Commendable positive impact of the Dean's financial management of the Faculty
 - Internal structures appear to be efficient and have proved effective in substantially reducing the faculty budget deficit

The reviewers identified the following **areas of concern**:

- Financial resources
 - University role in developing strategic initiatives in research is hampered by aspects of the current budget model which impact the Faculty's ability to effectively lead the research agenda of TAHSN
 - Impossible for the Faculty to grow strategically in a manner reflecting its current international status within the current budget model

- Pressing needs for strategic recruitments and for capital investment in research which cannot be met effectively
- Serious concern that the clinician scientist will be overwhelmed with patient care and administration because of current complicated mechanisms for flowing funds
- New MD curriculum is substantially more resource intensive than its predecessor

The reviewers made the following **recommendations**:

- Organizational structure
 - Consider structuring the Dean's position as a Vice-President, rather than a Vice-Provost, to reflect the enormity of the job, the nature of the relationships with the leaders of the health organizations and the size of the enterprise
- Financial resources
 - Give consideration to providing financial support in a new budget model or through complementary funding within current model to enable the FoM and the University to provide more comprehensive co-ordinating of research functions at TAHSN, strengthening its leadership potential in research strategy
 - Carefully manage resource implications of the new MD curriculum

3. Internal & External Relationships

The reviewers observed the following **strengths**:

- Overall
 - Dean has invested considerable leadership in equity, which is recognized Faculty-wide
- External relationships
 - Success is highly dependent on a range of collaborative activities with partner institutions, most notably within the TAHSN group of health partners including the Trillium group responsible for MAM
 - Relationships between the Faculty and its external partners through TAHSN have improved substantially during the period of the present Deanship and more effective and meaningful collaboration is taking place
 - Dean commands the respect of the TAHSN network and has contributed significantly to a more collaborative approach at this table
 - Very substantial relationships with community organizations, especially to family practice; will likely be further enhanced by partnering to deliver the revised MD curriculum and increased emphasis on interprofessional learning
 - Increasing reflection by students regarding their role in society is encouraged through the portfolio elements within the curriculum, in addition to the CBSL component in the Foundation Program
 - Substantial energy invested in enhancing interactions with TAHSN, confirmed by the CEOs, department chairs and cognate deans

- TAHSN contributes to the educational mission through the Academies; partner organizations provide learning spaces for undergraduate and successful postgraduate education
- TAHSN CEOs' priorities for University collaboration include AI/Machine Learning; significant opportunities for cross-institutional collaboration in AI/Data Science, which can be supported by FoM and the University and would map well to local, national and international opportunities
- Wellness, respect and resilience are priorities for TAHSN and University leadership
- Internal relationships
 - Demonstrated interdisciplinary capability across Faculty boundaries; substantial successful collaborations with Engineering, Arts & Science and Nursing, among others
 - Rehabilitation research should benefit from enhanced interdisciplinarity between clinical and biomedical engineering areas
 - Clinician scientist will have a critical and enlarging role in translational research and in academic medicine
 - Notable success has been achieved in increasing the number of Black and Indigenous students and in promoting the concept of equity with regard to both student and faculty recruitment, and promotions
 - Impressive commitment to recruit a more diverse medical school class, including through summer mentorship program, application navigators, mock interviews, free MCAT prep course, and the presence of community members on selection committee
 - Effective response to student queries from OHPSA, with a response time of less than 24 hours
 - Students pleased with mental health support, including counselors and referrals
 - Teaching biological science courses is a creative way to encourage cross-campus synergies
 - Increase in the number of individuals self-reporting disability status, which has enabled support services to more effectively engage

The reviewers identified the following **areas of concern**:

- External relationships
 - To unlock its full potential, TAHSN will need to better harmonize IRB approvals, intellectual property agreements, contracts, data sharing, and uniform forms
 - Because of the relationship with TAHSN, U of T chairs have fewer resources and responsibilities than their peers at comparable institutions
 - Concerns over IP distribution between U of T and hospitals are barriers to commercialization
 - More substantial influence, particularly with TAHSN, will depend on University investment to enhance true strategic collaboration

The reviewers made the following **recommendations**:

Final Assessment Report and Implementation Plan: Faculty of Medicine (non UTQAP Review); MD Program (UTQAP Review)

