DALLA LANA SCHOOL OF PUBLIC HEALTH

Self-Study 2011-2016

Commissioned by the Vice-Provost
as part of the University of Toronto, Quality Assurance Process (UTQAP)

Submitted by Dean Howard Hu
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UNIVERSITY OF TORONTO
DALLA LANA SCHOOL OF PUBLIC HEALTH

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1 Introduction and Context

The University of Toronto (U of T) has a long history of excellence in public health and health systems. From its early work in sanitation science, nutrition and vaccine development to today's advances in infectious and chronic disease prevention and health policy, the University's ongoing commitment to public health education and learning, research and service has benefitted Canadians and people across the globe for close to a century.

Vision[1]

To be the leading model for public health and health system learning, research and service with impact at the local and global level.

Mission

Public health and health system scholarship built on engagement, excellence and impact.

Values

- **Independence, Integrity and Rigour:** in striving for and adhering to the highest standards of scholarship, scientific evidence, critical thinking, innovation, professionalism and leadership in the creation and dissemination of knowledge
- **Engagement and Collaboration:** in identifying, evaluating and addressing public health, health systems and bioethics issues, questions and solutions-based partnerships
- **Equity and Social Responsibility:** by promoting the inherent dignity and right to health and health care and social justice of every human being
- **Ethical and Responsive:** in our conduct and in the manner in which we engage with our communities, respectful of diverse perspectives, values and cultural framings
- **Accountability:** to our working community of scholars, learners, and staff, our partners across multiple sectors of society, and the communities in which we work
- **Sustainability:** by working and living in mindful ways to ensure the long-term sustainability of our school's environmental services, the health-enhancing environmental resources of our host societies locally and beyond, and the biotic diversity of our planet
- **Healthy Work:** by supporting and promoting healthy workplace initiatives, best practices in occupational and environmental health and safety, and work-life balance

The School's origins date back to 1927, when the University of Toronto School of Hygiene was created with support from the Rockefeller Foundation (the same year that the Foundation supported the creation of Schools of Hygiene at Johns Hopkins and Harvard; see **Appendix 1** and http://www.dlsph.utoronto.ca/history/ for a full history of the DLSPH). After decades of

[1] This most recent statement of Vision, Mission and Values was generated during the course of the 2015-2016 strategic planning process.

prominence, the School fell into some decline and was disbanded in 1975, the elements merging into the University's Faculty of Medicine, continuing in the form of various academic departments (e.g., Health Policy, Preventive Medicine and Biostatistics and Behavioural Sciences) largely within the Graduate Division of Community Health. These departments continued to offer, or developed, many of what continue as DLSPH's current PhD and MSc programs. Notably, from the late 1970s onward, the University of Toronto continued to be a Canadian leader in public health graduate training with the development of highly specialized professional masters programs in public health disciplines which continue to exist as streams within MPH and MSc programs (e.g., MHSc programs in Community Nutrition, Occupational and Environmental Health, Health Promotion, Epidemiology) and new research masters and doctorates e.g., (Clinical Epidemiology). Throughout, the University of Toronto remained the premier Canadian research university in population health research. Subsequently, following a series of public health crises culminating in the SARS epidemic in 2003, public health institutions and academic public health experienced a dramatic renaissance throughout Canada[2], with the School of Public Health re-established at the University of Toronto in 2008 (within the Faculty of Medicine) and associated with a naming gift from the Dalla Lana family shortly thereafter.

The Dalla Lana School of Public Health (DLSPH) also recruited, through an international search, its inaugural Director in 2008—Professor Jack Mandel (previously the Chair of the Department of Epidemiology at the Rollins School of Public Health at Emory University). Three outstanding scholars were also recruited to occupy Dalla Lana endowed chair positions. Although the School subsequently endured an unexpected transition in leadership (with Professor Mandel departing for personal reasons after 2 years, and subsequent interim leadership by Professor Louise Charles-Lemieux), the School continued to develop, establishing Divisions and associated Division Heads and procedures; converting its MHSc program into a Master of Public Health (MPH) program; and growing its student enrolments. In 2010, DLSPH successfully went through a self-study and external review by two senior leaders of two US Schools of Public Health (the Dean and a Department Chair of the Arnold School of Public Health [University of South Carolina] and the University of North Texas School of Public Health, respectively). The self-study, critique, and response to the critique are summarized in Section 9.

July of 2012 saw the arrival of the School's second permanent Director through an international search—Professor Howard Hu. Dr. Hu launched a wide-ranging program of accelerated development as a School and associated initiatives (his pedigree and the program are described in the next section). Of perhaps most significance is that in July of 2013, the Dalla Lana School of Public Health (DLSPH) became the first new stand-alone Faculty of the University of Toronto in more than 15 years. Since achieving Faculty status, more than 37 new core faculty have been recruited, including 8 who are on the tenure track, and several institutes and collaborative initiatives have been added to the School, bringing together a full spectrum of public health and health systems expertise.

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[2] Masse R, Moloughney B. New era for schools and programs in public health in Canada. Publ Health Rev 2011; 33(1): 277-288.

The Dalla Lana School of Public Health now includes six home Academic Units (primary appointment homes, across which all DLSPH faculty members are distributed based on disciplinary focus), four University-wide extra departmental units (EDUs) and a range of other major interdisciplinary centres that focus on areas such as public health policy, HIV, tobacco control, qualitative methods, health economics and health equity:

Home Academic Units	**Public Health Science Divisions** • Biostatistics • Clinical Public Health • Epidemiology • Occupational and Environmental Health • Social and Behavioural Health Sciences	**Institute for Health Policy Management & Evaluation**[3]
University-wide Extra Departmental Units	**Institute for Global Health Equity and Innovation**: A learning hub to redress health inequities through social innovation. **Institute for Health Policy, Management and Evaluation**: An interdisciplinary group of more than 200 scholars from across the Ontario health system focused on research and training in health systems that can improve health system performance. **Joint Centre for Bioethics**: A network of more than 180 multidisciplinary professionals from the University of Toronto and affiliated healthcare organizations that studies important ethical, health-related topics through research and clinical activities, and seeks to improve health-care standards locally, nationally and internationally. **Waakebiness-Bryce Institute for Indigenous Health**: An Institute to promote the health of Indigenous peoples and provide innovative solutions to enable thriving Indigenous communities.	

Centres	• **Canadian Centre for Health Economics**
	• **Centre for Critical Qualitative Health Research**
	• **Centre for Evidence and Health in all Policies**
		• **HIV Social, Behavioural and Epidemiological Studies Unit**
		• **Ontario Tobacco Research Unit**
		• **WHO Collaborating Centres**
		  ○ Bioethics
		  ○ Health Promotion

This joining together of expertise makes the DLSPH the largest school of public health in Canada and one of the most diverse and comprehensive schools of public health in the world as reflected by the University of Toronto's ranking as one of the top 15 Global Universities for Social Sciences and Public Health[4].

[3] IHPME is an "Extra Departmental Unit: A" (EDU: A); as such, it is both a home Academic unit (i.e., the primary appointment home for a number of faculty) as well as a University-wide EDU. For more information on University of Toronto EDU's, see: http://vpacademic.utoronto.ca/academic-units/extra-departmental-units/ ; accessed on July 13, 2016.

[4] See: http://www.usnews.com/education/best-global-universities/social-sciences-public-health?page=2 ; accessed on July 13, 2016.

The scope and breadth of the School's programming provides unparalleled opportunities to work with scholars, decision-makers, practitioners, and communities on initiatives that span the full range of critical issues in public health and health systems.

Strengthened partnerships and collaborations have enabled a proliferation of new academic programs. Four new degree programs have been launched in the past five years, including a Master's of Health Information, a Master's of Science in Quality Improvement and Patient Safety, a Master's of Science in System Leadership and Innovation, and a PhD in Occupational and Environmental Health. In addition, the School's Institute for Health Policy, Management & Evaluation (IHPME, which moved into the School in 2014; see following sub-section on DLSPH Administrative Initiatives, 2012-present) has launched the Improving and Driving Excellence Across Sectors (IDEAS) initiative in collaboration with Health Quality Ontario, the Institute for Clinical Evaluative Sciences, and six medical schools to enhance Ontario's health system performance by increasing quality improvement, leadership and change management capacity across all health sectors through advanced, accredited learning programs and an active alumni program.

Academic Programs[5] Offered by the DLSPH

<table>
<tr>
<td>Masters Degrees</td>
<td>
Master of Public Health
• Epidemiology
• Family and Community Medicine
• Nutrition and Dietetics (Regular, Advanced Standing)
• Occupational and Environmental Health
• Health Promotion

Master of Health Science in Bioethics

Master of Health Science in Health Administration

Master of Health Science In Health Administration / Master of Social Work
</td>
<td>
Master of Health Informatics
• Full-time Program
• Executive Stream (NEW)

Master of Science
• Biostatistics

Master of Science in Community Health
• Addictions and Mental Health
• Family and Community Medicine
• Health Practitioner Teacher Education
• Occupational Health Care
• Wound Prevention and Care
</td>
<td>
Master of Science in Health Policy, Management and Evaluation
• Clinical Epidemiology and Health Care Research
• Health Services Research
• Quality Improvement and Patient Safety (NEW)
• System Leadership and Innovation (NEW)
</td>
</tr>
<tr>
<td>Doctoral Degrees</td>
<td colspan="2">
PhD: Public Health Sciences
• Biostatistics
• Epidemiology
• PhD: Occupational and Environmental Health (NEW)
• PhD: Social and Behavioural Health Sciences
</td>
<td>
PhD: Health Policy, Management and Evaluation
• Clinical Epidemiology and Health Care Research
• Health Services Research
</td>
</tr>
</table>

[5] Programs created since 2012 are marked as "NEW".

Other Training Programs		
	Collaborative Programs Collaborative Programs create common, multidisciplinary experiences for students to connect around a particular area of focus outside their home graduate unit. DLSPH learners have access to programs in: (sponsored by DLSPH) • Aboriginal Health • Bioethics • Community Development • Global Health • Public Health Policy • Women's Health (sponsored by other U of T Faculties) • Addiction Studies • Aging, Palliative and Supportive Care Across the Life Course • Environment and Health • Health Services and Policy Research • Human Development • Neuroscience • Resuscitation Sciences • Sexual Diversity Studies • Women and Gender Studies	**Residency Training Programs** • Residency Training Program in Occupational Health • Residency Training Program in Public Health and Preventative Medicine **Other Programs** • CIHR training programs in Advanced Genetic Epidemiology and Health Policy • Improving and Driving Excellence Across Sectors (IDEAS): Accredited learning programs and an active alumni program that aim to enhance Ontario's health system performance.(NEW) • Leadership Education and Development (LEAD): A program that aims to create a new generation of physician leaders committed to improving healthcare and health of our communities.

DLSPH Administrative Initiatives 2012-present

As noted earlier, July of 2012 saw the arrival of the DLSPH's second permanent Director, Dr. Howard Hu. Dr. Hu is a physician-scientist who had spent 16 years (1990-2006) on the faculty of the Harvard School of Public Health (as a tenured full Professor since 2002) with a joint appointment and research laboratories in the Channing Laboratory of the Department of Medicine, Brigham and Women's Hospital; and six years (2006-2012) as the NSF International Department Chair and Professor in the Department of Environmental Health Sciences at the University of Michigan School of Public Health.

