MD Program

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<th>Program</th>
<th>MD Degree</th>
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<td>Review Dates</td>
<td>October 15-16, 2018</td>
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</table>
| Reviewers | Dr. Sylvain Coderre, Committee Chair, University of Calgary  
Dr. Donald McKay, External Member, Memorial University  
Dr. Olive Yonge, Internal Member, University of Alberta |

Program Strengths Identified in Final Report:

- The program has clearly established program objectives and a curricular structure designed to deliver these objectives.
- The program has a strong Program Evaluation Committee, and a comprehensive evaluation and reporting structure highlighting the very impressive work of the MD Program.
- The program has established clear program outcomes with excellent Medical Council of Canada (MCC) and residency matching results.
- The program regularly reports important outcomes measures, such as the Association of Faculties of Medicine in Canada (AFMC) Graduation Questionnaire (GQ) to the curriculum committee.
- The FoMD’s GQ data, which largely reflect student opinion of the program, show excellent outcomes in areas that are challenging for many medical education programs.
- The Learner Advocacy and Wellness (LAW) office is highly supportive of students and is proactive in providing a variety of counselling needs to students.
- The support system for faculty development is excellent and works effectively with faculty members to improve their teaching, academic and scholarship skills.
- The technological advancements to support the curriculum are excellent.
- The curriculum is responsive to student concerns and suggestions. Examples include French language-based Discovery Learning, an LGBQT curriculum, a social justice stream, changes to the Obstetrics and Gynecology clerkship, and development of the popular Learner Advocacy and Wellness (LAW) office offering proactive academic counselling.
- The program is responsive to faculty innovations in the curriculum. Examples include
implementation of Team-Based learning, Discovery Learning, and the flipped classroom.

- The program has renewed its commitment to Indigenous peoples through various endeavours including its social accountability mandate, advances in admissions practices, and a major overhaul of its curriculum in Indigenous health.
- The program carefully reviews student assessments with respect to examination quality and standard setting in the Pre-clerkship.
- The program promotes generalism early in the program through its highly successful Longitudinal Clinical Experiences (LCE) in which junior medical students visit family medicine practices 15 times over years one and two.
- The program includes extensive interdisciplinary teaching initiatives within the pre-clerkship.
- Faculty development is a clear strength of the program.
- The program has a vibrant, energetic, and diverse student body.
- The students are trained and educated by a dedicated and enthusiastic core group of faculty leaders and staff, under the excellent leadership of the MD Program.
- The program has impressive library, space and simulation resources.
- The program connects well with the community to offer quality outpatient and inpatient learning experiences.

Key Recommendations from Final Report:

- Develop, disseminate and institute a clear policy that delegates decision-making authority to the curriculum committee.
- Emphasize and strengthen student representation on the curriculum committee (for example by incorporation of a regular “student issues” agenda item).
- Consider curricular alignment with the new Medical Council of Canada (MCC) blueprint objectives.
- Continue the current practice of viewing the four-year curriculum as a whole in planning future curricular change (i.e., vertical integration).
- Implement the same level of examination review and standard setting in the Clerkship that is used in the Pre-clerkship.
- Promote generalism further by increasing the presence and meaningful participation of generalists in the Pre-clerkship.
- Formalize and assess interdisciplinary teaching in Clerkships.
- Communicate effectively with students on student promotion/withdrawal processes.
- Continue to review Anatomy teaching and assessment.
- Structure career and elective counselling in a way that better considers the students’ concerns and objectives.
- Consider adding more clinical learning experiences to complement the classroom teaching in the Pre-clerkship.
- Strengthen the engagement, commitment and accountability of clinical faculty to the undergraduate program.
- Continue to address the administrative response to allegations of student mistreatment.
- Ensure the MD program leadership and personnel are notified and made aware of all mistreatment complaints pertaining to MD students reported to offices in the FoMD.
- Institute a feedback reporting system (i.e., loop-closing) on program changes to students.
- Continue new initiatives in communication (e.g. newsletter) and ensure opportunities for effective student involvement.
- Continue to engage students in conversations to ensure that administrators understand polices from students’ perspectives.

The Faculty of Medicine and Dentistry’s Implementation Plan in Response to Final Report Recommendations:

- Decision making for the MD Program now rests with the MD Curriculum and Program Committee (MDCPC). Additional information will be drafted and communicated, outlining the responsibilities of the MDCPC, based on the Committee on Accreditation of Canadian Medical Schools (CACMS) requirements determining the role of a medical school’s “Curriculum Committee”, and the underlying reasons why and how this committee operates.
- In November 2018, a fourth student member was added to the MDCPC as well as a standing agenda item for regular reporting of the Medical Students’ Association (MSA). An additional student (a wellness representative) is also going to be added to other MD Program committees such as the Assessment Committee, the Clerkship Committee and the Pre-clerkship Committee.
- The MD Program is confident its mapping practice is aligned with the new MCC objectives.
- The MD Program relies on both horizontal and vertical integration of the curriculum. Curricular modifications occur in response to student feedback, MCC requirements, changes to the profession, current events, etc. Curricular change requires a review of both the vertical and horizontal integration of the curriculum. This is an ongoing process that is outlined by the MD Program evaluation plan and is undertaken through the MD Program’s program evaluation committee. Tagging of curricular topics allows for systematic review throughout all 4 years of the program. Intersession is a time in the curriculum to address topics under-represented in the overall curriculum addressing vertical integration. A review of the clerkship examinations and standard setting practices is currently underway. Ensuring common and consistent standards for clerkships will need to be firmly managed. The Assessment Committee has been working with the Clerkship Coordinators, informing them of the process and the need for consistency across clerkships. The new Assistant Dean Assessment, Dr. Vijay Daniels, is working on faculty development around assessment practices with Clerkship Coordinators. Workshops will be held in the upcoming academic year for Course and Clerkship Coordinators to engage them with the task of improving assessments and standard setting across all clerkships.
- The MD Program has consistently promoted generalism as it was recommended by the FMEC (2010) guidelines on undergraduate education. Best practice in medical education supports early student access to physicians in the workplace. The MD Program is always working to increase involvement from family physicians in the pre-clerkship years through classroom teaching, increased shadowing, and clinical placement opportunities for students. In 2018, two family physicians were integrated into DMED 511 Foundations of Medicine & Dentistry to: a) give students the opportunity to have contact with generalists from the start of medical school and b) to provide more clinical connections in the curriculum for students.
The MD Program has been approached by the Department of Family Medicine to support their efforts to ensure long-term viability of secure funding to guarantee participation of generalists in the program in the first two years. Recognizing that the term generalists can apply to more than just family physicians, the program is also exploring other opportunities to engage other generalist physicians in the program. Finally, a plan to develop a ‘boot camp’ day prior to the start of the program to add more early exposure to generalist medicine is also being considered.