- External relationships
 - Further strengthen TASHN and Faculty research coordination and management in joint research ethics, joint grant coordination, and joint research strategy setting; this will require University and Faculty investment
 - Enhance current approaches to entrepreneurship across TAHSN through co-operation on IP and tech transfer, and possible joint programs with Rotman
 - Develop cross-cutting data science/AI initiatives, which will require funding
 - Ensure that external partners are fully aware of the Faculty's approach to equity in faculty hires and that this informs recruitment processes within the partner organizations
 - Expand the function of chairs to assist in the focus on greater synergies across TAHSN and U of T
 - Integrate wellness in Faculty hiring policies and practices with the TAHSN partners

2 Administrative Response & Implementation Plan



UNIVERSITY OF TORONTO
FACULTY OF MEDICINE

L. Trevor Young, MD PhD FRCPC

Dean

Vice Provost, Relations with Health Care Institutions

September 25, 2019

Professor Susan McCahan
Vice-Provost, Academic Programs
University of Toronto
Room 225, Simcoe Hall
27 King's College Circle
Toronto M5S 1A1

Dear Professor McCahan,

I write in response to your letter of July 26, 2019 regarding the February 27 to March 1, 2019 external review of the Faculty of Medicine and the MD Program, commissioned by the Vice-President and Provost.

The external review process was an important opportunity to share our tremendous successes and to reflect on our strengths and challenges. We thoroughly enjoyed the visit by Drs. Brenner, Kelleher and Whyte and appreciate the thoughtful report that they prepared in response.

I am pleased to address the specific issues you outlined in your letter, first about the MD Program specifically, and then about the Faculty as a whole.

The reviewers found most aspects of the MD program to be working well, but they singled out some areas that need attention:

- i. The reviewers reflected the statistic that 60% of MD students reported harassment, which includes student to student harassment. They encouraged program leadership to gather additional information regarding the source and nature of such mistreatment and use this information to develop a comprehensive action plan.***
- ii. The reviewers discussed the tremendous stress students face with respect to the MD residency match.***
- iii. The reviewers acknowledged that changes have been attempted to the clinical curriculum. However, they hoped that innovative elements could be incorporated, because it remains very traditional. They also reflected the MD students' view that grant writing and community-based service-learning projects have limited value.***
- iv. The reviewers identified the need to monitor whether opportunities for research experience for MD students are equally accessible to students at the Mississauga Academy of Medicine***

I have asked Patricia Houston, Vice Dean of the MD Program, to provide a detailed response to these program-specific issues. Please see the attached Appendix for details, including implementation plans. I support the response provided by Prof. Houston. The responses to the remaining items are outlined below.

Regarding the overall Faculty:

- v. *The reviewers observed that graduate faculty and students based at research sites located off the St. George campus have stronger relationships with the host sites than with U of T. The reviewers observed some challenges that could prevent clinician scientists from playing a full role in translational research, and PhD scientists from being fully enfranchised.***

The Faculty of Medicine (FoM) will continue to make strong efforts to connect hospital-based research students and faculty to the University. Notably, beginning in October 2019, the Faculty of Medicine will become the administrative home of the Toronto Academic Health Science Network (TAHSN). One of the key objectives of this greater integration between the University and its affiliated hospitals is better coordination and seamless approaches to issues across member institutions. Numerous TAHSN subcommittees (including Education, Research and Medical Affairs) are engaged in facilitating this integration across the system, to the benefit of our learners, faculty and staff.

The FoM and its departments use a number of mechanisms to enhance the engagement of students and faculty located off-campus, including:

- The ability of faculty members based off-campus to supervise graduate students, with U of T being the degree-granting body to students who undertake their studies at affiliated sites;
- Participation by clinical and status-only faculty in departmental teaching and other academic activities (e.g., committee work);
- The Centre for Faculty Development (CFD) in the FoM (<https://cfd.utoronto.ca/>) provides numerous activities designed for faculty career growth and development;
- Departmental Research Days, symposia, workshops, career events, student exchanges, receptions, banquets that cross institutional boundaries;
- Social functions, extracurricular activities, intramural sports that build U of T esprit de corps;
- Academic promotion and awards at U of T provide recognition and a sense of being valued at the University;
- MD students and clinical residents are registered at U of T and train at more than one site during their programs. The University connection is continually reinforced by clinical trainees;
- Clinical fellows are increasingly being registered at U of T (Post MD) and receive a U of T certificate upon successful completion of fellowship training.