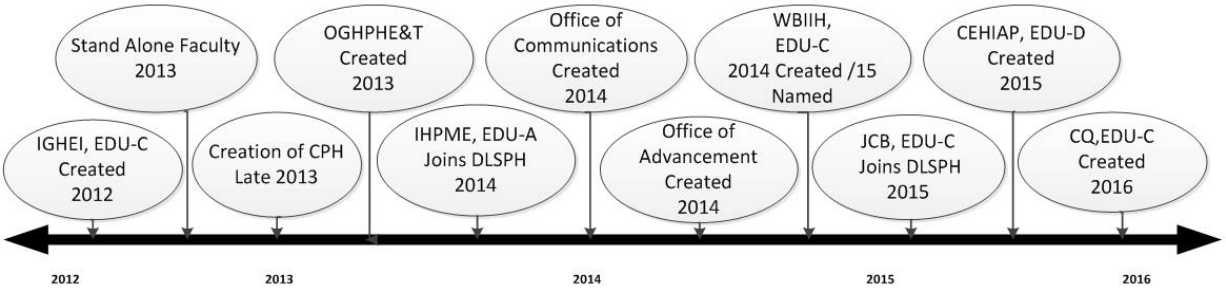
After several months of consulting the DLSPH faculty members, staff, students, alumni and other stakeholders, Dr. Hu launched a series of administrative and interdisciplinary scholarship initiatives.

Stand-Alone Faculty

Chief among the administrative initiatives was the commitment of the DLSPH community to, and execution of, the process that resulted in the DLSPH moving out of the Faculty of Medicine to become the first stand-alone Faculty at the University of Toronto in 15 years. Based on a broad analysis of comparable schools of public health in Canada and globally and a robust discussion of the academic rationale, fit with the University of Toronto's strategic direction, and a clear explanation of the School's academic priorities, goals, plans, proposed governance structure, quality assurance and review process, and a five-year projected budget, the proposal successfully went through consultation and governance and was approved, allowing the School

to achieve Faculty status by July 1, 2013 (see **Appendix 2**). With this transition, Dr. Hu became the inaugural Dean of the DLSPH, reporting directly to the Provost.

DLSPH Administrative Initiatives 2012-Present



Creation of the Clinical Public Health Division

Another DLSPH administrative milestone during this period was the phase-out of the DLSPH's Interdisciplinary Division in favor of the creation of the Clinical Public Health (CPH) Division. Established in late 2013, the latter has the vision of CPH being an internationally recognized unit dedicated to developing, testing, evaluating and teaching approaches to integrating primary care, preventive medicine and public health, and the mission of engaging in innovative research and education programs and service, all aimed at bringing the best science to the creation of the interdisciplinary approaches, systems, and professionals needed to optimize individual as well as population health in the sustainable health system of the future.

The CPH is now the home to more than 100 clinician-academics as well as Master's degree programs related to Community Nutrition; Addictions and Mental Health; Family and Community Medicine; Health Practitioner Teacher Education; and Wound Prevention and Care. The Division is also home to the Residency Program in Public Health and Preventive Medicine, the largest of its kind in Canada.

Institute of Health Policy, Management and Evaluation joins the DLSPH

A crucial next administrative milestone was the transition of the IHPME into the DLSPH.

<u>History of IHPME</u>

In 2017, IHPME will celebrate its 70th anniversary, having started in 1947 as a Department of Hospital Administration within the Faculty of Medicine that offered a diploma in health administration. In response to our changing health system and changes in the scope and purpose of this unit, the Department of Hospital Administration subsequently evolved into the Department of Health Administration in 1967, and then into the Department of Health Policy, Management and Evaluation (with the integration of the Clinical Epidemiology and Healthcare Research Program) in 2002. In 2010, the Department changed its name and status into the

Institute of Health Policy, Management and Evaluation, an "Extra-Department Unit-A". The Institute/EDU-A status – with a five-Dean executive committee – reflects the fact that IHPME is (a) an interdisciplinary unit that works closely with faculties across the University of Toronto and (b) has the critical mass and size (with over 20 tenure-track core faculty members) to be the primary home for many faculty.

With this configuration, IHPME has become the University's major focal point for health policy, health services, health economics, health administration, health leadership and clinical epidemiology research across the University. Over the past 20 years, IHPME has led important province-wide initiatives to improve health system performance. These include the Hospital Management Research Unit in the 1990s that developed the first educational and research programs designed to improve hospital operations and equip physicians with leadership skills. In this century, IHPME-based faculty developed and led a province wide hospital balanced scorecard that provided foundations for the first Ontario Health Quality Council, the Ontario Cancer System Quality Index, and hospital and health system scorecard efforts in Italy and Japan. In this decade, IHPME faculty have provided the scholarly basis for major health system reforms such as Health Links (integrated governance structures to address high-user needs), the Excellent Care for All Act, tobacco control and safe injection site policies as well as the leadership for IDEAS, a quality improvement educational program that has trained more than 2500 people in improvement sciences across Ontario.

IHPME-based faculty have also helped lead the efforts in innovation, whether through app development and testing, input to and leadership roles on provincial and federal councils on innovation, or spearheading efforts to increase patient-centredness in our health system.

Over the past five years, the role of IHPME has also shifted away from that of a traditional department to one of provincial leadership that brings in departments and scholars from across the Province. One example of this is the IDEAS program which is a partnership between IHPME, Health Quality Ontario and the Institute for Clinical Evaluative Sciences, in which IHPME is responsible for teaching across all six Ontario medical schools. The recently announced Centre for Evidence and Health in All Policies, based at IHPME, that will conduct effectiveness and equity analyses on major health policies and will integrate three universities, two government agencies and two hospitals as well as scholars from across the DLSPH and more broadly, the University of Toronto.

<u>IHPME's transition into the DLSPH</u>

The importance of transitioning IHPME into the DLSPH was recognized by the two U.S. Public Health School Deans serving as external reviewers of the DLSPH in 2010 as a critical step towards addressing the absence of faculty expertise in health management and health policy that is typically required of a graduate school of public health. Just as important, though, were the synergies and resulting opportunities for new research and training that would ensue with such a transition, much of which was recognized and articulated by a joint DLSPH-IHPME planning committee that was formed in the fall of 2013 and subsequently deliberated for 6

months. Following an extensive process of consultations and governance steps, IHPME's transition into DLSPH was successfully completed by July 1, 2014 (see proposal to transition IHPME into the DLSPH, **Appendix 3**).

Professor Adalsteinn Brown, Director, IHPME; and Howard Hu, Dean, on the occasion of IHPME's transition into DLSPH

By bringing the university's unit that focuses on health services and health policy into DLSPH, the School gained a complement of faculty that are best positioned to address the full range of teaching the competencies expected in public health (including health policy and health management, which were identified as deficient in the School's 2010 external review) while also setting the stage for interdisciplinary synergies in research and new educational programs related to program evaluation, health economics, global health, interdisciplinary epidemiology, and many other areas. Of note is that IHPME retained its status as a home Academic unit EDU: A Institute (in relation to the DLSPH "PHS" Divisions - Biostatistics, Clinical Public Health, Epidemiology, Occupational and Environmental Health, Social and Behavioural Health Sciences - which are the other home Academic units within the DLSPH). IHPME also retained its status as a separate graduate unit ("IHPME") in distinction to the DLSPH graduate unit ("PHS"); and it also retained a partially-independent budget "envelope", i.e., the DLSPH conducts internal budgeting that allows for a separate accounting of revenues and expenditures associated with IHPME, with the exception of the sharing of expenditures that relate to DLSPH administrative offices that are shared by the DLSPH Divisions and IHPME, such as: the DLSPH Office of Communications; Office of Research; and Office of Advancement.

Joint Centre for Bioethics joins the DLSPH

Another important administrative initiative was the transition of the Joint Centre for Bioethics into the DLSPH, which occurred the year after IHPME's transition into the DLSPH.

History of the Joint Centre for Bioethics

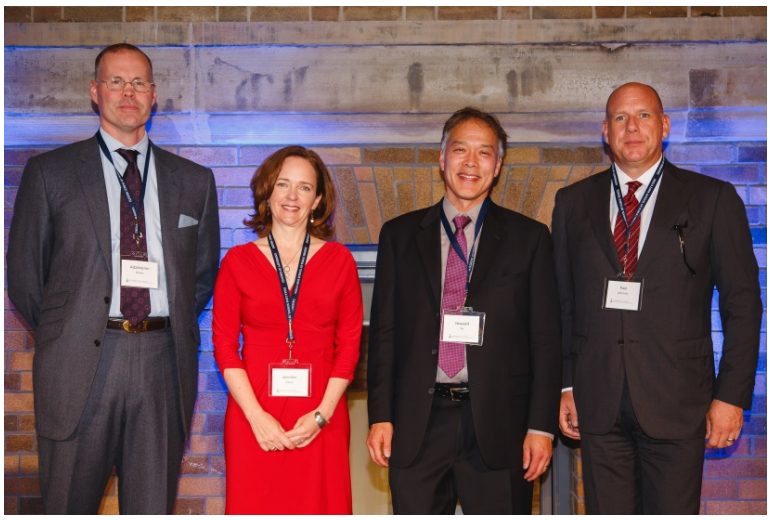
Founded 20 years ago, the JCB has become one of the world's leading bioethics centres. It was created as an academic partnership of the University of Toronto and affiliated health institutions. Since then, its reach has expanded nationally and internationally. In 2002, it became the first World Health Organization (WHO) Collaborating Centre for Bioethics. JCB

scholars are regularly consulted by governments and health institutions on issues such as medical assistance in dying, public health emergencies, healthcare priority setting, drug supply shortages, and research ethics policy. With its interdisciplinary approach and its emphasis on translating ethics knowledge into practice, the JCB has been a critical influencer of public health policy and practice. After the SARS crisis in Toronto, the JCB developed an ethical framework for pandemic preparedness planning, which has been adopted by local, national, and international health ministries, institutions, and agencies, including the WHO. As new threats have arisen, such as the recent Ebola and Zika outbreaks, the JCB is collaborating with international colleagues to address the ethical issues of public health surveillance, data sharing, resource scarcity, and research in public health crises. In addition to these successes, the JCB has trained more than 300 interdisciplinary bioethics scholars and professionals, many of whom are now leading ethics programs in academic institutions and health organizations across Ontario, Canada and the world.

JCB's transition into the DLSPH

The JCB is an "Extra-Departmental Unit-C", i.e., it offers degrees and training programs, but (unlike IHPME) it does not serve as the primary home for faculty. As such, the rationale for moving the JCB into DLSPH was already supported by the fact that the majority of faculty associated with the JCB had primary appointments in DLSPH and the majority of students in the JCB's Collaborative Program in Bioethics were enrolled through the DLSPH and IHPME graduate units. In addition, the rationale reflected the growing expansion and evolution of the Centre's research and training activities into areas related to health systems, public health and global health while preserving a core strength in health care ethics. As a consequence, after an accelerated process of consultation and governance steps, the JCB transitioned from the Faculty of Medicine to DLSPH by July of 2015 (see **Appendix 4**).

From the JCB perspective, its transition into the DLSPH has opened up unprecedented opportunities to advance scholarship, particularly related to ethical challenges at the intersection of health care and public health, and to develop new academic programming to meet the learning needs of public health professionals and scholars. From the perspective of DLSPH, the JCB move into the School enhances its leadership in: global and public health ethics; ethics and emerging infectious diseases; health equity & human rights; and other areas of overlap and synergy.