- One goal of the MD Program is to increase teaching and assessment of interdisciplinary interactions throughout all four years of medical school. The MD Program is involved with several Health Sciences Education & Research Commons (HSERC) committees (including the Collaborative Health Education & Practice Group and the Interprofessional Curriculum Group) to identify opportunities for additional authentic encounters in interprofessional learning. The program will continue to work with HSERC and others with the goal of expanding the opportunities for interprofessional interaction for the medical students. An interdisciplinary working group will be established in the upcoming year to look at the opportunities for interdisciplinary interaction throughout the entire curriculum and make recommendations to improve the teaching and assessment of interdisciplinary practice in years 3 and 4. Having consistency in delivering and assessing this thread in all clerkships will allow students to better appreciate their learning about working in interdisciplinary scenarios.

- The FoMD is aware that the policies and processes for student promotion need to be reviewed. There will be a formal review of the terms of reference of the Academic Standing Committees (ASCs) and Faculty Academic Standing Committee (FASC) in the next 12 months. To enhance communications about the role of these committees and the academic appeals process, the MD Program will hold town hall sessions with students and is creating a new page on the MD Program website, developed with and for students, outlining FAQs for promotions and explaining the pathways in situations such as failing a course or a clerkship rotation. This new section of the website will be available in 2019. This additional information will aid in providing consistency of information for students and faculty. Information sessions will also be held with students throughout the year to better communicate policies on promotion.

- The FOMD recently completed a review of Anatomy in the MD Program. Changes were made to Anatomy across the pre-clerkship curriculum as a result of the review. These recent changes will be reviewed and evaluated as part of the ongoing quality improvement process of the MD Program. The associate dean, MD Program will meet with the Chair, Division of Anatomy to review current best practices, lab function and performance and address the need for additional preceptors.

- GQ data and student feedback have indicated that students find the current offerings of career and elective counseling insufficient. In response, two new sessions have been developed (one in pre-clerkship and one in clerkship) during curricular time for the 2018-2019 academic year. An additional session on CV writing has been developed for Link Block for the 2019-2020 academic year in response to student requests for further assistance in preparing for the Canadian Resident Matching Service (CaRMS). Focus groups with students
throughout all years of the program will be held in the upcoming year to determine what needs to be added or changed to the current career counseling program. The MD Program is also planning on labelling the career and elective counselling as a core service to improve student recognition of the offerings through the MD Program. The MD Program will also provide more career and elective resources on the website. All students will continue to have access to both individualized CaRMS counselling through the MD Program and career counselling through the Office of Advocacy and Wellness.

- The MD Program is working towards more integration of shadowing and longitudinal clinical work in Physicianship 1 and 2 and other pre-clerkship courses. This increased focus on shadowing will be accomplished along with more integrated sessions and physician contact. The goal of these experiences is to increase clinical relevance in the Pre-clerkship years.

- The MD Program is hampered by the various Faculty remuneration strategies in the Academic Alternate Relationship Plan (AARP) and non-AARP departments. Faculty hired on AARPs have traditionally had protected time within their position for teaching in the MD Program. Involvement of non-AARP physicians in the program does occur, but it can be more challenging to recruit such faculty. The MD Program will continue to work to ensure that protected time for undergraduate medical education work is part of the discussion for faculty payment plans. The MD Program works with department heads regularly to identify new faculty for the program, and to draw upon individuals who may want to take on a leadership position within the MD Program.

- The FoMD takes student mistreatment very seriously and has a well-developed response to any complaints, which may be handled initially by course clerkship coordinators, the associate dean, MD Program, the associate dean, Office of Advocacy and Wellbeing and the associate dean, Professionalism. At the time of the last full accreditation in 2014, these reporting avenues and a decanal message of zero tolerance for mistreatment, along with some strong consequences for mistreatment, were well communicated amongst the faculty. Efforts to increase these communication strategies will be renewed in the upcoming year.

- Robust mechanisms exist through several venues for students to report mistreatment. Professionalism in the FOMD and pathways to reporting and resolution are currently clearly articulated online. Complaints received through the faculty level reporting system are housed with the associate dean, professionalism and annual reports are provided to all faculty. The MD Program is often unaware of the concerns which can lead to challenges with student placements. In addition, this fragmentation does not allow for the consideration of information
that exists at the MD Program level from formal and informal evaluations. To improve program awareness of student complaints, a new reporting step has been proposed that notice of mistreatment complaints will be provided, as close to the time of reporting as is feasible, to the associate dean MD Program. This added step will enable potential sharing of additional information that may be helpful to resolution of the incident. The assistant dean, MD Program and assistant dean, Professionalism will bring this proposal to future Professionalism Committee Meetings.