- vi. *The reviewers suggested moving fundraising out of departments up to the Faculty level and encouraged a greater focus on larger strategic goals.***

We very much agree with the reviewers' suggestion. Our Advancement Office, in conjunction with Faculty and departmental leadership, is working towards a more balanced model, one that is more market-focused and donor-centric.

- vii. *The reviewers also observed that some aspects of graduate student training could be taken on by the Faculty rather than by individual departments and flagged the need to build on current efforts to provide additional alternative career supports for graduate students.***

The Faculty of Medicine Graduate Life Sciences Education (GLSE) office has established a Graduate Professional Development (GPD) program and appointed a Director. The GPD consists of seminars, workshops, opportunities for interaction with the private sector, and individual career counseling for graduate students who wish such assistance. This is in addition to the training that individual departments may be providing for students in this domain.

The GLSE office has also initiated a number of other innovative programs to support graduate students and will continue to explore ways to enhance these supports. These include embedded mental health counselors specifically for our graduate students and a leave of absence stipendiary program for students who require time off for mental health reasons and require financial support to do so.

GLSE will strengthen its relationships with the University Career Centre and with the School of Graduate Studies Graduate Professional Skills Program to better promote access to the University mentorship programs, as well as improving access for our students to existing workshops focused on preparing for careers outside of academic medicine.

viii. The reviewers highlighted the difficulty the Faculty faces, given the current budget model, in further investing in recruitment, space, research and scholarships in line with its international reputation.

We concur with this observation. Under the current budget model, the Faculty has undertaken aggressive pursuit of efficiencies and management of costs within its control, while striving to generate additional net profits through new programming, online learning, and non-accredited education and skills development opportunities. More specific to research, the Faculty has undertaken to centralize scientific resources into shared or core facilities to improve their utilization and thus lower costs. While such efforts will continue, they are likely inadequate to enable the Faculty of Medicine to maintain its international reputation for excellence into the future.

The reality is that the current budget model at the University recognizes but does not address a significant gap in revenues to cover institutional research costs – often referred to as research indirect costs. As calculated by the University’s Budget Office, a revenue of 57 cents is required to fully fund indirect institutional costs for every 1 dollar of research grants received. The Faculty of Medicine receives some \$130m in research grants annually, which would therefore require some \$74m of revenue for indirect cost support. In reality though, both the Federal granting agencies as well as private sponsors of research are loath to pay this level of indirect cost support, suggesting that it is a University responsibility. As a result, the Faculty receives only about \$20m worth of revenue for indirect cost support from granting agencies and corporations – leading to an annual estimated gap of some \$54M.

On the revenue side provincial regulations significantly constrain the Faculty’s ability to increase enrollment and tuition fees. Over the period of 2018-2024, the Faculty’s total attributed revenue is projected to grow by 7%, while over the same period University Wide Costs are projected to increase by 14%. The combined effect of the research indirect cost gap and disproportionate escalation in University Wide Costs makes it difficult for the Faculty to balance its budget while investing appropriately to maintain accreditation, fulfill its academic mission and optimize its research enterprise.

Given this context, the Faculty has had to, among other measures:

- Reduce the level of funding to its academic programs to such an extent that concerns about adequate faculty student ratios, and longer-term fiscal sustainability, have been raised during two recent accreditation reviews;
- Severely limit what it can do in terms of renewing some 75% of its research laboratories which, in most instances, are over 30-40 years old and in dire need of investment;
- Struggle to find funding to repair, replace and maintain aging laboratory equipment; and
- Significantly deplete its operating reserves and borrow internal funds to cover annual deficits.

One possible approach to addressing this funding gap would be for the University to endeavor to invest at least 1% of its operating budget (\$27.7m per 2019-20 budget) each year in supporting indirect cost of research. This amount can then be allocated to the various research-intensive divisions on a demonstrated need basis. This would be consistent with the approach being taken across the country, including by several other Ontario universities.

- ix. Further to that, the reviewers stressed the need to consider how the Faculty and University can realize its leadership potential in research strategy, including providing more comprehensive coordinating research functions at Toronto Academic Health Science Network (TAHSN), and they found that the budget model hampers this. They suggested ways in which joint efforts (research ethics, grant coordination, research strategy setting) could facilitate this. They also advised that consideration be given to appointing the Dean as Vice President to provide leadership within the system.***

Collaboration between the University and its TAHSN partners has never been greater. Through the work of the TAHSN Research Committee, co-chaired by the Vice Dean of Research and Innovation, we have already made great strides in developing harmonized research policies and procedures. Going forward, a key pillar in the FoM Strategic Academic Plan – Groundbreaking Imagination – seeks to develop a pipeline for research and innovation leadership in the Faculty through training and faculty development; building education opportunities in research and innovation leadership across our network; and work in concert with TAHSN partners to leverage expertise, technology and infrastructure to improve coordination of activities and effort, reducing redundancies where possible.