IHPME Director Professor Adalsteinn Brown, JCB Director Professor Jennifer Gibson, DLPSH Dean Howard Hu and DLSPH Campaign Chair Paul Dalla Lana at a fall 2015 event celebrating the School's new configuration

Development of New Administrative Infrastructure Units

In addition to the various administrative transitions noted above, in 2013-2014 the DLSPH undertook the development of a variety of administrative infrastructure units that are necessary to advance its standing and future as a stand-alone Faculty. These included the establishment of the inaugural DLSPH Offices of: Communications; Advancement; and Global Public Health Education and Training (OGPHE&T). The DLSPH also: converted its Associate Director of Academic Affairs and Associate Director of Faculty Affairs positions into Associate Dean positions; converted its Business Manager position into a Chief Administrative Officer; and recruited its first Associate Dean for Research.

In addition to serving as a communications gateway between the DLSPH's community and the general public for news, events, inquiries, etc., the DLSPH Office of Communications, led by its inaugural Director, Nicole Bodnar, established a monthly Bulletin newsletter[6], completed a website redesign, launched social media platforms (Facebook, Linked-In, Twitter, Instagram and YouTube.)[7], published the DLSPH's first consultative annual report[8] and other print marketing materials, and has collaborated with the Office of Advancement on the establishment of the inaugural Dean's Leadership Series[9] and the first DLSPH Case for Support document.

The Office of Advancement, led by its inaugural Director, Beth McCarthy, created the DLSPH's first database of alumni (reaching back to graduates of the School's Department predecessors), annual giving solicitation, Campaign Cabinet, Provostially-approved Case for Support, and donor appreciation events (see Section 5 for more information about the Office of Advancement).

The Office of Global Public Health Education & Training (OGPHE&T) focuses on support for the DLSPH learner community in terms of arranging for global health student practicums, research projects, travel scholarships, training on safety abroad and global health ethics; etc.; the support of MOU's with global health partner institutions; and the support of visiting scholars, dignitaries, joint global health workshops, etc.[10] It also serves as a clearinghouse for information on global health seminars and other activities of particular interest to DLSPH students and provides updated mapping of global health projects involving DLSPH faculty.

Interdisciplinary Scholarship Initiatives

The consultation process begun by Dr. Hu when he arrived that established the aforementioned administrative initiatives also led to several new interdisciplinary scholarship initiatives, supported by key DLSPH faculty leaders, as well as seed funding from the Director's fund (which, after 2013, became the Dean's fund) established by the 2008 Dalla Lana gift. Each of

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[6] See: http://www.dlsph.utoronto.ca/get-the-bulletin/
[7] See, at bottom: http://www.dlsph.utoronto.ca/
[8] See: http://www.dlsph.utoronto.ca/wp-content/uploads/2015/09/DallaLana-Final-Singles-WEB.pdf
[9] See: http://www.dlsph.utoronto.ca/2016/02/dalla-lana-school-of-public-health-hosts-distinguished-panel-on-health-system-innovation/
[10] For more on the OGPHE&T, see: http://www.dlsph.utoronto.ca/office/office-of-global-public-health-education-training/

these were deliberately designed to be innovative, forward-looking, involving the collaboration and integrated work of multiple disciplines, of high interest to external funders, drawing upon strengths and interests from across the entire School as well as elsewhere around the university, and leveraging other partners and strengths related to the School's location in Toronto, Ontario and Canada. They were also configured and shaped to be optimally synergistic between each other.

Institute for Global Health Equity and Innovation

Among the most important was the Institute for Global Health Equity and Innovation (IGHEI). Note that In contrast to the Office of Global Public Health Education & Training, IGHEI's mission is primarily focused on applied research and knowledge translation,

This Institute was created as a university-wide Extra-Departmental Unit EDU: C in April of 2012, several months prior to Dr. Hu's arrival. Although the Institute was conceived as a new interdisciplinary unit that could capitalize on the work of several core DLSPH faculty working in global health, as well as the great strengths in global health that existed in hospitals affiliated with the University of Toronto (such as the Centre for Global Health Research at St. Michael's Hospital; the Sandra Rotman Centre [home of Grand Challenges Canada] at University Health Network; and the Centre for Global Child Health at the Hospital for Sick Children), it began with no specific directions and no set-aside funding.

Breakout group during the November 2015 Global Health Summit

In order to advance the Institute, a decision was made to spend 18 months building a group of faculty who volunteered their time to meet regularly - a "coalition of the willing"- to propel the Institute forward. The ideas and planning culminated in IGHEI's November 2014 Global Health Summit, attended by more than 750 participants who interacted with 20 global health thought leaders in plenary and break-out sessions. The Summit emphasized the under-recognized need for social innovation in global health and chose as its foundational theme "Creating and Spreading Health," which reflects the critical importance of appreciating health as a concept far broader than simply being free of disease; rather, health is also the ability of individuals or communities to adapt, self-manage and thrive in the face of physical, mental and social

challenges, including ageing and the presence of incurable chronic disease(s) and multi-morbidity; to heal when damaged; and to expect death peacefully.[11]

Subthemes were also developed that focused on a closer integration of primary care and public health; "Healthy cities," and the challenges that arise as more of the world's population flock to urban areas; "Politics, privilege and power," which highlights the underlying, sometimes invisible issues that drive health inequalities; "Achieving convergence," which questions the ability for countries to reach convergence in health in a world that is rife with conflict, gender inequities, lack of access to universal health coverage, education, and human rights; and "Global big data," which highlights the promise of utilizing the enormous data at our fingertips to create health policies that improve access to and quality of appropriate health systems.

With the establishment of these themes[12] and the appointment of its first permanent Director (Dr. Alejandro Jadad, who had been the Tier I Canada Research Chair in Global e-Health Innovation at University Health Network from 2001-2015, and served as one IGHEI's four Global Health Summit co-Chairs), IGHEI is now working on associated local and global initiatives[13].

Waakebiness-Bryce Institute for Indigenous Health

A second critical interdisciplinary university-wide scholarship initiative was the creation of the Waakebiness-Bryce Institute for Indigenous Health (WBIIH), an Extra-Departmental Unit EDU: C. This EDU capitalized on DLSPH's long history of Indigenous health scholarship and training, as well as the transformative $10-million gift from the Michael and Amira Dan family that accelerated the development of the Institute in the fall of 2014 and its subsequent naming in the spring of 2015.

Formed through a broad and deep consultation process (including an October 2014 Workshop attended by national and international Indigenous Health leaders), the WBIIH's primary goal is to promote the health of First Nations, Inuit and Métis individuals and communities in Canada and other Indigenous peoples globally using population-based, multi-disciplinary and community-based participatory approaches.

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[11] Huber M, Knottnerus JA, Green L, van der Horst H, Jadad AR, Kromhout D, Leonard B, Lorig K, Loureiro MI, van der Meer JW, Schnabel P, Smith R, van Weel C, Smid H. How should we define health? BMJ. 2011 Jul 26;343:d4163. doi: 10.1136/bmj.d4163. PubMed PMID: 21791490.

[12] Kotha SR, Jadad AR, Hu H. Creating a Pandemic of Health: Opportunities and Lessons for a University Initiative at the Intersection of Health, Equity, and Innovation. Harvard Publ Hlth Review 2015;5:1-8. (available at http://harvardpublichealthreview.org/wp-content/uploads/2015/04/HPHRv5-Kotha-Jadad-Hu-Creating-a-Pandemic.pdf).

[13] For more on IGHEI: see: http://www.dlsph.utoronto.ca/institutes/institute-for-global-health-equity-and-innovation/

Through the work of its first Interim Director, Dr. Jeffrey Reading (the inaugural Director of the CIHR Institute of Aboriginal Peoples' Health) and now its second Interim Director (Dr. Earl Nowgesic, the inaugural Associate Director of the CIHR Institute of Aboriginal Peoples' Health), the WBIIH is already engaging in its first major research project (a study of Cancer and the Environment in the Northwest Angle 33 First Nations Community, funded by Health Canada), growing its Collaborative Program in Aboriginal Health, and completing the international search for its first permanent director.[14]

WHIIB Community Advisory Council inaugural meeting on September 16, 2015 in Toronto

Other New University-wide Extra Departmental Units

Two additional extra departmental units were created that are based within the DLSPH's Institute of Health Policy Management and Evaluation (IHPME): i) the Centre for Evidence and Health in All Policies, which will work with decision-makers across Canada to improve the efficiency and equity of policies designed to promote health and welfare, and ii) the Canadian Centre for Health Economics, which strives to be a focal point for health economics research in Canada and aims to provide solutions to health policy issues while advancing theoretical and econometric modeling techniques. While University-wide in configuration, they are both EDU-D's (rather than EDU-C's), which, together with their location within IHPME, reflects scopes and breadths of engagement that are not yet quite as broad as the EDUs described in the previous section.

Finally, at the time of this writing, proposals for several new EDUs have been developed and are wending their way through the faculty consultation and governance process, including a new EDU: C Centre related to Applied Immunization and Immunity Research (with Public Health Ontario as a main partner) and the conversion of an existing DLSPH Centre to a university-wide EDU: C that pertains to Critical Qualitative Research.

[14] For more on WBIIH: see: http://www.dlsph.utoronto.ca/institutes/wbiih/

The Undergraduate Initiative

The planning for an undergraduate program (major, minor and high-profile introductory courses) in "global & public health" was begun by the DLSPH in 2014 for four principal reasons:

1) Local and global public health problems of our current times have become an enormous area of interest to today's undergraduates;
2) Advances in global and public health require changes in multiple sectors (medicine, law, policy, business, engineering, architecture, etc.); thus, teaching public health precepts and about global health to students tracking towards careers in a wide spectrum of sectors will be critical to endowing them with knowledge and attitudes to be change agents for global and public health;
3) Creation of an undergraduate program will also generate a pipeline of undergraduate majors in public health who will be well-positioned to enrich DLSPH graduate degree programs (through, in some cases, accelerated undergraduate-graduate combined programs); and
4) As stated in the proposal approved in June 2013 by Governing Council, transforming the DLSPH into an independent Faculty, with the explicit endorsement of the Provost's Office, the DLSPH's "…longer term financial viability will be secured if, as part of its further development, it builds or partners with in a systematic way, an undergraduate program". Given the experience of other universities across North America, it is expected that these programs will be able to attract sizeable enrollment by U of T undergraduate students, which, in turn, will contribute net tuition revenues to DLSPH.

The DLSPH Undergraduate Initiative is being planned as a collaboration with the U of T Faculty of Arts & Science (FAS), building off a suite of over 10 courses that DLSPH faculty have already been teaching for undergraduate students, as well as an existing undergraduate FAS B.Sc. major in global health and an existing undergraduate FAS B.A. major in health studies. The Undergraduate Initiative's majors will be in "Global & Public Health" and have a significantly more ambitious and cohesive configuration of objectives, courses and experiential learning opportunities. A highly successful, innovative entry-level course that will be required of all students in the new program was already launched in the winter semesters of 2015 and 2016. Over-subscribed each year and receiving the highest possible student evaluation scores, it was taught as an inverted classroom, with students viewing modular presentations recorded by over 30 DLSPH faculty "stars" and spending class time with the associated faculty in in-depth guided discussions. Other innovative courses are in development, with launch of a pilot version of the Undergraduate Initiative on track for fall of 2017.

