

UTQAP Cyclical Review: Final Assessment Report and Implementation Plan

1. Review Summary

Programs Reviewed:	Medical Science, M.Sc., Ph.D. Translational Research in the Health Sciences, M.H.Sc.
Unit Reviewed:	Institute of Medical Science
Commissioning Officer:	Dean, Faculty of Medicine
Reviewers (Name, Affiliation):	1. Professor David Cardozo, Associate Dean, Division of Medical Science, Harvard University 2. Professor David Eidelman, Vice-Principal, Health Affairs and Dean, Faculty of Medicine, McGill University 3. Professor Andrew Watson, Former Associate Dean, Research, Graduate and Postdoctoral Affairs, Schulich School of Medicine & Dentistry, Western University
Date of Review Visit:	October 15 – 16, 2018

Previous Review

Date: Review of MSc and PhD in Medical Science, November 2010

Note: the MHSc in Translational Research in the Health Sciences opened September 2015 and this is the first review of the program since opening

Summary of Findings and Recommendations

Graduate Programs

The reviewers observed the following strengths:

- “the strongest translational graduate training program in Canada and one of the larger and stronger programs internationally.”
- Programs have good variety and are very attractive to students.
- Structures, curricula and length – appropriate for each of the programs.
- Modes of delivery – excellent with careful monitoring of student progress.
- Graduates – a high proportion enter academic positions.
- Student publications – a high percentage of MSc (63%) and PhD (92%) students have peer-reviewed publications.
- Time-to-completion – excellent for both the MSc and PhD.

The reviewers identified the following areas of concern:

- Students that are not accepted into a PhD or Medicine may not be as well served by the MSc program as might be expected.
- Student funding not sufficient for the cost of living in Toronto; could make it difficult to recruit the very best students.
- Access to courses – students often excluded from courses in other programs in the Faculty and the University.
- Accurate tracking of graduates – not available.
- Time from thesis completion to defense – too long: six weeks for MSc and nine weeks for PhD.

The reviewers made the following recommendations:

- Career counselling – students in the MSc program would benefit from clearer information on possible career trajectories.
- Student funding – needs to be more regularized and sufficient.
- IMS should be more active in recruiting students from outside the University.
- Address the long-standing issue of access to courses in other programs.
- Better tracking of alumni is needed to better evaluate long-term outcomes.
- Consider lengthening the time for the decision to transfer students from MSc to PhD from 21 to 24 months.

Faculty/Research

The reviewers observed the following strengths:

- Tremendous scope and variety of research activities, many in well funded, high quality laboratories, with excellent graduate supervisors.

The reviewers identified the following areas of concern:

- Bar for newer faculty to become supervisors is set rather high.
- Faculty do not always feel that their teaching and supervision of graduate students is adequately evaluated for promotion or merits.

The reviewers made the following recommendations:

- New faculty should be encouraged to become supervisors earlier in their careers.
- Evaluation for promotion or merits should include graduate student supervision.

Administration

The reviewers observed the following strengths:

- Director has provided excellent leadership.
- Organization and management: very appropriate for the broad range of programs offered.
- Administrative staff: very knowledgeable and helpful.
- Very good relationship with other units at the University as well as the affiliated hospitals and research institutes.

Last OCGS review date: 2004-05

Current Review: Documentation and Consultation

Documentation Provided to Reviewers

Confirmation/Agreement Letter; Terms of Reference; Self-Study Report; Faculty CVs; Schedule; Previous External Review Report (2010-11) and the Dean's and Director's Responses; Dean's Report 2017; Faculty of Medicine's Strategic Priorities; University of Toronto Towards 2030; Interactive Report Form

Consultation Process

1. Dean and Vice Provost, Relations with Health Care Institutions
2. Vice Dean, Graduate and Academic Affairs
3. Vice Dean, Research and Innovation

4. Director
5. Executive Committee
6. Faculty | Research Themes
7. Faculty | Curriculum
8. Medical Science Program – MSc, PhD, MD-PhD | Graduate Coordinators
9. Medical Science Program – MSc, PhD, MD-PhD | MSc and PhD Trainees, MD-PhD Candidates
10. Translation Research in the Health Sciences Program – MHSc | Director and TRP Advisory Board Member
11. Translation Research in the Health Sciences Program – MHSc | Students
12. Summer Undergraduate Research Program (SURP) | Director and Students
13. IMS Graduate Student Association
14. Directors, Collaborative Specializations
15. Cognate Department (Acting) Chairs – Paediatrics, Molecular Genetics, Medicine, Laboratory Medicine and Pathobiology, Obstetrics and Gynecology, Radiation Oncology, Psychiatry, Surgery, Pharmacology and Toxicology
16. Executive Director of Advancement, Faculty of Medicine and Student, Alumni, Faculty Engagement Committee (SAFE)
17. Administrative Staff