- Program changes are communicated to students in several ways. The MSA and class representatives meet regularly with MD Program leadership. Class and committee representatives are able to disseminate changes and relevant information back to their classes. Also, the announcements feature in MedSIS, the MD Program learning management platform, is regularly used to communicate information to students. Finally, the MD Program newsletter, published monthly, is another tool used to communicate program information and changes to students and faculty.

- The goal of the new MD Program newsletter is to communicate about the MD Program, to be more transparent about our events and activities, and to increase the sense of pride for the MD Program across the entire Faculty. New this year, more detailed information is being provided to the MeDMap mentors (a MeDMap mentor is assigned to each student in Year 1) to provide improved context for their meeting with students.

- The MD Program website is currently undergoing a significant revision in order to provide more information to students and other stakeholders in a clear, organized way.

- MedSIS, the online platform that supports the MD Program, is also used to deliver information regularly to students such as new policies, changes to reporting systems, information on electives etc.

- The MD Program is working on its overall communication strategy and may need dedicated resources to improve its connections and conversations with students.

- The associate dean, MD Program hosts monthly Conversation Circles where students and faculty are invited to meet with her in an informal setting to discuss any aspect of the program. Broad student involvement on all the MD Program committees also ensures that students have a voice at all levels of decision making.

- Monthly meetings with the MSA executive and class representatives continue to support two-way communication between students and the MD Program leadership.
Medical Microbiology and Immunology (MMI): Graduate Programs

| Programs | MSc  
|---|---|  
| PhD  
|  
| Review Dates | October 25-26, 2018  
|  
| Reviewers | Dr. Hugo Soudeyns, Chair, Université de Montréal  
| Dr. Donna-Marie McCafferty, External Member, University of Calgary  
| Dr. Samira ElAtia, Internal Member, University of Alberta  

Program Strengths Identified by Final Report:

- Outstanding facilities.
- Faculty have strong, peer-reviewed funded programs with particular strength in virology.
- Scientific productivity is excellent.
- Collegiality is robust, as is the consensus between professors. The leadership of Chair Dr. Matthias Götte is inspired and exemplary.
- Recent recruitment of three junior Faculty members brought new research programs and techniques to an already excellent group.
- The program has recruited strong students as indicated by their academic success (numbers/quality of publications) and their contributions to leadership in the academic environment.
- Student engagement and participation are outstanding and there are many opportunities for them to grow and for their voices to be heard.
- Students have a rich learning environment with a strong sense of community and camaraderie.
- Support for students from faculty members and Department staff is excellent. MMI exhibits a strong culture of student support.
- The flagship course of the Department, MMI 605, is considered by the students as very useful in preparation for their Candidacy Exam.
- The measures taken to change the format of the Candidacy Exam are seen as beneficial and have standardized expectations for those involved. Time to completion rates have not changed so far (3-4 years for M.Sc. and >6 years for Ph.D.), but it may be too soon to be able to observe this outcome.
- Trainees in the MMI program have many opportunities to network and collaborate through Departmental activities.
- MMI enjoys a close and beneficial relationship with the Li Ka Shing Institute of Virology (LKSloV), which provides support for external visiting speakers to the MMI Immune Seminar Series as well as hosting internationally renowned speakers at a bi-annual symposium which is a key venue for trainees to present their work. The LKSloV also provides 15 annual travel grants to eligible MMI students.
- MMI has committed funding for 3 years to support a student initiative called Science to Business. This excellent initiative provides networking opportunities between trainees and industry through a monthly speaker series.
- Mental health is recognized as important within MMI.
- Protocols are in place for issues related to harassment and trainees are well aware of them.

**Key Recommendations from Final Report:**

- The program should develop defined program learning outcomes (PLOs).
- Course syllabi should be reviewed to clearly define course objectives for graduate students.
- MMI should undertake a thorough review of its curriculum to help clarify the intent of MMI’s curriculum and identify potential excessive/redundant/unnecessary courses and/or program requirements.
- A review of current course offerings and their course objectives will help align the courses delivered by MMI with PLOs and highlight those that are the most relevant to MMI graduate students.
- A review of courses will also ensure that graduate components associated with undergraduate courses are relevant and challenging and that these assessments are related to the program outcomes. They should also be standardized for time commitment and grade weight across the range of graduate courses that are offered.
- Clinical courses (MMI 526, 545) should be reviewed to increase relevance to MMI students and increase enrolment.
- Certifications, including embedded ones, would be an asset to the program as it moves forward into the 21 century and adapts to the changes in the work environment.
- MMI should plan on educational retreat to discuss expectations for timely completion rates with both supervisors and graduate students and identify modifications to the curriculum that could improve time to completion in the program.
- Resetting expectations of faculty towards a reduced time in the program is recommended.
- MMI should increase awareness of both students and faculty to the new requirement by FGSR for an IDP and PD. A discussion is required to raise awareness regarding the importance of an IDP to both faculty and graduate students and identify or develop PD activities specifically targeted to/useful for MMI graduate students.
- A review of the overall learning activities in MMI including PD in the context of competencies gained by trainees is recommended, and will help students as they exit the program.
- MMI should, through consultation with various stakeholders and alumni, carry out a needs analysis, and draft a plan for opportunities to get involved in community engagement and knowledge transfer activities. This will enhance the learning environment and employability attributes of the graduates.
- MMI should explore opportunities for students to attend career development workshops, and to provide job shadowing or internship opportunities for their trainees. In addition, supervisors need to be made aware of the changing landscape for graduate trainees and be encouraged to mentor them in their career aspirations.
- MMI should create, develop, and maintain a network with alumni to foster engagement and funding opportunities.
- MMI should look for ways of improving student stipend support through such measures as optimization efforts for student success at internal/external scholarship competitions and partnerships with Alberta Diabetes Institute, the Cancer Research Institute of Northern Alberta, and other relevant organizations.
Alberta, the School of Public Health, Provincial Labs, Multiple Sclerosis Centre, the Women and Children's Health Research Institute (WCHRI), and/or industry.