The Dean's Advisory Board

A final initiative of note has been the evolution and expansion of the external body that provides high-level advice and consultation to the School's leadership. From its configuration in June of 2012 as a 10 member External Advisory Committee, with leaders from regional public health agencies, the Centre for Addiction and Mental Health, Cancer Care Ontario, the Rotman Centre for Global Health, and the President of the Institute for Clinical Evaluative Sciences (and

chaired by the Dean of the Faculty of Medicine), this body has transformed and expanded into a Dean's Advisory Board. It now has 24 members (see **Appendix 5**), including those listed above plus leaders of national NGO's related to major chronic diseases (e.g., the Heart & Stroke Foundation); CEOs or VP's from the private sector (e.g., Sanofi-Pasteur, Canada); the Chair and Vice-Chair of the DLSPH Campaign Cabinet (Paul Dalla Lana and Michael Dan); and the CEO/Presidents of the largest regional hospitals (e.g., University Health Network, Sick Kids Hospital). Several represent partner institutions with senior scientists or practitioners who have DLSPH faculty appointments. In addition, the hospitals reflect the growing shared interest amongst public health and health care leaders in DLSPH's role in advancing research and training in health system and health services improvements, including those that promote better integration of public health, prevention, and health care.

The 2015-2016 Strategic Planning Process

Beginning in the spring of 2015, the DLSPH embarked on a strategic planning exercise to chart a course for the next 5 years and beyond. The DLSPH strategic plan current at that time expired in 2015 and related only to the PHS divisions at the DLSPH. At the same time, the then-current strategic plan for IHPME (2013-2018) had largely been completed two years early. The 2015-16 strategic planning exercise was steered by a committee that included faculty, staff, students and alumni from across all units within DLSPH. Key elements of the strategic planning process included:

1) The creation of six sub-committees to review and propose new initiatives ranging from innovations in teaching to synergies between population health and health systems. Each of these committees produced several iterations of a report that were reviewed by the steering committee and voted on at a school-wide retreat in November 2015.
2) An environmental scan of the DLSPH's environment and peer schools including a study of innovative practices at peer schools related to the core business of DLSPH such as student and research support. These practices were considered for inclusion in the strategy through review at the DLSPH Executive Committee and faculty meetings.
3) A review and critique of progress against the previous PHS and IHPME strategic plans at the Executive Committee. This critique helped shape a focus on management and implementation in the upcoming plan.
4) A school-wide retreat that included a review of the subcommittee reports and the environmental scan. Retreat participants together created a prioritized list of new initiatives grouped into three categories as a basis for the first draft of the strategic plan.
5) Each iteration of the draft plan underwent a thorough review by and feedback from the Dean's Advisory Board, the DLSPH Executive Committee, faculty in each of the DLSPH divisions and IHPME, and the full School Council.

A draft strategic plan was created in May of 2016 and released to the DLSPH and its stakeholders in June[15]. The full plan is long and is intended as a living and working document

[15] http://www.dlsph.utoronto.ca/initiative/strategic-planning/

that will undergo change through periodic review and ongoing consultation across the School. It will proceed through University governance this fall. A high-level summary of new directions for the plan is provided in Table 1.1 below and the plan also includes indicators and milestones (see **Appendix 6**).

Table 1.1 DLSPH Strategic Plan High-Level Summary

1. Improve the learner experience in existing and newly created programs for public health and health systems capacity education	2. Ensure globally recognized impact and excellence in public health and health systems research	3. Enhance partnerships and management of the DLSPH
Improve teaching space and deploy proven enabling technologies, where appropriate	Establish enhanced administrative and support infrastructure for research to increase the amount and range of funding sources	Increase managerial efficiency at DLSPH and reduce faculty administrative burden
Increase access to learning at the DLSPH for talented learners from Canada and abroad	Create a methodological support hub to increase research excellence that spans qualitative, quantitative and mixed methods scholarship	Improve collegial experience and engagement of all faculty members
Capture and incorporate new developments in pedagogy to ensure public health-health systems learning	Develop criteria for assessing progress and impact of interdisciplinary centres of excellence and key cross-sectoral research initiatives	Create a model physical and professional environment that supports health for learners, staff and faculty
Enrich opportunities for engaged and experiential learning, knowledge production and knowledge transfer	Prioritize support for centres of interdisciplinary scholarship and build community-based collaboratories that support joined-up improvements in health and health systems	Strengthen engagement with alumni
Systematically generate and rigorously test evidence on existing and innovative approaches to public health and health systems education and learning	Ensure that impact on public health and health systems is a primary goal of all new initiatives	Strengthen engagement with donors
Use our close connection to the local health system to collect data on workforce and diverse stakeholder needs specific to building coherent public health and health systems capacity plans	Ensure a close link between positive impact on health and health systems and the DLSPH's approaches to reward and recognition of faculty and learners	Ensure the DLSPH's management, communications and partnerships with communities and local organizations in all relevant sectors reflect a strong focus on impact and collaboration
Work with our partners to refine and increase experiential learning opportunities, such as practicums		Improve clarity and quality of partnerships with collaborating organizations and institutions, through new and enhanced partnership models that support impact along with scholarship

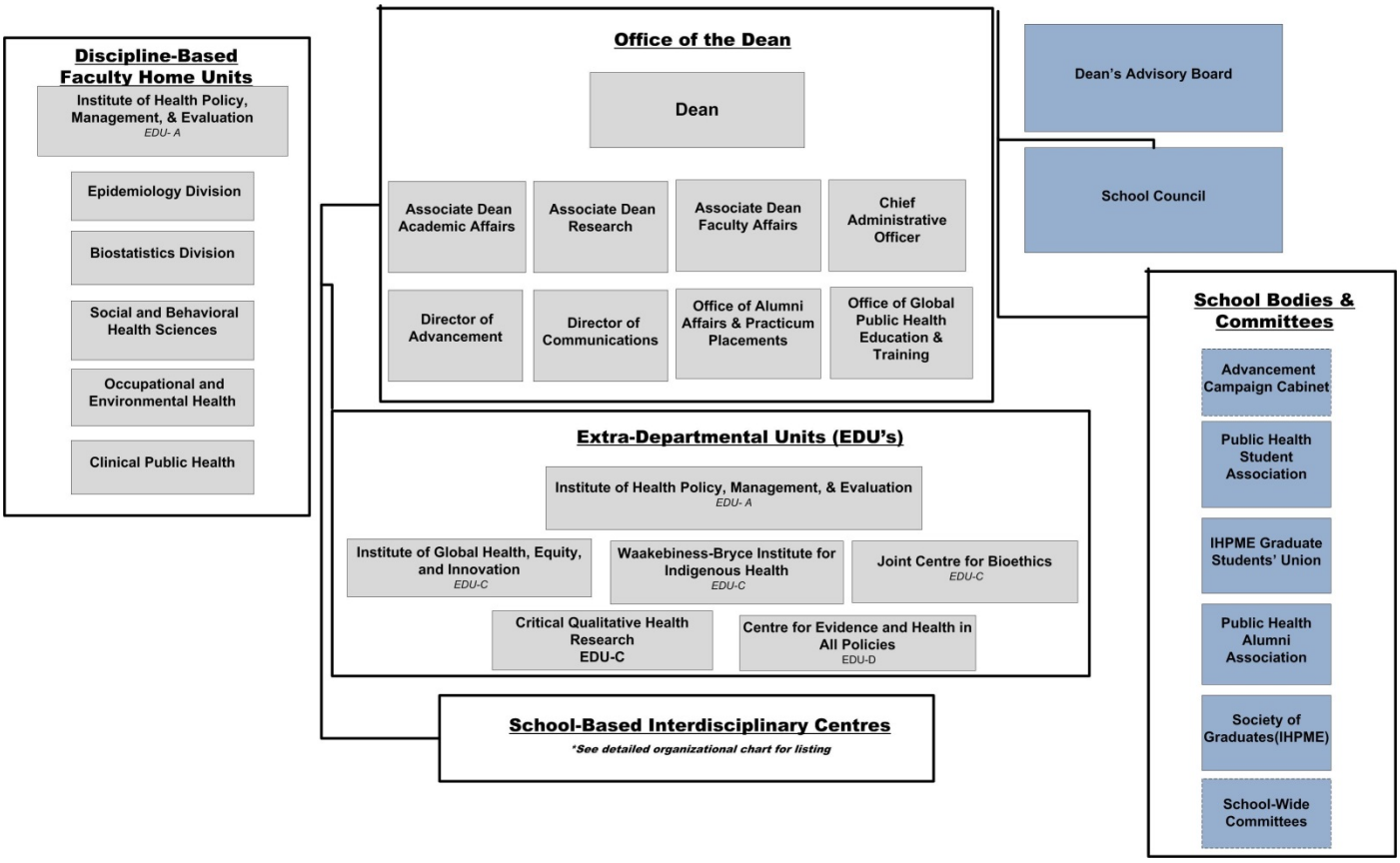
Strengthen pathways within and wayfinding across the University to graduate training at DLSPH
Increase high impact capacity development initiatives that can help mobilize communities and create resilient health systems

As part of the internal release of the draft plan, the DLSPH also developed an updated schedule. This schedule describes when the plan will be reviewed and updated and the process by which the School can make sure it is meeting the goals in the plan.

Summary of Current Status

In summary, the DLSPH is a relatively new stand-alone Faculty within the University of Toronto that has quickly attained a fairly prominent status among the Schools of Public Health that have been rapidly proliferating in Canada since the SARS crisis of 2003. In large part, this has been enabled by leveraging the sizeable contingent of faculty who have continued working in this area dating back to the School's predecessor, the University of Toronto School of Hygiene (1927-1975), as well as a recent steep trajectory of growth and development that has been undertaken since the arrival of a new leader in 2012. Of most significance regarding the latter have been the transition of the School into a stand-alone Faculty in 2013, steady annual growth in student enrolments, the integration into the School of the Institute for Health Policy Management & Evaluation and the Joint Centre for Bioethics, the recruitment of many new core faculty members, the establishment of independent Offices of Academic Affairs, Faculty Affairs, Research, Communications and Advancement and the Associate Deans and Directors to lead them; the creation of a Dean's Advisory Board; the launch and/or advancement of several key EDUs, Centres and initiatives; and the creation of a new Strategic Plan for 2016-2021. These all have now provided a fairly mature organizational structure for a stand-alone Faculty of Public Health (Figure 1.2).

Figure 1.2 DLSPH Organization Chart (see also Section 5)



At this point, in addition to being largely responsible for the University of Toronto's ranking as one of the top 15 Global Universities for Social Sciences and Public Health, the DLSPH is the largest School of Public Health in Canada, and only one of two that are stand-alone Faculties (the other being the University of Alberta School of Public Health). Its graduates include some of the most prominent leaders and scholars in Canada and globally, such as (in alphabetical order):

- Dr. Sharon-Lise Normand, PhD (1990), Professor of Health Care Policy, Harvard Medical School
- Dr. Jane Philpott, MD, MPH (2012), Minister of Health for Canada
- Dr. Jeffrey Reading, PhD (1994), Founding Director, CIHR Institute for Aboriginal Health and Well-Being
- Mark Rochon, MHSc (1980), Senior Manager, KPMG-Global, former CEO of the Health Services Restructuring Commission in Ontario
- Enrique Ruelas, MD, MPA, MHSc (1984), President-elect, the National Academy of Medicine; formerly the Dean, National School of Public Health of Mexico in the National Institute of Public Health, and Vice Minister for Innovation and Quality in the Ministry of Health
- Dr. Martin Schecter, MD, MSc (1983), Founding Director, School of Population and Public Health, University of British Columbia, Tier 1 Canada Research Chair in HIV/AIDS Research

- Dr. Bundit Sornpaisarn, PhD (2014), Deputy Director of the Thai Health Promotion Foundation
- Dr. Kue Young MD, DPhil, MSc (1979), FRCP, Dean, School of Public Health, University of Alberta

Finally, the DLSPH has begun what could be described as the first major Fundraising Campaign for a School of Public Health in Canada, using the University of Toronto's current $ 2 Billion "Boundless Campaign", a recent pledge from Paul Dalla Lana (the DLSPH's naming benefactor) to double his endowment gift (to $40 million) as a launching pad, and the creation of a new Dean's Leadership Lecture Series that has a primary aim of addressing headline issues related to public health and health systems that, in turn, are associated with high-visibility DLSPH initiatives that are likely to be attractive to DLSPH's growing community of donors. The DLSPH has also started developing a set of strategically-identified partners in locations such as Hong Kong and Shanghai in China; Bangkok, Thailand; Sao Paulo, Brazil; Mexico City, Mexico; and Moi, Kenya to build global health collaboration platforms that can greatly enrich the School's research and collaboration initiatives.