Current Review: Findings and Recommendations

1. Graduate Program

The reviewers observed the following strengths:

- Objectives
 - Clear program objectives for all MSc and PhD programs
 - Degree Level Expectations, Program Learning Outcomes, and program structure of the MHSc are clear; receptive to students' feedback and expectations
- Admissions requirements
 - Clear admission requirements for all graduate programs
- Curriculum and program delivery
 - MHSc is one of the few programs available with an extensive emphasis on medically related translational research
 - Elective course offerings in the MSc and PhD are reasonable
- Innovation
 - MHSc Capstone project is innovative and unique
- Assessment of learning
 - MHSc assessments are handled very efficiently
- Student engagement, experience and program support services
 - Hiring of wellness counselor by the Office of Graduate and Life Sciences Education is an important development

- Appointment of faculty advisor for alumni engagement and professional development is seen as promising step in enhancing students' professional development
 - Proposed new professional development sessions are seen as excellent and comprehensive
- Large variety of support services offered by IMS, the School of Graduate Studies, and the University
- Newly developed student initiatives have led to several excellent new extra-curricular program offerings
- Quality indicators – graduate students
 - Students have high energy and intellect and are key to maintaining the high international reputation of IMS
 - Improvement to diversity in recruitment of students from outside the University of Toronto, and Director is emphasizing efforts to recruit more international students to the PhD program
 - MSc and PhD progress is carefully monitored by a Program Advisory Committee
 - Strong annual increases in applications for the MHSc program, and students report high levels of satisfaction
- Quality indicators – alumni
 - 10,000 PhDs initiative and new faculty advisor are important initiatives to improve graduate and alumni tracking
- Student funding
 - Harmonization of stipend scale has improved issues with student funding

The reviewers identified the following areas of concern:

- Overall quality
 - Increasing size and continued high demand for the MHSc leads to questions about the future sustainability of the program within IMS
- Objectives
 - Program objectives for the MSc and PhD are not differentiated
- Curriculum and program delivery
 - Students have difficulty accessing statistical analysis courses, especially following the establishment of the Dalla Lana School of Public Health as a Faculty separate from the Faculty of Medicine; students may have interest in data analysis courses in big data, genomics, imaging, etc.
 - Course content for MSC 1010Y and MSC 1011Y is dated, depends on passive learning mechanisms, and does not adequately address topics that benefit all students
 - As class sizes in the MHSc grow, there is concern that learning quality may decrease and faculty may become overburdened
- Student engagement, experience and program support services

- Students raised the issue of access to mental health and professional development supports
- Quality indicators – graduate students
 - While applications to the MSc and PhD have remained consistent, the number of PhD students admitted annually seems small relative to the number of faculty members
 - Variance between MSc and PhD course evaluation scores

The reviewers made the following recommendations:

- Overall quality
 - Investigate options for transferring the MHSc to a different unit to support the rapid growth and to ensure program sustainability
- Objectives
 - Consider curriculum mapping exercise to help differentiate MSc and PhD program objectives
- Curriculum and program delivery
 - IMS should consider developing its own data analysis course offerings
 - Update MSC 1010Y and MSC 1011Y with modern learning techniques and content; this should be a major component of strategic planning and student consultations should be central to the development
 - Ensure there are adequate resources to handle growing MHSc class size
- Student engagement, experience and program support services
 - Continue to focus on professional development enhancements
 - Keep students informed about the variety of support services available
- Quality indicators – graduate students
 - Pay close attention to PhD enrolment numbers, given the trend of decreasing enrolment in Canadian biomedical graduate programs
 - Investigate differences in student evaluation of teaching in courses

2. Faculty/Research

The reviewers observed the following **strengths**:

- Overall quality
 - Globally unparalleled research diversity and faculty excellence
- Research
 - Covers most major disciplinary areas of modern biomedical research

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

- Faculty
 - MHSc complement is understaffed

The reviewers made the following **recommendations**:

- Faculty
 - Consider moving MHSc to a unit that can support faculty recruitment for the program

3. Administration

The reviewers observed the following **strengths**:

- Relationships
 - IMS offers successful non-credit educational programs: Summer Undergraduate Research Program
 - Excellent relationships with clinical staff and hospitals
 - Clinical chairs are deeply invested in the programs and in raising their research profiles within IMS
- Organizational and financial structure
 - IMS staff are extremely dedicated and play a large role in the success and welfare of the students and programs at the unit
- Long-range planning and overall assessment
 - Several successful initiatives launched since last review in 2010: new IMS website and increased social media presence; 2012-17 strategic plan; new MHSc and graduate diploma opened, etc.
- International comparators
 - IMS excels in all areas of quality indicators; no real comparator within Canada; among the top biomedical research groups in the world

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

- Organizational and financial structure
 - Committee structure not being utilized as committee mandate and terms of reference indicate – especially true of the Executive Committee which has become extremely large and somewhat disengaged from policy making and program operation
 - Several clinical chairs would like to provide stewardship over their departmental disciplinary area
 - Communication challenges:
 - Difficult to keep all members of IMS up to date with consistent and up to date information on policies, regulations, programs, etc.
 - Students, staff, and graduate coordinators wish to be more involved in decision making
 - Organizational structure of MHSc needs attention

The reviewers made the following **recommendations**:

- Organizational and financial structure

- Consider appropriate governance and committee structure during strategic planning
- Explore options for clinical chairs to provide additional leadership/collaboration, such as by forming disciplinary streams or grouping – this should be explored as part of the strategic planning exercise
- Map a clear communication plan and pathways, as part of the strategic planning document, which considers increasing daily communications and establishing bidirectional communication among teams
- Prioritize organizational and staffing plans for the MHSc
- Long-range planning and overall assessment
 - Immediately begin new strategic planning process and engage with all stakeholders when envisioning the new strategic document



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

March 6, 2019

Prof. Susan McCahan
Vice-Provost, Academic Programs
University of Toronto

Dear Professor McCahan,

I am responding to your request for a decanal administrative response to the external review of the Institute of Medical Science (IMS) and its degree programs. This has been done in consultation with the Director of the EDU:B, Prof. Mingyao Liu, following his consultation with IMS members.

On behalf of the Faculty of Medicine, University of Toronto, I would first like to thank the external reviewers—Prof. David Cardozo (Harvard Medical School), David Eidelman, (McGill University) and Andrew Watson (Western University)—for a rigorous review of IMS on October 15-16, 2018. I would also like to thank, on behalf of the Faculty, Professor Liu, the administrative staff and all those who contributed to the preparation of the outstanding self-study report, especially Professor Richard Horner. I also thank the many faculty, students, and staff who met with the external reviewers; their input was invaluable. Much has been accomplished and the IMS is strongly positioned and is on *“an excellent track and has all the expertise, resiliency and energy required to fully take the next challenging phase of its existence.”* The reviewers stated that the IMS is a *“world class and strong, competitive graduate program.”*

The Faculty of Medicine greatly appreciates the time and effort the reviewers dedicated to providing a written report. It is insightful and comprehensive, and will serve to guide the future strategic directions of IMS.

Below I comment on each of the specific areas that you have identified.

I. The reviewers expressed concern about the faculty and staff resources and space available to support the MHS in Translational Research program given its growth.

In response to the reviewers comments, which also included a recommendation *“to move the MHS program to the Department of Laboratory Medicine & Pathobiology (LMP), which has shown interest, and which can more easily build the faculty strength that will be required for the continued success of the program.”* The Vice Dean, Graduate and Academic Affairs recommended this move occur and, after consultation with Professors Liu and Kandel, Chair of LMP, who both agreed to this recommendation, I approved this recommendation effective May 1, 2019 (the move received Faculty governance approval on February 28, 2019). At the time of this report, all of the faculty and students in the program have been informed of the move from IMS to LMP as of May 1, 2019. As such, this recommendation will be implemented in the immediate term. LMP will undertake a review of the program to plan for future growth and investment in the program.

II. The reviewers made a number of recommendations to improve the programs' curricula, including differentiating the objectives for the MSc and PhD programs; refreshing core courses; and increasing access to statistical data analysis courses. They suggested that curriculum mapping might help clarify program outcomes and support PhD enrolment in the context of the changing landscape of doctoral studies.

In response to the reviewers comments, Professor Liu has identified a new Director for MSC1010Y/1011Y (the core IMS course), and the program over the next year will develop a plan of how to improve this course. IMS has also identified a new Chair of the Curriculum Committee, who is organizing a working group as a part of the new IMS strategic planning. This working group, together with the new IMS Curriculum Committee will systemically review statistical courses, institute curriculum mapping, and developing new graduate foci in the medium term (in the next 1-2 years).

III. Additionally, the reviewers encouraged enhancing the student learning experience though providing adequate professional development opportunities and a range of support services.