The Faculty of Medicine and Dentistry’s Implementation Plan in Response to Final Report Recommendations:

- The FOMD and MMI embrace the committee’s recommendations for an educational retreat, which will include broad representation from the Department, including trainees. This retreat will include review of PLOs, course syllabi descriptions, courses, and the program in general, to ensure that students’ needs are being met.
- The retreat will also be an opportune time for members of MMI to discuss strategies to lower time to completion.
- The retreat will include an in-depth exploration of PD. MMI will begin consultation with MMI faculty and students to identify specific concerns regarding PD opportunities, with an aim to identifying PD opportunities that have the greatest value for MMI students.
- MMI has committed to developing strategies to improve success rates at scholarship competitions. Starting in September 2019, MMI will offer annual, day-long workshops for graduate students on how to write successful scholarship applications. The workshop will cover important issues, such as how to write successful research proposals, and how to organize letters of recommendation.
- MMI will institute an internal peer-review program within the Department. This program will be modeled on similar successful programs run by the FoMD for CIHR grant competitions and Departmental efforts to increase funding for faculty members.
- MMI’s "Ideas Incubator" workshops provide an early forum to present and discuss project/program ideas and strategies to translate new ideas in successful proposals. The goal is to start early with brainstorming and the grant writing process to be in a better position to submit an outstanding application. Like principle investigators, students preparing fellowship applications will be offered the opportunity to solicit constructive feedback on their proposal from a peer, and from a faculty member.
- In an effort to improve success rates for fellowships, MMI has begun to collect copies of previously successful fellowship applications from within the Department. With the author's consent, these applications will be shared with new applicants to provide examples of successful fellowships.
- MMI will actively foster working relationships with partner organizations such as the Li Ka-Shing Institute of Virology, the Alberta Diabetes Institute, and the Women and Children's Health Research Institute (WCHRI). Many MMI faculty are members of institutes that offer student and grant support, and these internal relationships may address, in part, a challenging funding landscape.
Laboratory Medicine and Pathology (LMP): Undergraduate and Graduate Programs

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<th>BSc in Medical Laboratory Science (MLS)</th>
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<td></td>
<td>MSc Pathologists’ Assistant (PA) (course-based)</td>
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<td>Reviewers</td>
<td>Dr. Susan Lehman, Undergraduate Committee Chair, Mayo Clinic School of Health Sciences</td>
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<td>Dr. Tara Beattie, Graduate Committee Chair, University of Calgary</td>
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<td>Dr. Evelyn Moreau, External Member (Undergraduate), Ontario Tech University</td>
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<td>Mr. Bill Gorday, External Member (Graduate), University of Calgary</td>
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<td>Dr. Paul Myers, Internal Member (Undergraduate), University of Alberta</td>
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<td>Dr. Thomas Chacko, Internal Member (Graduate), University of Alberta</td>
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Program Strengths Identified in Final Report:

- The BSc program meets established standards of educational quality in the field of medical laboratory science.
- The BSc program graduates meet minimum educational standards upon entry into the profession of medical laboratory science.
- Quality improvement is ongoing and involves continuous and systematic assessment of program effectiveness and incorporates plans for program modification and improvement.
- LMP faculty and staff are involved in ongoing self-evaluation, research, and planning.
- Professional education and life-long learning is promoted for faculty and students.
- The BSc’s program advisory committee includes external stakeholders that provide input into the program curriculum assuring current relevancy.
- The BSc’s program outcome measures are excellent.
- The BSc program strives to meet the needs of the community in service of the public good.
- The BSc program’s support and faculty expertise within the Department of Laboratory Medicine and Pathology (LMP), and the engagement of other stake holders, including clinical partners and employers, assures access to advanced technology and clinical experts in the field.
- The BSc program has a long history of excellence. The program is well supported from the
clinical field in terms of teaching and sample acquisition. They demonstrate a very positive strategy by cultivating graduates of the program to be educational leaders. The approach to curriculum enhancement clearly focuses on the University’s strategic plan, *For the Public Good*.

- The BSc programs in LMP are driven by an innovative team of faculty committed to delivering an outstanding educational curriculum in medical laboratory science and creating a student centered community.

- MLS faculty members maintain an “open door” student policy that is welcoming and supportive and promotes resiliency, while fostering the development of professional relationships and life-long learning.

- LMP has a very well run and administered graduate program. Areas of strength include program expectations and guidelines are well defined and there is excellent tracking of students' milestones as they progress through their programs (e.g., timelines, supervisory committee meetings, candidacy exam reports).

- LMP boasts a faculty with strong research programs, including some research areas of international renown.

- LMP has established positive partnerships with Alberta Health Services (AHS) and the NSERC - CREATE - REACT program that have enhanced both its thesis-based graduate program and its course-based pathology assistants master’s program.

- The PA program is a well-designed, comprehensive program that produces graduates who serve the Canadian public well and provide quality patient care.