What drew my wife and me initially to what is now known as the Dalla Lana School of Public Health were a few things – firstly, that U of T has a deep public health expertise with a solid history and a lot of unique capabilities. It just needed a catalyst, and the opportunity to help an organization with such unique strengths realize its potential was very appealing to us. Second, was an increasing understanding that many of the most challenging global health issues were a lot closer to home than we realized. Living in Toronto, one of the most interconnected cities in the world, we learned with SARS just how efficient those connections really were, and not necessarily in a positive way! Finally, we also saw big and difficult public health problems here in Canada, in areas we felt were not seriously on the agenda for improvement, such as Aboriginal health and Canadian health policy. What's happened at the School since then has really reinforced our initial interest. Over the past five years it has transformed into a fully developed Faculty with all the credibility and capability that global leaders have. It's taken some incredible steps and integrated all of its component parts in a way that allows it to truly be impactful and successful in some of the most important issues of public health. It has the ability to break down and figure out some of society's biggest challenges. And I find that very inspiring.
Paul Dalla Lana, founding donor, Dalla Lana School of Public Health

Short and Medium-term Challenges

Standard, competencies and accreditation

As mentioned later in the report, the School has several formal training programs that have gone through, and will continue to go through, accreditation, including:

- The MHSc Health Administration Program, fully re-accredited in 2014 by the Commission on Accreditation of Healthcare Management Education (see section 3.3);
- The postgraduate medicine residency program in Occupational Medicine, fully re-accredited in 2013 by the Royal College of Physicians and Surgeons of Canada (RCPSC) (see section 3.0); and
- The postgraduate medicine residency program in Public Health and Preventative Medicine, fully reaccredited in 2013 by the RCPSC (see section 3.0).

In terms of accreditation as a School of Public Health, although the Public Health Agency of Canada (PHAC; formed in 2005) formulated and released a set of recommended core competencies for public health education of Canadian students in 2007[16], no accreditation system currently exists in Canada. Two Schools of Public Health accreditation systems exist elsewhere, including the ones conducted by the US-based Council on Education for Public Health and the Europe-based Agency for Public Health Education Accreditation. However, the DLSPH has so far refrained from going through either accreditation process for a number of reasons:

a) The graduates of the DLSPH overwhelmingly target careers in public health that are in Canada, and to some degree, other Commonwealth nations, not the US;
b) The competencies required of careers in public health in Canada have significant differences in comparison to those in the U.S. and Europe, particularly as they relate to health services, health systems and health policy.
c) The provincial funding model for students (funding only domestic students) is a significant financial disincentive to taking students from the US;
d) The accreditation process requires a large investment of faculty time and resources;
e) In the view of DLSPH leadership, the accreditation process, as currently construed, inhibits the implementation of innovations in curriculum, particularly with respect to the creation of interdisciplinary curricula.

Nevertheless, recognizing that identifying and meeting educational standards based on competencies remains a critical benchmark for any educational institution, the DLSPH has gone through its own process of creating a matrix of competencies that has been used to guide its associated curricula. This includes cross-cutting competencies based on the PHAC criteria, and discipline-specific competencies for each program stream: Epidemiology, Social and Behavioural Health Sciences (SBHS), Occupational and Environmental Health (OEH), etc. Currently, the DLSPH meets or exceeds all of the core competencies set forth by PHAC in 2007.

[16] See: http://www.phac-aspc.gc.ca/php-psp/ccph-cesp/about_cc-apropos_ce-eng.php

DLSPH also enjoys significant depth of coverage for discipline-specific competencies, to a far greater degree than more generalist public health programs.

An analysis of the DLSPH curriculum in relation to the US CEPH core competencies is described in Section 3.1. The DLSPH curriculum meets the majority of US CEPH core competencies and excels beyond standards in several areas such as health promotion and social sciences. Gaps have been identified in relation to systems approaches, public health biology and environmental health. Given the discipline-specific nature of DLSPH programs, these gaps are more significant for some programs then for others; environmental health, for example, is a gap for the Epidemiology and SBHS MPH streams, but not OEH. DLSPH is committed to ensuring adequate and effective coverage of all relevant competencies, to the appropriate level per stream, recognizing that variable degrees of coverage are needed for particular competencies depending on field-specific needs. The DLSPH Curriculum Renewal Taskforce (established in 2011), has begun its third round of assessment and renewal, to identify the best educational models and innovations for meeting current curriculum needs (e.g. technology-assisted, flipped-classroom, experiential learning, etc.). DLSPH is in a strong position to leverage our discipline-specific strengths to ensure breadth and depth of competency coverage across our programs. We are committed to capitalizing on our disciplinary strengths to foster an increasingly efficient, effective and integrated curriculum that ensures and promotes cross-disciplinary collaboration.

Growth and Enrolments

The DLSPH remains on a trajectory of enrolment growth based on the demand for its degree programs (DLSPH has around 5-8 applicants for each enrolment slot, with a 50-80% yield), the continuing employment success of its graduates, and the critical nature of enrolments towards DLSPH's operating budget[17]. Moreover, in a recent analysis of job openings conducted by PHAC[18], no obvious decline in demand for public health student graduates has been noted. Nevertheless, as it approaches almost 1,000 enrolled students, the limits of expansion must be appreciated, not only in terms of DLSPH faculty, administrative, space and other infrastructure concerns, but also in terms of what the local employment marketplace (in Toronto, as well as in Canada and elsewhere) can eventually sustain. These factors will be assessed on a continuing basis in the coming years, through approaches such as a survey currently being planned of DLSPH alumni on career opportunities, now and those likely to exist in the future (and associated competencies and skills that may require adjustments to DLSPH curricula); and independent market surveys that DLSPH intends to commission on its own.

Finally, some erosion in yield (success in matriculating admitted applicants) has been experienced lately, especially with respect to DLSPH MPH programs, based on competition from

[17] The University of Toronto has been organized around activity- based budgeting for 8 years. In addition, the Province of Ontario has been supporting expansion of graduate programs with a financing program through which the University of Toronto Provost has designated expansion "slots" for the DLSPH.

[18] Andre La Prairie, Public Health Agency of Canada. Personal communication to assembled audience at the March 4, 2016 meeting of the Canadian Network of Schools and Programs in Public Health, Toronto, ON.

other Canadian Universities with new graduate programs in public health that are offering significant financial incentives and in the context of Toronto's high cost of living. This can and will be addressed, to some extent, by minimizing tuition increases and making new scholarships available, but the situation will clearly require close monitoring and re-assessment.

Summary of our Self-Study Process

The self-study was commissioned by the Vice-President and Provost in October 2015. The finalization of the self-study document involved a number of faculty members, who were actively engaged in the writing process, and extensive consultation with the School's constituents. As an initial step the Dean engaged the following Dean's Team members to review and finalize the Terms of Reference and list of potential External Reviewers.

- Professor Adalsteinn Brown, Director, Institute of Health Policy Management and Evaluation
- Professor Rhonda Cockerill, Vice-Director, Institute of Health Policy Management and Evaluation
- Professor Andrea Sass-Kortsak, Associate Dean, Academic Affairs (term ended December 31st, 2015)
- Professor Ted Myers, Associate Dean, Faculty Affairs (term ending on August 31, 2016)
- Professor Daniel Sellen, Associate Dean, Research
- Robin Hurst, Chief Administrative Officer
- Nicole Bodnar, Director of Communications
- Beth McCarthy, Director of Advancement (transitioned as of June 2016)

The finalized Terms of Reference along with a long and thorough list of potential External Reviewers was submitted to the Vice-President and Provost in November 2015.

The Dean presented the UTQAP Self-Study template and finalized Terms of Reference (see **Appendix 7**) to the School's Executive Committee meeting on December 2, 2015. This Committee is comprised of the School's leadership including the members of the Dean's Team, Division Heads and Program Leads, as well as the School's Institute Directors. At this meeting, Self-Study section leads were assigned as follows:

1. Introduction and Context – Dean Howard Hu
2. Faculty – Associate Dean for Faculty Affairs Ted Myers
3. Academic Programs – Interim Associate Dean for Academic Affairs Jan Barnsley
4. Research- Associate Dean for Research Dan Sellen
5. Organization and Financial Structure- Dean Howard Hu, Ms. Robin Hurst (CAO), Ms. Melodie Buhagiar (Executive Assistant to the Dean)
6. Resources and Infrastructure- Dean Howard Hu & Ms. Robin Hurst
7. Academic Services- Professor Jan Barnsley

8. Internal & External Relationships- Dean Howard Hu & Professor Adalsteinn Brown
9. Previous Review Recommendations- Dean Howard Hu
10. Future Directions- Dean Howard Hu

The Executive Committee was consulted at each subsequent monthly meeting on the self-study's progress.

Section Leads worked directly with faculty members whose expertise was needed to execute each section fully. The Dean's Team was actively engaged in reviewing and discussing any needs regarding the self-study process from January 2016 onward. In March of 2016, a project manager was hired to assist the Dean and Section Leads to synthesize the document.

At the March 1, 2016 General Faculty Meeting, Dean Hu delivered a *State of the School* address which, among other things, highlighted the Quality Assurance Process Review. Within that address, the Dean reviewed and discussed many of the School's metrics and engaged the faculty in a broad and deep discussion.

As a follow-up, the web-page on the School's website (http://www.dlsph.utoronto.ca/about/university-of-toronto-quality-assurance-process-utqap/) was designed to ensure the School's broad constituency base had a point of contact to review any new updates or information regarding the review.

On May 17, 2016 the School distributed a communication to all faculty (core, status and adjunct), students, staff and alumni announcing the Provostial Review. The Dean wrote a concise and informative cover note highlighting the UTQAP webpage on the DLSPH website as a source of information and consultation throughout this process. The date of the External Review Visit and confirmed External Reviewers were also communicated. Any questions regarding the process were directed to the Dean's Office via dean.dlsph@utoronto.ca.

In preparation for the Self-Study and external process, the School designed a number of surveys to engage and consult with various groups. Any results currently available have been included within the self-study document.

The Dean personally met with student leaders and alumni representatives to discuss the review, invite their feedback and prepare them for their role in the External Review Visit. In addition, the Dean consulted with the Chair of the Dean's Advisory Board to discuss the review and the role of the Board throughout the review process. The Board is comprised of an esteemed group of individuals whose mission is to provide high-level advice and an external perspective to the Dean as he or she guides the DLSPH into the future. Most members are from the DLSPH's partner institutions.

On August 16, 2016, the draft self-study was placed on the DLSPH website and a further communication was distributed to all members of the DLSPH community inviting their review and feedback. All feedback was reviewed and the self-study was revised prior to the submission of the document to the Office of the Vice-Provost Academic Programs.