As noted above (v), beginning in October 2019, the Faculty of Medicine will become the administrative home for TAHSN. This provides us with a unique opportunity to further coordinate with our partner hospitals in the areas of research, education and administration, and to re-think the TAHSN model. We have studied other jurisdictions, such as University College London and look forward to taking advantage of greater integration amongst the TAHSN partners.

The issue of appointing the Dean as Vice President is the purview of the Provost and I defer to her on this matter.

- x. The reviewers encouraged strengthening connections and interdisciplinary collaborations in a number of areas, including development of cross-cutting data science/AI initiatives, enhancement of approaches to entrepreneurship, and enhancement of rehabilitation research.***

We agree with the reviewers' assessment. The Faculty of Medicine is continually strengthening connections and building interdisciplinary collaborations, and TAHSN provides a key enabling

mechanism, through harmonized approaches to research ethics approvals, understanding the full costs of research, and the importance of having updated data sharing agreements for realizing the promise of data science/AI. Building capacity to reflect the emerging role of artificial intelligence in health professions is a key element in the Faculty's Academic Strategic Plan for 2018 to 2023.

Thematically based extra-departmental units (EDUs) provide a mechanism whereby multiple disciplines convene and work together across campus and affiliated hospitals and institutes. A new EDU pertaining to AI in medicine and health is in development. In addition, the Faculty of Medicine undertakes joint recruitments with other UofT units to strengthen collaborations in AI. For example, the recruitment of Prof. Marzyeh Ghassemi, Assistant Professor in the Departments of Computer Science and Medicine, a Vector Institute faculty member, who holds a Canadian CIFAR AI Chair and Canada Research Chair and whose scholarship focuses on Machine Learning for Health - a Vector Institute priority. Several new faculty positions have recently been announced for the Vector Institute and Medicine will have a key role in recruiting for a number of them.

The Faculty has committed resources toward PRiME, a new initiative in precision medtech being led by the Leslie Dan Faculty of Pharmacy, for which a ~\$10M CFI-IF application will be submitted in early 2020. In addition, the Faculty is involved in CRAFT, a new initiative in microfluidics between UofT-NRC, being led by the Faculty of Applied Science and Engineering. The Faculty is providing funding to CRAFT's infrastructure startup costs, and contributing to the development of the operation's business model. Further, the Faculty supports mitoNET – an interdisciplinary, pan-Canadian network of researchers and partners working together to unveil how mitochondria act as the common thread connecting most chronic diseases. The Faculty has supported major funding proposals for mitoNET, including NCE, CFI, and fundraising through Advancement.

Regarding approaches to entrepreneurship, the Health Innovation Hub (H2i) has undergone a period of tremendous rapid growth, from ~\$40,000 invested into its startup companies in 2015-16 to >\$20M in 2018-19. In anticipation of decreased support from the provincial government for campus-led accelerators, H2i has embarked on a strategy for sustainability and support of student entrepreneurship. As part of the Faculty of Medicine's updated Academic Strategic Plan, a committee has been formed to develop a pipeline for leadership in research and innovation relevant to different career stages, and will include an "Entrepreneur-in-Residence" to act as a resource for accelerating the innovation agenda. Another recent development in the Faculty's innovation portfolio is the creation of the Accelerator for Donnelly Collaboration (AcDC). Supported by a \$10 million gift from Terrence Donnelly, AcDC co-locates Donnelly Centre faculty alongside industry partners on the 4th floor of the MSB to accelerate the path to commercialization of discoveries made by Donnelly scientists.

Regarding research in the rehabilitation sector, the Rehabilitation Sciences Institute, directed by Professor Angela Colantonio, is developing a new Research Strategic Plan, in alignment with the Faculty of Medicine's updated Academic Strategic Plan, and will have a major emphasis on developing strategies to enhance research performance and distinction across the entire rehabilitation sector (Departments of Physical Therapy, Occupational Science and Occupational Therapy, and Speech-Language Pathology). An Advisory Group on Research Capacity in the rehabilitation sector has been formed. Current priorities of the Advisory Group include developing a compendium of research accomplishments that can be presented to diverse audiences; preparing an advancement plan; and establishing a bi-weekly Leadership in Rehabilitation Colloquium. An Academic Rehabilitation Research Retreat and Rehabilitation Summit are planned for 2020, the goals of which are to promote greater awareness of the breadth and extent of the rehabilitation sector within the Faculty of Medicine, promote greater

integration of rehabilitation research in the Faculty, and provide a platform for the development and expansion of rehabilitation research and training at UofT.