- The PA's practical rotations are a highlight of the program and the clinical trainers are excellent.

- Many of the thesis program students network and collaborate outside of LMP through multidisciplinary research that includes faculty and students from other departments and Faculties. Some students also interact with AHS through DRIvE: Discovery, Research, Innovation and Education days and with faculty and students in LMP programs across the country (Carleton, Ottawa, Laval) through participation in the CREATE – REACT program. This program enables U of A’s LMP students to take courses at other universities via videoconferencing and travel to a week-long summer school where they participate on teams that work on and present small-scale projects.

- Nearly all students who enrol in LMP graduate programs complete their programs. Completion times of thesis-based students in the LMP programs (MSc: 3.27 years; PhD: 5.43 years) fall within the overall range of completion times for graduate students at the University of Alberta.

- In addition to financial support from their supervisors, a significant number of LMP graduate students receive full or partial funding from international, Tri-Council, FGSR, FOMD or internal LMP scholarships.
Key Recommendations from Final Report:

BSc MLS:

- One of the key strategies for student satisfaction during phase 2 (practicum) is staying connected (i.e. need to feel supported despite distance from Campus). Perhaps develop online strategies for regular contact.
- Consider opportunities for research/clinical projects in the field; might increase partner satisfaction.
- The program may want to consider exploring ways to leverage relevant online courses in areas such as Basic Quality Control and Quality Assurance through an internationally recognized expert in the field, such as to Westgard QC (https://www.westgard.com/lessons-basic-qc-practices.htm) as a means to cost-effectively mediate delivery of a complex area of the medical laboratory science curriculum.
- Similarly, the program may want to evaluate opportunities for expanding blended –learning options (i.e. flipped classroom models) for those content areas where hands-on laboratory sections can be increased, towards decreasing clinical internship time (which can be a limiting variable).
- Tie into more resources to help with research projects (from statistics to other specialized support), to resources after project effectively finished (e.g. ghost writing support) to take reports into papers.
- Increase faculty complement to support exciting new initiatives.
- Provide faculty with more time/resources to allow them to carry out research/get undergraduate theses to publication level/reach conditions for promotion to full professor.
- The MLS Program Leadership and Faculty clearly have the student’s best interest in mind and are committed to the student’s academic and professional success, and their well-being. While no deficiencies or concerns were cited, it may be of value to examine that resources are also adequate to support faculty well-being and prevention of “burn-out”; a known concern in the field of medicine and related areas.

MSc LMP (thesis-based) and PhD programs:

- Students would like more of an opportunity take courses outside of the LMP program.
- Consider the development of more multi/inter-disciplinary courses.
- LMP rounds are very broad – implement a more focused journal club for each specialization.
- Conduct a curriculum review to update course content.
- Consider adding a Biostatistics course.
- Consider cross-listing courses for more opportunities.
- Work with the program/Faculty to find teaching opportunities for students (and/or eliminate barriers for those students who want to pursue teaching opportunities).
- Support and enhance the existing student-led mentorship program for new students.
- Provide small-scale funding for the student leadership group to organize events to better create a sense of community in the program.
- Initiate better tracking of alumni.
- Supervisors should be made aware of the University and Faculty wide-resources that are available to them.
- LMP should work with the Faculty to develop a succession and sustainability plan and articulate that plan to department members.
- The Faculty should try to secure “bridge-funding” to ease the commitment of supervisors if they lose operating funds. This would only be a small and defined amount for a short period time. This perhaps could be administered through the Associate Dean – Research, Graduate programs.
- The graduate program administrator/advisor should be provided her own private office space so that there is safe and private space for meetings with students.

PA program:
- The University of Alberta is strongly encouraged to seek NAACLS accreditation of its PA program.
- Review the second year practical course outlines (LABMP 597, LABMP 598, and LABMP 599) and create specific learning objectives for the various competencies that make up each of these practical courses.
- Current teaching load by those in the PA program is not a sustainable model. Consider hiring an education co-ordinator to help with curriculum development.
- Ensure that the job profiles for the instructors in the PA program reflect their contribution to education.
- Ask the students how LMP can support them in student-led initiatives being careful that LMP remains in a supporting role and does not take over.
- Ensure that there is a PA program-specific mechanism to collect student feedback, document changes based on the feedback and a method to analyze the effectiveness of those changes (considering that there are only two PA students admitted each year).
- Continue to meet with the PA program clinical site leads and clinical supervisors/managers to discuss the balance of program demands in conjunction with clinical work demands. Specifically ensure that the workload demands on the clinical site leads is appropriate.

The Faculty of Medicine and Dentistry’s Implementation Plan in Response to Final Report Recommendations:

BSc MLS:
- Student “connectedness” during clinical training is an issue the program has constantly monitored. Currently the phase 2 class does have support group meetings with the clinical and program coordinators. These meetings are to discuss high level concerns that may impact many students but do also serve the role of a social venue for the students and an opportunity to causally interact with program leadership.
- The clinical students come together several times in the year for MLSCI 320, the course instructor has indicated that there are few classes that could end early in order to allow for the class to have informal interactions, the program will facilitate this (with food).
- Currently the program has an eClass called “Student Resources” with dedicated space for each phase. We will add a discussion board to Student Resources to allow the classes to interact over Moodle. In this Student Resource we will also post the faculty mentor list in case a phase
2 student needs to reach out to their “coffee mentor” and are unable to remember who that individual is.