The feedback from the Vice-Provost, Academic Programs will be reviewed in late September with a final self-study document submitted by October 7, 2016. The final document will again be placed on the DLSPH website and communicated to all constituents.

2 Faculty

Overview of Faculty

The Dalla Lana School of Public Health (DLSPH) has the largest concentration of public health and health systems academics and researchers in Canada. As of June 1, 2016, the DLSPH together with IHPME had 86 core faculty members (42 tenure/tenure stream; 5 Budgetary-Cross; 23 Contractually Limited Term Appointments (CLTA); 13 Part-Time; and, 3 Teaching-Stream). In addition, there are 715 faculty members based in partner institutions and in the community (44 non-budgetary Cross-Appointments; 468 Status-Only; and 203 Adjunct).

Faculty Category	Number
Tenure/Tenure Stream	42
Contractually Limited Term Appointment	23
Part-Time	13
Teaching-Stream	3
Budgetary-Cross	5
Status-Only	468
Adjunct (Lecturer/Professor)	203
Non-budgetary Cross-Appointment	44

Table 2.1 describes the core faculty members by division/home unit, rank and appointment status.

Table 2.1: Core Faculty by Division, Rank and Appointment Status, 2015-2016

Division	Rank	Tenure	Tenure Stream	CLTA	Teaching Stream	Part-Time	Budgetary Cross
Biostatistics	Professor	3					2
	Associate Professor	1					
	Assistant Professor		1	1			
	Lecturer						
Clinical Public Health	Professor					1	
	Associate Professor			2			
	Assistant Professor			1		2	
	Lecturer			1			
Epidemiology	Professor	5		2			
	Associate Professor	3		1			
	Assistant Professor		2	1			
	Lecturer						
Occupational and	Professor			1			
	Associate Professor	1	1	1			
	Assistant Professor			2	1		

Environmental Health	Lecturer						
Social and Behavioural Health Sciences	Professor	3		1			1
	Associate Professor	3	1	1			1
	Assistant Professor		2	4		3	1
	Lecturer					1	
IHPME	Professor	9		1			
	Associate Professor	6		3	1	2	
	Assistant Professor		1				
	Lecturer				1	4	
SUBTOTAL		**34**	**8**	**23**	**3**	**13**	**5**
TOTAL		**86**					

Appendix 8 identifies core faculty and provides a synopsis of the number of courses taught by each, their supervisory responsibilities and any additional academic administrative roles undertaken. The data are based on the annual 2015-2016 Activity Report submitted by each faculty member in April 2016. In addition to these core faculty, there are 3 other ***paid*** faculty, who are seconded from partner organizations to DLSPH through contractual agreements with their home institution – their primary appointments are in the Departments of Nutritional Science, and institutions such as Cancer Care Ontario or Sunnybrook Health Sciences Centre. A list of DLSPH courses and the faculty that teach each course can be found in **Appendix 9**.

Given the interdisciplinary nature of public health and health systems, faculty members have varied backgrounds spanning: humanities and bioethics, epidemiology, biostatistics, social and behavioural sciences, economics, physical and life sciences, and clinical sciences. The CVs of faculty members are available to the external reviewers in electronic form.

The CVs of core faculty describe in detail their teaching, research and community service activities. A summary of their research productivity is outlined in the Research Section (section 4) of this report. In relation to their community service, faculty members are actively involved in the bridging of the academic world with the health practice and health policy fields. They are members of Boards of Directors of hospitals and regional health systems, Community Health Centers, Family Health Teams, professional associations such as the Patient Safety Institute and the Canadian Evaluation Society, government, crown corporations and policy-making bodies, and research and scientific organizations in other universities in Canada and internationally. They also have served important roles internationally on organizations such as the World Health Organization, United Nations, UNAIDS and Grand Challenges Canada International.

Our Faculty, jointly with the Faculty of Medicine, is a founding member of the *Consortium of Universities of Global Health (CUGH)* and is an active member of the Canadian Coalition for Global Health Research (CCGHR). Faculty members have been involved in numerous international organizations, including the Consortium for Advanced Research Training in Africa (CARTA), with Donald Cole, Susan Bondy and Dan Allman developing and leading workshops

and advanced seminars for the organization, and the World NCD Federation (WNF) with Arun Chockalingam serving on its International Advisory Committee.

Professor Donald Cole has co-led research on agriculture, livestock and health interventions in East Africa, challenged global and national policies associated with pesticide use in the Andes, and is now engaged in shifting food systems in these regions, among other international research. Professor Prabhat Jha has been leading the ongoing Million Death Study in India, and Professor Dan Sellen has been researching the effects of cell-phone-based breastfeeding counselling with a team at Egerton University (Kenya), and he also directs an evaluation of smart phone support of community health workers in Tanzania, as well as other advisory work internationally.

Our Faculty established tri-partite collaborations with:

(a) Shanghai Jiao Tong University (including Shanghai Centres for Disease Control, Shanghai Mental Health Centre) and the University of Melbourne in the areas of Big Data, Mental Health, Chronic Noncommunicable Diseases and Health System research. This collaboration led to a three day symposium at Shanghai in December 2015 which was attended by faculty members Arun Chockalingam, Dan Sellen, Xiaolin Wei, Prabhat Jha, David Henry, Arun Ravindran, Kwame MacKenzie and Rani Kotha.
(b) University of Utrecht and Chinese University of Hong Kong in the area of Exposomics. This collaboration led to a three day symposium at Utrecht, Netherlands in February 2016 which was attended by faculty members Greg Evans, Paul Demers and Jeff Brook.

Recent collaborations with Moi University (Kenya) have resulted in a successful workshop in Eldoret, Kenya (May 2016) on Nutrition under the title: "*Kuwa Tyari"* with faculty members Arun Chockalingam, Dan Sellen, Donald Cole, Ann Fox and Paula Braitstein contributing to the organization of Kuwa Tyari, a 3-day conference where Dan Sellen, Andrea Cortinois, Paula Braitstein and Lisa Forman made scientific presentations.

DLSPH has MOUs with international institutions including (among others): Institutos des Nacional de Salud Pública (Mexico); International Centre for Diarrhoeal Diseases Research (Bangladesh); Fundação Oswaldo Cruz (Brazil); Centre for Health Services Studies, University of Kent (UK); Scuola Superiore Sant'Anna (Italy); Jerusalem College of Technology; and The Universidad Andina Simón Bolivar (Ecuador). DLSPH is also collaborating with Shanghai Jiao Tong University and the Chinese University of Hong Kong through umbrella MOUs with the University of Toronto.

Our faculty serve as editors to journals including Global Health Promotion and a new quarterly on-line journal: *International Journal of Noncommunicable*.

Over the past five years, 37 faculty members have been recruited. There are 11 in tenured/tenure stream positions and 14 in CLTA positions. In 2016, 4 core faculty members are

retiring (2 tenured and 2 CLTA/part-time). Known at this point in time, in 2017, there will be an additional 5 retirements, another 2 in 2018 and another 1 in 2019.

The DLSPH has implemented a mentoring system, in particular, for new faculty. This is administered primarily through the divisional and home unit structure. Full-time faculty are assigned a mentor over the first 3 months of a junior faculty member's appointment. Through meetings, junior faculty may also identify a "primary" DLSPH faculty member who agrees to serve in this capacity and to meet at least 4 times a year. Junior faculty also are encouraged to identify additional "secondary" mentors who could be faculty in DLSPH or elsewhere in the university. The Associate Deans of Faculty Affairs, Academic Affairs and Research also are available to provide advice and direction. The goals of mentoring are to: a) help guide junior faculty to success with respect to the balance of teaching, research and service that is expected from them; b) develop and implement strategies that will maximize chances of promotion; c) suggest specific paths that may assist in career development; and d) provide feedback and advice on issues that arise in each junior faculty's career.

To assist in developing academic leadership, the DLSPH participates in the NEAL (New and Emerging Academic Leaders) program. The goal of the NEAL program is to foster a productive, visionary and collaborative academic leader in the Academic Health Science Network. In the past 5 years 2 individuals have been sponsored to participate and an additional 2 will be participating in the near future.

Faculty attitudes and perceptions about working in the DLSPH are assessed regularly in the university's "Speaking Up" Survey (see section 8 of this report for further detail.)

The school continues to develop closer relationships with our Status-only and Adjunct faculty, which allows us to admit a greater number of students and meet the university's budget expectations. Table 2.2 presents a summary of the number of status-only faculty affiliated with partner institutions.

Table 2.2: Home Institutions of Status-Only Faculty

Affiliated Hospitals	**Number**
Baycrest Health Sciences	2
Holland Bloorview Kids Rehabilitation Hospital	2
Centre for Addiction and Mental Health (CAMH)	30
Hospital for Sick Children (HS)	63
Mt. Sinai Hospital (Samuel Lunenfeld RI)	8
St. Michael's Hospital	64
Sunnybrook Health Sciences Centre	52
University Hospital Network (TG, TW, PM, TR)	68
Women's College Hospital	31
Others	16

Total	**336**
Research Organizations	
Cancer Care Ontario (CCO)	11
Institute for Work and Health (IWH)	9
Institute for Clinical Evaluative Sciences (ICES)	10
Canadian Institute for Health Information (CIHI)	2
Ontario Institute for Health Research (OIHR)	0
Total	**32**
Government	
Federal (Health Canada, PHAC, Environment Canada)	4
Provincial (PHO, MOHLTC, MOE, MOL)	24
Local - Toronto Public Health	4
Total	**32**
Other Universities	
Lakehead University	1
McMaster University	8
Nipissing University	1
Queen's University	1
Ryerson University	4
University of Ontario Institute of Technology	3
University of Waterloo	2
University of Western Ontario	3
Wilfrid Laurier University	2
York University	4
Others (outside Ontario, international)	22
Total	**51**
Other	
Foundations, centers, etc.	**17**
Grand Total	**468**

3 Academic Program(s)

With the transition of IHPME into the DLSPH in July of 2014, as well as the continuing development of new educational offerings that respond to workforce needs and take advantage of the wide range of expertise represented by DLSPH faculty, the DLSPH now offers the full spectrum of academic programs that could be expected of a global School of Public Health.

The DLSPH offers the following Master's level academic programs:

3.1 Master of Public Health
- Epidemiology
- Family and Community Medicine
- Nutrition and Dietetics
- Occupational and Environmental Health
- Health Promotion (Social and Behavioural Health Sciences)

3.1A Diploma in Community Health

3.2 Master of Health Science in Bioethics

3.3 Master of Health Science in Health Administration

3.3A Master of Health Science in Health Administration / Master of Social Work

3.4 Master of Health Informatics

3.5 Master of Science
- Biostatistics

3.6 Master of Science in Community Health
- Addictions and Mental Health
- Family and Community Medicine
- Health Practitioner Teacher Education
- Occupational Health Care
- Wound Prevention and Care

3.7 Master of Science in Health Policy, Management and Evaluation
- Clinical Epidemiology and Health Care Research
- Health Services Research
- Quality Improvement and Patient Safety (NEW)
- System Leadership and Innovation (NEW)

The DLSPH benchmarks well in its quality of teaching and research training and career orientation, according to the Canadian Graduate & Professional Student Survey (CGPSS) of professional master's students in Bioethics, Health Informatics, Health Policy Management & Evaluation, and Public Health Sciences (Table 3.i).