The Faculty's commitment to strengthening those areas identified by the reviewers is also exemplified by its most recent round of successful Canada Research Chair (CRC) awardees, announced in June 2019. Its three new CRC Tier 2 awardees are: the aforementioned Prof. Ghassemi, Prof. Emily Nalder from the rehabilitation sector, and Prof. Michael Garton from the Institute of Biomaterials and Biomedical Engineering (IBBME, an interdisciplinary EDU formed by Medicine, Engineering, and Dentistry). These early-career researchers are exceptionally productive and represent the Faculty's commitment to a diverse and inclusive body of CRC holders and aligning with the Academic Strategic Plan's focus on an "Ecosystem of Collaboration".

xi. The reviewers found the Faculty's success in fundraising to be comparatively low, relative to national and international institution comparators, and particularly in light of the Faculty's international stature.

In December 2018 the University of Toronto wrapped up the Boundless Campaign, the largest fundraising campaign in Canadian university history – raising a total of \$2.64 billion. Other recent Canadian campaign totals include McGill (\$1.06 billion); UBC (\$1.64 billion); McMaster (\$437 million); and Queen's (\$640 million).

During the Boundless Campaign, the Faculty of Medicine raised a total of \$639.47M. It's difficult to compare the Faculty of Medicine to others across Canada, as structures vary (i.e. some include dentistry, rehabilitation sciences, public health etc., and some do not). One close comparator is UBC's Faculty of Medicine, whose campaign raised \$437.6 million.

On an annual level, UofT's Faculty of Medicine is competitive with the top schools for fundraising performance in Canada. During fiscal 2018-2019 we raised \$82.2 million. Annual revenue from our peers have been: \$74.7M UBC Faculty of Medicine (FY19); \$28.2 million McMaster Faculty of Health Sciences (FY18); \$12.8 million Queen's Faculty of Health Sciences (FY18).

From an international perspective, it is very difficult to compare fundraising at faculties of medicine, as many US universities own their hospitals. Here, in our 9 fully affiliated teaching hospitals, there are 11 individual and independent hospital foundations. However, we compare favourably with other public sector peer institutions including University of Virginia, Penn State, Ohio State, University of North Carolina and University of Florida.

Although the University of Toronto – and our Faculty of Medicine – are leading the way in Canada for fundraising, there are many growth and partnership opportunities. We will continue to grow our annual revenue and donor activities for an even greater impact on the priorities of the Faculty of Medicine.

In conclusion, I would like to reiterate three key issues for the Faculty of Medicine in the coming years:

1. **Research Funding** – the single biggest threat to maintaining and indeed improving our international rankings is the gap in research funding, outlined in detail above (viii). While we are committed to pursuing philanthropic fundraising goals, the more fundamental problem lies with the research funding model and the resulting gap in research indirect costs. We feel strongly

that this model needs to be reviewed and addressed in order for the Faculty of Medicine to maintain its position as a research powerhouse, and to continue to improve our international rankings.

2. **New Educational Space** – As we continuously develop and enhance our educational offerings across the Faculty it is imperative that our physical space keeps pace. This issue, which the reviewers recognized, was succinctly summarized in our self-study document:

Although great progress has been made in terms of the quality of space available for both academic and research needs, significant challenges continue to create risk for the Faculty. Deferred maintenance, the ongoing responsibility of the central University, is falling behind annually and there continue to be risks such as flooding from leaking roofs and blocked drains. The Faculty's largest single building, the Medical Sciences Building, dates from 1968 and houses a vivarium, *in vitro* CL3 laboratory, flow cytometry, gross anatomy, campus teaching facilities, and basic science biomedical research labs, and continues to require significant renovations. All Faculty buildings are at capacity, and new initiatives will be difficult to house within existing facilities. Leased space, which comes at a higher cost than campus-based space, continues to strain Faculty finances. A new Master Plan process is currently underway to identify needs for the foreseeable future; this will help demonstrate the Faculty's position that a new building is necessary, both from a research and from a pedagogical perspective.