- As part of the curriculum revamp to begin in Fall 2020 the program is exploring on-line options from industry or other open access materials (weighing that if we commit to “non UAlberta created” content we cannot control long term availability of that resource). The majority of new senior courses will focus on medical technologies and we hope to partner with industry to offer the some of the courses. The majority of the courses will be structured as on-line delivery of the didactic information followed by a “residency” requirement to work on the equipment and complete a wet-lab component. Development of this curriculum is supported by funding from the Provost’s office recently awarded to Laboratory Medicine and Pathology to hire a teaching and learning specialist and administrative staff.

- The MLS program is currently part of a national research network exploring innovative ways to assess medical laboratory technology student competency using simulation. The UAlberta research is being funded by a teaching and learning enhancement fund grant (TLEF). The MLS curriculum 2020 plans do not yet provide a blueprint for changes to the clinical practicum due to the current transition of our partner, Alberta Precision Labs (APL), a subsidiary of AHS. MLS understands the potential impact on clinical training of students and we will modify and adapt clinical practicums in consultation with our APL partner.

- MLS’s research projects are a large source of pride and are truly one of the factors that make our program unique. There is an MLS Research Endowment, funded via alumni, the current value of that endowment allows MLS to support conference registration costs for a few students per year. The current project supervisors have been polled to ask what kind of support they would require to see more projects finished as publications. Both ghost writing and support for summer studentships to tidy up and complete projects were offered as suggestions.

- A small financial investment for a few summer studentships would support more projects being completed to “publication ready”. The infrastructure already exists in LMP for a summer student competition and a specific subdivision in this competition for MLS project completion could be added.

- Many of the phase 3 research projects do involve medical laboratory technology staff from Alberta Health Services as the technical experts and day-to-day supervisors; projects “in the field” do occur as many projects are clinical in nature and are physically located in AHS. As part of continuous quality improvement, to ensure academic rigor, the program decided that every project needs to have an academic on the supervisory team. In the past AHS technical staff outside of the Edmonton zone have participated as supervisors and although logistically challenging, the program supports any AHS staff participating in the research projects with an LMP academic partner.

- MLS recognizes that knowledge of statistics (and timely sequencing of the knowledge in the curriculum) is one factor for successful research projects. In the 2020 curriculum there is a planned expansion of the current MLSCI 320 (scientific writing and communication) from 3 credit to 6 to allow for more teaching around data analysis and biostatistics.

- In the report under the Faculty profile the Provost’s one time grant for transition funding to support MLS with curriculum 2020 was mentioned. The program was successful in that
competition and have added a teaching and learning specialist for the next two years will help ensure the program has the new curriculum ready. Part of 2020 curriculum planning is the redistribution of teaching loads to ensure there is equitable distribution of teaching and that teaching loads match faculty job descriptions.

- LMP recognizes that stress and burn-out are a concern. Recently the FoMD leadership has added an Assistant Dean to the Office of Advocacy & Wellbeing to cover the portfolio of faculty. Staff are encouraged to participate (and many do) in the many sessions offered at the UAlberta on mental health in the workplace and we are very fortunate to have a supportive community of peers within MLS.

MSc LMP (thesis-based) and PhD programs:

- The LMP Graduate Program will continue to enhance strategies to promote greater awareness among students that they may take any graduate course from the University of Alberta Calendar with the approval of their supervisor and/or supervisory committee.
- The LMP Graduate Program may survey students and supervisors about the format and types of content desired in multi-/interdisciplinary courses that are not currently available in the University Course Calendar in order to assess demand for these types of courses.
- The LMP Education Committee will explore a new format for LMP Rounds that is more engaging to meet the needs of the interdisciplinary audience of students, trainees, staff and faculty. Invitations to presenters will include a reminder to provide more background information for a general audience. Additional journal club initiatives focused on graduate program specializations will be student-led.
- The LMP Graduate Program will hold annual curriculum review meetings with the primary instructors of LABMP courses to update syllabus and course content, and address comments in course evaluations to improve courses.
- The Associate Dean, FoMD Graduate Programs acknowledges the demand for appropriate biostatistics training from graduate students of LMP and other departments, and proposes the development of a series of workshops rather than a single course to meet the diverse needs of FoMD graduate students, pending the availability of instructors to teach the sessions. The LMP Graduate Program will also post on their website a list of current graduate biostatistics courses offered by other faculties, and possible online resources.
- A cross-listing of courses will be developed and posted to the LMP Graduate Program website to increase awareness of opportunities to take courses. A link to the University of Alberta Course Calendar will also be posted to facilitate course searching.
- The LMP Graduate Program will work to increase student awareness through the LMP Graduate Teaching and Learning (GTL) Coordinator, in assisting students to find teaching assistant (TA) opportunities. Those with a health professional certification may TA in the laboratory setting of the Medical Laboratory Science (MLS) program in the Department of LMP. LMP graduate students who take the GTL program have opportunities to deliver lectures in the MLS undergraduate program. Graduate students may also serve as TAs in the LABMP 530 course providing formative feedback and summative evaluation for written
and oral assignments. Additional TA opportunities may be available in some of the Department of Medical Microbiology and Immunology (MMI) undergraduate courses.
- The LMP Department Chair is able to provide support to enhance the LMP Graduate Student Group student-led mentorship program.
- The LMP Department Chair is able to provide small-scale funding for the LMP Graduate Student Group to organize events and better create a sense of community in the LMP Graduate Program; for example, professional development sessions during the annual Department of LMP/AHS conference (Discovery, Research, Innovation and Education (DRIvE) Days).
- The FoMD and FGSR have recently completed a survey of University of Alberta graduate alumni and will release the results in 2019. This will provide more comprehensive data on the types of jobs held by LMP graduate alumni.
- The LMP Graduate Program will also reach out to supervisors to provide updates on the career activities of previous students, to provide current students with ideas for careers after graduation.
- The LMP Graduate Program will work to enhance supervisor awareness regarding the diversity of resources available for graduate student supervision within LMP, FoMD, FGSR and the University at large. Links to graduate student supervision resources on the LMP and FGSR websites will be sent to supervisors upon taking on a new student and to all supervisors with reminders to hold annual supervisory committee meetings. Notifications about additional graduate supervision resources and workshops through FoMD and the University at large will be distributed to all supervisors.
- The Department and the FoMD are proud of the accomplishments of the LMP faculty but recognize the need to reach out to supervisors to discuss the challenges expressed regarding succession and sustainability. The Department Chair will meet with LMP supervisors to first focus on the their stresses so that they feel heard, and then engage with them so they feel supported and valued within the framework of the University of Alberta vision and mission statements. The Chair will work with the Dean, FoMD to develop a succession and sustainability plan, and articulate this plan to department members.
- In the FoMD, “bridge-funding” is no longer available for faculty who lose operating funding. The Department Chair and the Dean, FoMD acknowledge this is a significant stress for researchers and will communicate with them regarding resources available so they feel supported and valued within the framework of the University of Alberta vision and mission statements.
- The LMP Department Chair and the Interim Dean, FoMD acknowledge that Graduate Program Administrators/Advisors are typically the first point of contact for graduate students and are often a source of counsel regarding private matters that may be academic, personal or financial. Graduate Program Administrators/Advisors are known to have a closed office space in other faculties at the University of Alberta, but the Faculty-wide policy (2011) posted on the FoMD website states that administrative staff are allocated an open workstation. The LMP Department Chair recognizes that the configuration of the three open workstations in the LMP administrative space in ECHA has many privacy challenges due the presence of an adjacent visitor waiting area, student study space and open atrium without an adjacent meeting room to hold sensitive conversations. The LMP Chair has previously looked into the possibility of enclosing the open workspace with glass walls but the costs would fall to the department and were prohibitive, as LMP not have the budget resources to do so. At this time, the LMP Graduate Program Advisor will be advised to check the ECHA online room
booking system for availability of meeting rooms closest to her workstation to schedule private meetings with graduate students when necessary.