Table 3.i: Benchmarks – Professional Master's Students

Benchmarks	CGPSS	U of T Dalla Lana School of Public Health	U15[19] (Public Health[1])	U of T (All disciplines)	U15 (All disciplines, excl U of T)	Ontario (All disciplines Excl U of T)
1. Quality of Teaching	2010	3.91	3.89	3.89	3.77	3.76
	2013	3.74	3.88	3.88	3.79	3.74
2. Research Training and Career Orientation	2010	3.46	3.01	3.19	3.15	3.17
	2013	3.16	3.09	3.23	3.17	3.08

The DLSPH benchmarks well in its quality of teaching, research training and career orientation, and having supportive dissertation advisors according to the CGPSS of research master's students in Health Policy Management & Evaluation and Public Health Sciences (Table 3.ii).

Table 3.ii: Benchmarks – Research Master's Students

Benchmarks	CGPSS	U of T Dalla Lana School of Public Health	U15 (Public Health[1])	U of T (All disciplines)	U15 (All disciplines)	Ontario (All disciplines)
1. Quality of Teaching	2010	3.93	3.87	3.88	3.79	3.79
	2013	3.99	3.40	3.85	3.78	3.81
2. Research Training and Career Orientation	2010	2.91	3.05	2.93	2.78	2.75
	2013	2.62	2.45	2.84	2.74	2.75
3. Supportive Dissertation Advisor	2010	3.49	3.38	3.30	3.29	3.32
	2013	3.30	3.20	3.29	3.31	3.35

The DLSPH offers the following Doctoral level academic programs:

3.8 PhD: Public Health Sciences

- Biostatistics
- Epidemiology
- Occupational and Environmental Health (NEW)
- Social and Behavioural Health Sciences

[19] "U15" refers to Canada's fifteen research intensive universities, which includes the University of Alberta, University of British Columbia, University of Calgary, Dalhousie University, Laval University, University of Manitoba, McGill University, McMaster University, University of Montreal, University of Ottawa, Queen's University, University of Saskatchewan, University of Toronto, University of Waterloo and Western University.

3.9 PhD: Health Policy, Management and Evaluation

- Clinical Epidemiology and Health Care Research
- Health Services Research

The DLSPH benchmarks well in its quality of teaching, research training and career orientation, and having supportive dissertation advisors according to the CGPSS of doctoral students in Health Policy Management & Evaluation and Public Health Sciences (Table 3.iii).

Table 3.iii: Benchmarks – Doctoral Students

Benchmarks	CGPSS	U of T Dalla Lana School of Public Health	U15 (Public Health[1])	U of T (All disciplines)	U15 (All disciplines)	Ontario (All disciplines)
1. Quality of Teaching	2010	3.87	3.68	3.88	3.79	3.79
	2013	3.74	3.89	3.85	3.78	3.81
2. Research Training and Career Orientation	2010	2.91	2.43	2.93	2.78	2.75
	2013	2.70	2.49	2.84	2.74	2.75
3. Supportive Dissertation Advisor	2010	3.35	3.21	3.30	3.29	3.32
	2013	3.27	3.27	3.29	3.31	3.35

Residency programs: The DLSPH also houses two residency training programs - Occupational Medicine, and Public Health and Preventative Medicine. These programs are post-graduate medical education programs accredited by the Royal College of Physicians and Surgeons of Canada. Both programs were last accredited in 2013 and have successfully completed internal reviews this year.

Occupational Medicine is that branch of medicine that emphasizes prevention and deals clinically and administratively with the health needs of both individuals and groups with respect to their working environments and includes the recognition, evaluation, control, management and rehabilitation of occupationally related diseases and injuries, and other conditions affecting ability to work.

Public Health and Preventive Medicine (PHPM) physicians lead local, regional and national public health organizations in Canada. Alternately, they also conduct research, occupy roles in health system transformation, clinical medicine and global health. PHPM specialists deal primarily with populations and communities rather than with individuals. In conjunction with other health professionals and members of the community, the public health and preventive medicine physician measures the health needs of the community and leads initiatives to improve health and decrease health inequities. PHPM training involves two years of clinical training, one year of graduate training, and two years of field rotations in public health units, organizations and regional authorities.

3.1 Master of Public Health (MPH) Program

Program Description

The Master of Public Health (MPH) degree is designed to prepare practitioners, educators and researchers for careers in public health. The purpose of the MPH Program is to provide advanced training to practitioners entering the field, to experienced professionals wishing to enhance their health expertise, and to those wishing to pursue doctoral training and a career in research. The MPH fields offered in the DLSPH are Nutrition and Dietetics, Epidemiology, Family and Community Medicine, Health Promotion (Social and Behavioural Health Sciences), and Occupational and Environmental Health. The DLSPH does not offer a generalist MPH.

MPH Fields

- Nutrition and Dietetics
- Epidemiology
- Family & Community Medicine
- Health Promotion (Social and Behavioural Health Sciences)
- Occupational & Environmental Health

Program Objectives

In 2011, the DLSPH established a curriculum renewal task force (CRTF) to assess needs and implement curricular change. The task force conducted an environmental scan of MPH programs in North America, surveyed faculty and alumni, consulted with employers, students and preceptors, and interviewed public health leaders in Canada to identify strengths, gaps and future needs for curriculum revision. Key findings included:

- Strong employer support for the specialized foci of MPH fields (versus generalist MPH program)
- Need to develop leaders who can deal with emerging complexities of public health
- Key skills and knowledge areas for the near future include qualitative and quantitative methods, communications and policy foundation
- Need to develop interdisciplinary/interprofessional problem-solving and critical thinking skills

From the data gathered, the CRTF developed a vision, mission, goals and objectives for the MPH program.

VISION: MPH graduates are leaders in the advancement of public health through research, education and practice.

MISSION: MPH graduates build on a foundation of disciplinary, interdisciplinary and core public health expertise to enhance the health of individuals and populations.

The overarching goals and corresponding objectives that support achievement of the vision and mission and guide curricular planning for all MPH fields are aligned with the University of Toronto's Statement of Institutional Purpose (University of Toronto governing Council, October 15, 1992): "The University of Toronto is committed to being an internationally significant research university, with undergraduate graduate and professional programs of excellent quality." The goals and objectives are also aligned with the DLSPH's stated goal of "training the next generation of scientists, educators and practitioners who will shape healthier societies in Canada and around the world." The MPH goals and objectives are as follows:

Goal 1: Develop practitioners who are the graduates/employees of choice within the public health workforce.

Objectives	Indicator
1.1 Prepare graduates to be discipline-specific public health specialists	Graduate membership in professional/discipline specific organizations
1.2 Curriculum integrates core public health and inter-professional expertise with discipline-specific expertise	Course outlines 2015 gap analysis
1.3 Graduates anticipate and address needs of multiple stakeholders including employers, researchers, policy-makers, community leaders and members, and professional organizations	Alumni and employer survey feedback Practicum preceptor evaluations

Goal 2: Prepare professionals for leadership roles in public health.

Objectives	Indicator
2.1 Graduates assume leadership roles in practice and/or research	Alumni survey
2.2 Curricula integrate and promote sharing of previous life and work experiences	Course outlines reflect adult education principles
2.3 Innovative educational approaches and partnerships support access to MPH for working professionals	No. of working professionals in MPH program Part-time, modular and on-line course delivery options

Goal 3: Prepare graduates for practice/community-based and academic research involvement

Objectives	Indicator
3.1 Graduates demonstrate discipline-appropriate knowledge of , and skills in the research process, including qualitative and quantitative research methods	Alumni survey
3.2 Graduates effectively interpret research and evaluate and synthesize evidence related to public health issues	Capstone papers, Research and Practice Day, assignments
3.3 Graduates wishing to pursue doctoral studies are well prepared to do so.	Admissions to doctoral programs

Goal 4: Foster innovative approaches to promoting health and researching and addressing public health issues

Objectives	Indicator
4.1 Graduates think broadly, critically and creatively	Research & Practice Day Preceptor feedback to students Capstone projects Service learning projects Student assignments
4.2 Graduates work collaboratively in interdisciplinary and inter-professional teams to capture diverse perspectives and consider multiple strategies/approaches	Intro PHS case studies Preceptor feedback Student led conference planning Research & practice Day Group Assignments

Competencies

The CRTF agreed that establishing a set of competencies that students across all MPH fields develop and demonstrate during the program, would provide a valuable planning and quality assurance tool. MPH program leads, faculty and student representatives reviewed the Public

Health Agency of Canada (PHAC) Core Competencies for Public Health in Canada: Release 1.0 (http://www.phac-aspc.gc.ca/php-psp/ccph-cesp/pdfs/cc-manual-eng090407.pdf) and the Association of Schools of Public Health in the US Council for Education on Public Health Accreditation Criteria (CEPH competencies, http://ceph.org/assets/PHP-Criteria-2011.pdf) and considered adopting one of these sets. (Note: An analysis of the DLSPH curriculum in relation to the US CEPH core competencies is available to the reviewers electronically.) Given the field specializations and application of discipline-specific competencies within each of the fields however, the team decided that a streamlined set of competencies that draws on both the PHAC and CEPH competencies, and highlights the leadership and interdisciplinary skills identified in the environmental scan, would be more productive in helping address the cross-cutting program priorities. With considerable faculty and stakeholder input, a set of 30 competencies, all falling within the 7 PHAC categories, was developed through a consensus process, to guide the next phase of curriculum renewal. Each MPH field completed a mapping exercise to assess the degree to which these competencies were being met through the existing curriculum (see **Appendix 10**) and these were compiled. Common gap areas were identified and the following curriculum renewal priorities were established:

1. Strengthen the core qualitative and quantitative methods offerings.
2. Enhance foundational knowledge on Canada's Health and Health care systems within the policy course offerings.
3. Enhance opportunities for interdisciplinary/inter-professional learning.
4. Incorporate problem-based learning and critical thinking requirements into course work.
5. Support career development though professional skill building opportunities.

To address these, several curriculum changes were implemented including:

- Development of case-based learning in the Introduction to Public Health core course that all DLSPH students take, and where they work in interdisciplinary/inter-professional teams to complete real life case studies.
- Inclusion of Canada's health care system in the introductory policy course.
- Creation of a professional development workshop series for MPH students.
- Re-development of introductory quantitative and qualitative methods course (CHAM 1 & 2).

In 2015 the mapping exercise was repeated (see **Appendix 11**) to monitor progress and identify new needs. MPH program leads identified significant improvement in all 5 priority areas and new cross-cutting gaps including the need for attention to chronic and infectious disease, environmental health (for non-OEH students), socio-cultural perspectives for EPI, OEH and FCM, and biological and physiological perspectives for HP and Epi students. Subsequent planning will focus on these priority areas.

It should be noted that two of the field/specializations have professional accreditation or certification requirements.

- In the Nutrition and Dietetics specialization, students develop the competence required for entry-level dietetic practice through membership eligibility in one of the provincial regulatory bodies (i.e. the College of Dietitians of Ontario). The MPH ND program is accredited every 5-7 years by the Partnership in Dietetic Education and Practice (PDEP) and the vast majority of graduates become registered dietitians. The Integrated Competencies for Dietetic Education and Practice (ICDEP) acquired through this field can be found at http://www.pdep.ca/files/Final_ICDEP_April_2013.pdf.

- Occupational and Environmental Health specialization students develop the competence required for the theoretical, technical and practical aspects of occupational hygiene, sufficient for the students to pass professional examinations offered by the Canadian Registration Board of Occupational Hygiene and/or the American Board of Industrial Hygiene. This competence includes knowledge of physical and biological sciences; understanding workplace hazards and risk assessment; having knowledge of ergonomics, occupational safety, accident prevention; and, occupational health and safety considerations of labour relations.