3. **The Future of TAHSN** – Beginning in October 2019, when the Faculty of Medicine takes on responsibility for the administration of TAHSN, we have an opportunity to engage in a fundamental rethink of the relationship between the University and our partner hospitals. As noted by the reviewers on numerous occasions, and as demonstrated in the work we do every day, a collaborative and committed relationship between the University and its hospital partners is fundamental to the success of our research and education enterprise. We look forward to undertaking a strategic visioning exercise over the next year to more fully develop the TAHSN partnership.

Thank you again for the opportunity to respond to the findings of the external reviewers. Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,



Trevor Young

cc. Daniella Mallinick, Director, Academic Programs, Planning and Quality Assurance
Justine Garrett, Coordinator, Academic Planning and Reviews
Meg Connell, Director, Office of the Dean, Faculty of Medicine

3 Committee on Academic Policy & Programs (AP&P) Findings

The spokesperson for the reading group reported that the summary covered the full review. The group was pleased to see that the issue of student harassment had been addressed in the administrative response. However, the group noted that the proposed plans to address harassment were mainly reactive and did not address the underlying causes of the harassment.

Dean Young noted that the Faculty took the issue of student harassment very seriously. He observed that addressing this issue was a leading focus of discussions among Canadian and North American Faculties of Medicine, and it was also a workplace issue that the affiliated hospitals were addressing. The Dean outlined several initiatives that were being undertaken in response, including the establishment of an Office of Professionalism as well as task force to examine this further.

A follow-up review was requested to report on the Faculty's progress in understanding and addressing the causes of student harassment.

4 Institutional Executive Summary

The reviewers found that the Faculty of Medicine's activities and values justify its high international ranking, noting its particularly impressive research power; they praised the Dean's leadership over the past few years, notably his commitment to diversity and inclusion, to relationship building, and to effective financial management; they found the MD program to be particularly strong, highlighting the program's innovations in program content and delivery, and successful commitment to "fostering an academic community in which learning and scholarship flourish."

The reviewers recommended that the following issues be addressed:

MD program (UTQAP review): investigating and addressing MD student reports of harassment; addressing the stress students face with respect to the MD residency match; incorporating innovative elements in the MD clinical curriculum; exploring value of grant writing and community-based service-learning projects; monitoring whether opportunities for research experience for MD students are equally accessible to students at the Mississauga Academy of Medicine.

Overall Faculty (non-UTQAP review): strengthening relationships of graduate faculty and students based at research sites located off the St. George campus with the University; addressing challenges that could prevent clinician scientists from playing a full role in translational research and PhD scientists from being fully enfranchised; moving fundraising out of departments up to the Faculty level and placing greater focus on larger strategic goals; taking on some aspects of graduate student training at the Faculty level; building on current efforts to provide additional alternative career supports for graduate students; exploring options for investing in recruitment, space, research and scholarships in line with the Faculty's international reputation, taking into account the challenges posed by the current budget model; considering how the Faculty and University can realize its leadership potential in research strategy; exploring possibility of appointing the Dean as Vice President; strengthening connections and interdisciplinary collaborations in a number of areas; enhancing fundraising efforts.

The Dean's Administrative Response describes the Faculty and programs' responses to the reviewers' recommendations, including an implementation plan for any changes necessary as a result.

5 Monitoring and Date of Next Review

Faculty of Medicine (non-UTQAP review): *A formal monitoring report is not required for non-UTQAP reviews.* The date of the next provostial non-UTQAP review of the Faculty will be determined in consultation with the Provost's Office.

MD program (UTQAP review):

The Dean will provide an interim report to the Vice-Provost, Academic Programs on the status of the implementation plans, due midway between the year of the last and next site visits.

The next UTQAP review of the MD program will be commissioned for a site visit to take place no later than eight years from March 2019.

6 Distribution

On October 26, 2020, the Final Assessment Report and Implementation Plan (MD program UTQAP review content only) was posted to the Vice-Provost, Academic Programs website and the link provided by email to the Ontario Universities Council on Quality Assurance. The full Final Assessment Report and Implementation plan (for both the provostial non-UTQAP review of the Faculty and the UTQAP review of the MD program) was provided to the Dean of the Faculty of Medicine and the Secretaries to AP&P, Academic Board and Governing Council. The Dean provided the full Final Assessment Report and Implementation plan to the Director of the Program.