PA Program:

- The PA Program Director will oversee the review of the practicum course outlines (LABMP 597, LABMP 598, and LABMP 599), and work with clinical instructors and the new Education Coordinator to create more specific learning objectives for the various competencies within each course.
- An Education Coordinator will be hired to help with PA program curriculum development and to reduce the teaching load of current PA instructors who are employees of affiliate Alberta Health Services (AHS; now Alberta Public Labs, APL).
- The LMP Department Chair will liaise with AHS (APL) management to ensure job profiles for the PA program instructors reflect their contribution to education. This will be facilitated by the redevelopment of the PA job descriptions during the restructuring of lab services from AHS to APL.
- The PA Program Director will reach out to the PA students and ask what support they may need from the department for proposed student-led initiatives.
- The PA Program Director will work to develop specific mechanisms to collect student feedback, document changes based on the feedback, and a method to analyze the effectiveness of those changes.
- Once the newly hired Education Coordinator becomes ASCP-certified, the PA program will proceed to apply for NAACLS accreditation.
- The PA Program Director and the PA Program Medical Director will continue to meet with the PA program clinical site leads and clinical supervisors/managers to discuss the balance of program demands in conjunction with clinical work demands. Program demands for the clinical site leads will be reduced when the new Education Coordinator takes on some of the teaching responsibilities.
Cell Biology: Graduate Programs

| Programs | MSc (thesis-based)  
| PhD          |
| Review Dates | November 26-27, 2018  
| Reviewers | Dr. William Trimble, Committee Chair, University of Toronto  
| Dr. Vanessa Auld, External Member, University of British Columbia  
| Dr. Elaine Simmt, Internal Member, University of Alberta |

Program Strengths Identified in Final Report:

- Faculty members in Cell Biology are recognized nationally as being among the top Cell Biologists in the country and they are producing outstanding results in research and education.
- Cell Biology students are trained in a rigorous fashion, are frequently authors of highly cited papers, and have an outstanding success rate of careers in science-related jobs.
- Cell Biology faculty members have received numerous national and international awards. They compared favorably to similarly sized Cell Biology departments at Yale, UBC and McGill. Although not all labs are well-funded, most have sufficient funds to support robust research programs.
- The graduate educational component is excellent, providing skills in critical thinking, written and oral communication and specialist content.
- Cell Biology students frequently have the opportunity to present their research to their peers, and also at scientific meetings and retreats.
- The opportunity to learn content specific to the field and recent advances in research areas are readily provided through both formal courses and the Friday seminar series, where Cell Biology students are provided an opportunity to present their research and exposed to cutting edge research from other institutions.

Key Recommendations from Final Report:

- The availability of the FOMD Professional Development courses could be more thoroughly communicated to the graduate students to ensure increased participation in these important learning opportunities.
- The program is encouraged to continue to expand of the breadth of the program to cover all aspects of cell biology.
- It is recommended that the Chair of Cell Biology not serve on the Graduate program committee to ensure an arms-length relationship.
- Cell Biology should be encouraged to maintain their rigorous approach to graduate training but should be mindful of the increased challenges faced in attempting to publish in high impact journals. As such, we support revisions to the training model to ensure students...
complete their degrees within a reasonable time and this may require reconsideration of the two FA publication requirement.