IMS has a number of new initiatives to address the student learning experience in professional development. These include:

1. Professor Reinhart Reithmeier has recently been appointed as Director of Graduate Professional Development (GPD) for IMS. IMS has also recently created a new staff position to help support Dr. Reithmeier's efforts to develop GPD programming for IMS.
2. As of September 2018, IMS has integrated basic GPD training into core courses for first-year students.
3. In the medium term, for-credit modules for both MSc and PhD students will be developed that will complement GPD programming offered by the Faculty of Medicine Graduate Life Sciences Education Office and the School of Graduate Studies.
4. Career panels engaging IMS students and alumni will be developed in the medium term.

IV. The reviewers noted the need to engage all stakeholders in a renewal of the strategic plan, which should include a review of decision-making and committee structures, the possible formation of research streams, and plans for improving communications.

A new strategic planning process was formally initiated in January 2019, with Dr. Lucy Osborne and Ms. Sarah Topa (staff) as co-chairs of the Strategic Planning Committee and with five working groups having been identified. IMS will be hiring a consulting group to help with this process. Broad consultations will occur as part of this process, which will include town halls with students, staff, faculty and alumni. This will be a great opportunity to further engage IMS community and stakeholders for the future planning. It is expected that the governance structure of the Institute will be streamlined as part of the new plan. The strategic plan will engage Clinical Chairs, hospital research institutes and existing research centres in the Faculty of Medicine to implement graduate research-stream programs. It is expected that the strategic plan will be implemented in medium term, in early 2020.

V. As noted above, the reviewers affirmed that overall communications needed to be improved. How does the Institute plan to improve communication among all stakeholders?

The new IMS strategic plan will provide an opportunity for IMS to enhance its overall communication strategy both internally and externally. Internally, in the short term, (within 6 months), communication will be strengthened between the central office, the Director, graduate coordinators and staff. Externally, in the medium term (within 1-2 years), as part of one of the new initiatives of the IMS strategic plan, research streams in IMS will be created. This will facilitate better communication between the Faculty of Medicine research institutes and major research groups in clinical departments and hospital research institutes.

Overall IMS is outstanding in its achievements in teaching, research and collaboration. I congratulate the Director on his excellent leadership and IMS members for their many contributions to its success.

The next review of IMS will occur in approximately 5 years. The monitoring of the implementation of the recommendations will occur under the oversight of Dr. Allan Kaplan, Vice Dean, Graduate and Academic Affairs.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Young', written in a cursive style.

L. Trevor Young, MD, PhD, FRCPC
Dean, Faculty of Medicine
Vice-Provost, Relations with Health Care Institutions

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

At its meeting on April 2, 2019, the Committee on Academic Policy and Programs (AP&P) concluded that the Decanal response adequately addressed the review recommendations..

4. Institutional Executive Summary

The reviewers praised the graduate students' high energy and intellect. The reviewers were impressed with the curriculum design and clearly articulated program objectives of the M.H.Sc., and complimented the program for being receptive to student feedback and expectations. The reviewers indicated the new professional development initiatives are very promising and could serve as a model for other programs. Overall, the reviewers were extremely complimentary of all programs and of IMS, indicating they are deserving of their top international ranking. The reviewers recommended that the following issues be addressed: addressing faculty and staff resources and space available to support the MHS in Translational Research program, given its growth; improving the programs' curricula, including differentiating the objectives for the MSc and PhD programs; refreshing core courses; increasing access to statistical data analysis courses; using curriculum mapping to help clarify program outcomes and support PhD enrolment in the context of the changing landscape of doctoral studies; enhancing the student learning experience through providing adequate professional development opportunities and a range of support services; engaging all stakeholders in a renewal of the strategic plan, including a review of decision-making and committee structures; possibly forming research streams; and improving communications among all stakeholders. The Dean's Administrative Response describes the Faculty, unit 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

The next review is scheduled in the 2023-24 academic year. In 2021-22, Dr. Allan Kaplan, Vice Dean, Graduate and Academic Affairs, will meet with the Director to follow up on implementation of the external review recommendations. Later that year, and in consultation with the Vice Dean, Graduate and Academic Programs, the Dean will provide an interim report to the Vice-Provost, Academic Programs on the status of the implementation plan.

6. Distribution

On May 1, 2019, the Final Assessment Report and Implementation Plan was posted to the Vice-Provost, Academic Programs website and the link provided by email to the Dean of the Faculty of Medicine, the Secretaries of AP&P, Academic Board and Governing Council, and the Ontario Universities Council on Quality Assurance. The Dean provided the link to the Director of the Program.