- Paying post doc-level stipends to doctoral students in years 5 and 6 could encourage earlier completion.
- Engage students more in program decisions and processes to allow student concerns and input.
- Provide TA opportunities for students, this will allow for greater skill development and provide more support for student enrolment in the program.
- Ensure building security after hours (Medical Sciences Building).
- The Department is at a critical juncture as it has reached the minimum sustainable faculty cohort. Despite the excellence of the unit, continual budget cuts have reduced its size and limited its flexibility. The small size of the unit means that if further cuts are made they will no longer be able to provide the quality education they are currently achieving. Many of these aging faculty, while still very productive, are likely to begin to retire. It is our recommendation that the FOMD invest in the Department immediately to replace these pending retirements with new faculty. Failure to do so could be catastrophic.
- The next expected retirement is likely to be the current Chair. Serious consideration should be given to seeking an external chair.
- Additional new recruitments are at the future Chair’s prerogative, but it is recommended that the Department Chair, while seeking inclusion and diversity, also consider expanding the breadth of research within cell biology, while keeping in mind the limited size of the group.
- Departmental budgets need to be increased to provide leadership with contingency funds to allow flexibility in bridging and supplementing stipends between funding cycles or for emergency situations.
- Stipend caps should be considered (across the FOMD) to increase the distribution of awards and potentially increase the number of students accepted.
- Deans of the FOMD and the Faculty of Science should re-examine teaching assistantship funding for basic science graduate students in FoMD, specifically in the case where a Cell Biology faculty member is teaching in Science.

The Faculty of Medicine and Dentistry’s Implementation Plan in Response to Final Report Recommendations:

- Cell Biology’s current practice is to pass along all communication from FGSR regarding PD and PD opportunities to students. Cell Biology plans to improve communication regarding PD in partnership with FoMD and FGSR by setting up an intranet website where students can see PD opportunities as they develop and follow their IDPs.
- The research focus of Cell Biology is somewhat narrowly defined mainly along the lines of organelle biology and large macromolecular complexes within the cell. The desire to focus is not surprising given the limited size of the Department. Within this focus the quality of the research program is excellent, although there are many areas of modern cell biology not represented in the Department.
- With the anticipated critical hiring of new faculty in the next 2-3 years, Cell Biology will seek to expand the scope of the departmental research. The ability to hire new faculty is largely out of control of the Department of Cell Biology. Cell Biology currently has 50% contingent faculty. Cell Biology would require additional resources in terms of salary support plus
associated support for start-up costs to recruit new faculty. Ideally, the addition of 2-3 junior faculty with new expertise will help to expand the breadth of the Cell Biology program.

- Cell Biology has restructured the Graduate Program Committee. There are now two separate groups involved with setting and enforcing policy as it pertains to graduate student education. The current Graduate Committee will remain the body overseeing admission, discipline and otherwise enforcing Departmental policy. Given the nature of this oversight role, often discussing specific students, this will be a faculty-only group. A second Curriculum Committee will be responsible for development and revision of Departmental policy as it applies to graduate student education. This committee includes 50% student representation. The Chair of Cell Biology will no longer participate in the day-to-day proceedings of the Graduate Program Committee or the Curriculum Committee and instead serve as arms-length oversight of these committees, including appointing faculty members as needed. Student representation will be provided by nominations through the CBSA.

- The student/faculty sub-committee (now the Curriculum Committee) has revised the graduate manual, removing all text stipulating a two FA paper requirement for graduation. This has been replaced with a general guideline as to the body of work that is considered suitable for PhD and MSc theses. Based on feedback from the student/faculty sub-committee, for PhDs, Cell Biology will still require at least one FA paper before program completion as Cell Biology considers writing research publications an essential part of PhD training. These changes will be part of the September 2019 edition of the Graduate Manual.

- Given the extreme budgetary pressure the Department and individual faculty members face with limited resources to support stipends, paying post doc-level stipends to doctoral students in years 5 and 6 is not feasible at this time. If new resources are made available to Cell Biology, the recommendation will be revisited.

- Cell Biology has had student representation for all of previous Chair and faculty searches and plan to continue this in the future. The new Curriculum Committee includes 50% student representation and this will continue. Student representation at faculty meetings will be considered in the future. A student/faculty sub-committee of the Graduate Committee was established in July 2019. The expressed purpose of this sub-committee, composed of equal representation of students (nominated by the CBSA) and faculty, is to engage students in the graduate program curriculum including program and processes. This student-faculty subcommittee will be renamed the Curriculum Committee. In the new structure, the Graduate Committee (faculty only) is charged with evaluating admissions, adjudicating nominations for scholarships, discipline and other related issues pertaining to students. The purview of the Curriculum Committee will include design and ongoing oversight of the student program and processes (e.g. this committee is currently revising the Graduate Student Manual). This two-committee structure allows full participation of students, without having to exclude them when specific students are being discussed, but also effectively separates the policy-setting group from the group that enforces policy.

- TA opportunities are largely out of control of the Department of Cell Biology. The undergraduate teaching by Cell Biology is through the Faculty of Science who assigns TAships and has traditionally given the majority of these to students under supervision of
Faculty of Science faculty. With the upcoming changes to the budget model at the University, there may be future opportunities to offer TAships or work with the Faculty of Science to assign some TAships to Cell Biology graduate students.

- Building security issues will be raised at the Faculty level and with Facilities and Operations so that solutions can be found to ensure the safety of students.
- There is Departmental consensus that Cell Biology requires 2-3 new faculty members; however due to budgetary constraints, this is unlikely. Therefore, Cell Biology will focus on maintain existing faculty levels to deliver the existing graduate program and support the contribution to undergraduate teaching under the auspices of the Faculty of Science.
- Cell Biology will begin the search for a new Chair in 2019.
- Cell Biology students would benefit greatly from TA opportunities.