A more detailed description of objectives and competencies for each specialization is provided in **Appendix 12**.

Admission Requirements

Minimum admission criteria to the MPH program are:

- A four-year undergraduate degree relevant to the MPH area of specialization;
- Minimum B (75%) standing in the fourth year of study;
- Demonstrated proficiency in English language;
- Demonstrated interest in Public Health;
- An undergraduate course in statistics; and
- Relevant practical experience and demonstrated interest in the area of specialization.

In addition to the general MPH admission criteria, Nutrition and Dietetics requires an undergraduate degree with specialization in nutritional sciences (accredited by Dietitians of Canada or equivalent). Applicants to the advanced standing option must have a minimum of five years of experience working as a dietitian in a related field. Students in Nutrition and Dietetics who qualify for advanced standing complete only 5 FCE along with distance-education components.

In addition to the general MPH admission criteria, Family and Community Medicine requires applicants to be licensed and regulated primary care clinicians (or equivalent) in Canada. Full-time students usually complete the 10 FCE MPH degree in 20 months [i.e., they are usually expected to complete it within two (2) years (minimum completion time is 16 months)]. Part-time students may take longer, but not more than six (6) years.

In addition to the general MPH admission criteria, Health Promotion and Epidemiology require completion of an undergraduate course in statistics with qualifying content and grade defined for each field. Effective 2017, Epidemiology will require applicants to submit Graduate Record Examination general score reports. All three standard scores (quantitative reasoning, analytic writing and critical reading) will be considered. No minimum scores have been adopted.

Curriculum and Program Delivery

The MPH fields and associated disciplines are directly aligned with the training needs of professions that typify the destinations of public health school graduates.

- Nutrition and Dietetics emphasizes systems approaches, development of transferable skills and principles of adult education: self-assessment, self-directed learning, critical reflection, as well as the importance of continuous learning.

- Epidemiology emphasizes quantitative methods, critical appraisal of evidence, research design and implementation, data analyses and interpretation. It trains epidemiologists to work in practice or research settings, and prepares graduates for PhD work in epidemiology.

- Family and Community Medicine trains primary care physicians to identify emerging public health problems, to promote healthy lifestyles, to screen appropriate patients for disease, to advocate for patients and to provide public health initiatives to their patients.

- Health Promotion takes a social science perspective in addressing issues related to the health of individuals, communities and populations with special attention to identifying, understanding and addressing the societal and personal determinants of health. There is an emphasis on an array of mutually reinforcing health promotion and public health strategies, including health education and communications, community development, the role of organizational development and change, health advocacy, and the development of health promoting public policy.

- Occupational and Environmental Health is offered with two options. The professional occupational hygiene option is focused on the prevention of disease and injury arising from the workplace, through the identification of health hazards, the evaluation or assessment of the extent of risk posed by the hazards, and the elimination or control of

the risks. The research option is focused on training students who wish to pursue a research career in occupational and/or environmental health.

Each of the MPH fields has a different emphasis with respect to the discipline but share common goals in preparing students for a career in public health. Through each of these fields, students satisfactorily cover the core areas of public health. In addition to these core public health fields, students are encouraged to consider the global implications of their work. The DLSPH program prepares graduates for careers in diverse areas of public health research and practice, to promote the health of individuals, communities, and populations.

Collaborative Programs

Students enrolled in the MPH program also have the option of completing one or more collaborative programs. Collaborative programs are offered across departments and faculties to enable students with special interests to explore and acquire deeper interdisciplinary insight into that area of interest. Collaborative program options include:

DLSPH-based:

- Aboriginal Health
- Bioethics
- Community Development
- Health Services and Policy Research
- Public Health Policy
- Women's Health

Other collaborative programs:

- Addiction studies
- Aging, Palliative & Supportive Care across the Life Course
- Environment and Health
- Human Development
- Resuscitation Sciences
- Sexual Diversity Studies
- Women and Gender Studies

MPH Courses

The program requirements for the MPH degree include completion of:

- 10 full course equivalents (FCE) including
    - CHL 5004 Introduction to Public Health Sciences,
    - CHL 5300 Public Health Policy (except OEH specialization),

- Introductory course(s) in Epidemiology and Biostatistics; and/or Community Health Appraisal Methods 1 , and
- At minimum, one practicum placement.

A table outlining the core courses across all fields in the MPH is shown in **Appendix 13** as some MPH fields differ from those described above.

Each specialty/field combines foundational public health research and practice course work, with discipline-specific specialization, and research skill and leadership development opportunities. Students from each specialization begin their study together in the Introduction to Public Health Sciences core course (CHL 5004H), and reconnect with each other throughout the program in electives and at research, leadership and education events, Research and Practice Day and the student-led conference. This interdisciplinary approach to learning enables students to share a common public health perspective while strengthening their core disciplinary focus.

Course work across all fields provides theoretical foundations and skill development for approaching practice, assessing and critically evaluating public health approaches while considering ethical issues in public health research and practice. Specific course requirements within each MPH specialization can be found in **Appendix 14**.

MPH students with an academic research interest may tailor their program somewhat to take courses in research methods rather than a strictly practise-based course of study. For those pursuing a practice-based focus, the development of public health skills through applied field work is considered a key element of the MPH program.

All MPH students are required to complete one practicum and most fields allow a second optional practicum. The practicum is a key part of students' learning process. It is where students are exposed to a real public health setting in their specialized area, with the support of a field supervisor approved by the practicum co-ordinator or program director. The kind of activities undertaken during practica depends on the specialization, the needs of the agency/organization sponsoring the practicum, and the student's own learning objectives and interests. Such activities include: undertaking a project (or part of a project) on behalf of the sponsoring agency/organization or participating in the ongoing business of the agency/organization.

The faculty have strong linkages with practitioners and external researchers who supervise and provide mentorship for students. With faculty support, students identify learning needs, develop learning plans to guide their practicum experiences and report on their experiences during and after the placements. Feedback from students suggests that practica are extremely valuable opportunities to network, develop professional skills and experience new sectors of the public health system. Students with a research interest can obtain their practicum experiences in academic research institutes, clinical research units or government agencies.

Assessment of Learning

Almost all courses completed for the MPH degree are graded on a letter grade scale in accordance with the University's Graduate Grading and Evaluation Practices Policy. A limited number of courses, including the common introductory course (CHL 5004) and required practicum placement of all fields are graded on a pass/fail basis. Specific grades are not employed in these pass/fail courses, in order to promote risk tasking and exploratory learning by the students.

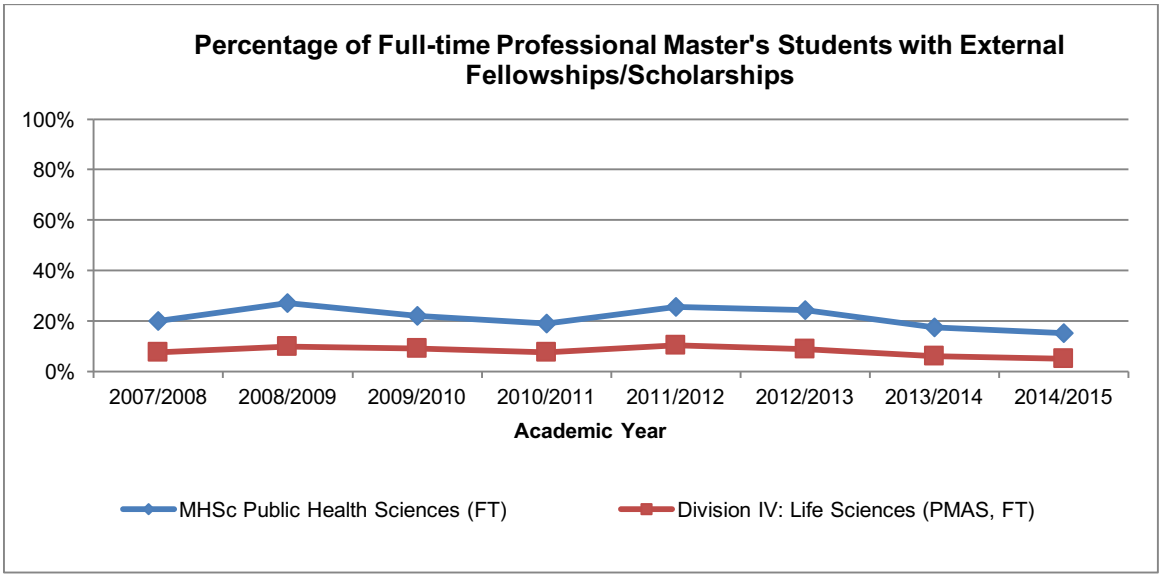
As the MPH courses range from applied social sciences to physical sciences and health sciences, there is a broad range of student assessment methods employed including problem sets, field exercises, research projects, case studies, essays/term papers, presentations, service learning and written examinations that test knowledge, skills, problem solving abilities and communication as relevant to each of the fields within the program.

The required practicum places students in a variety of public health settings where either they hone their professional skills or undertake public health research enquiries as dictated by their field's requirements. Preceptors in these practicums provide feedback to the field program directors about student performance against professional standards and/or against a pre-determined set of student-specific learning objectives, to ensure it was a positive experience to the student's learning outcomes. The deliverables do differ somewhat between practicums and fields, but are specified within each field and graded pass/fail by the field program director.

Student Awards

Since the MPH is a professional master, students are not part of the funded cohort. However, MPH students are still eligible to apply for external funding such as OGS and some CIHR funds specific to professional programs, like the STIHR training award for Public Health Policy. Figure 3.1.i illustrates that our students have been somewhat more successful at such awards, in comparison to other professional master's programs in Life Sciences.

Figure 3.1.i: Student Fellowships/Scholarships



In addition to the external fellowships and scholarships, funds from the Dalla Lana endowment (currently $5000 per award) and other smaller sources are directed to attract candidates to the MPH degree and awarded based on merit. Table 3.1.ii illustrates both the external funding and known funding administered by DLSPH to MPH students. According to these data, nearly 1/3 of the 312 total students who received an award in this period received it from OGS, which was the largest single source of such awards. Dalla Lana entrance scholarships were the next largest source of awards, which were granted to 79 MPH students.

Table 3.1.ii: MPH Student Awards

Summary of MPH Student Awards							2010-2014
Year	Total # Students	% with Fellowships/ Scholarships	Total # Students Receiving Fellowships and Scholarships	Total # Students Receving Awards	Total Awards Value $	Total # Students Awarded >$5000 and <$15000	Total # Students Awarded >$15000
	According to Cube (external, merit based fellowships and scholarships)			Per DSLPH Database Includes internal funding and awards, but not bursaries			
2010	157	19.1%	30	35	298,811	13	5
2011	160	25.6%	41	58	608,932	29	14
2012	173	24.3%	42	70	747,349	41	16
2013	172	17.4%	30	76	620,452	50	9
2014	190	15.3%	29	73	496,816	36	8

It is illustrative to note that the majority of students received fellowships or scholarships with a value equal or less than $5,000 per award with only a small fraction receiving equal or more than $15,000.

> ***Receiving the Dalla Lana Scholarship motivated me to do my very best academically. I'm grateful for the generous donation from the Dalla Lana family, and feel it is very important that they are supporting the field of public health and the new generation of individuals like me who are pursuing careers in public health. Only public health can prevent problems on a large scale, impacting entire populations.***
> **Oleksandr Udovyk, Master of Public Health candidate**

Student Funding

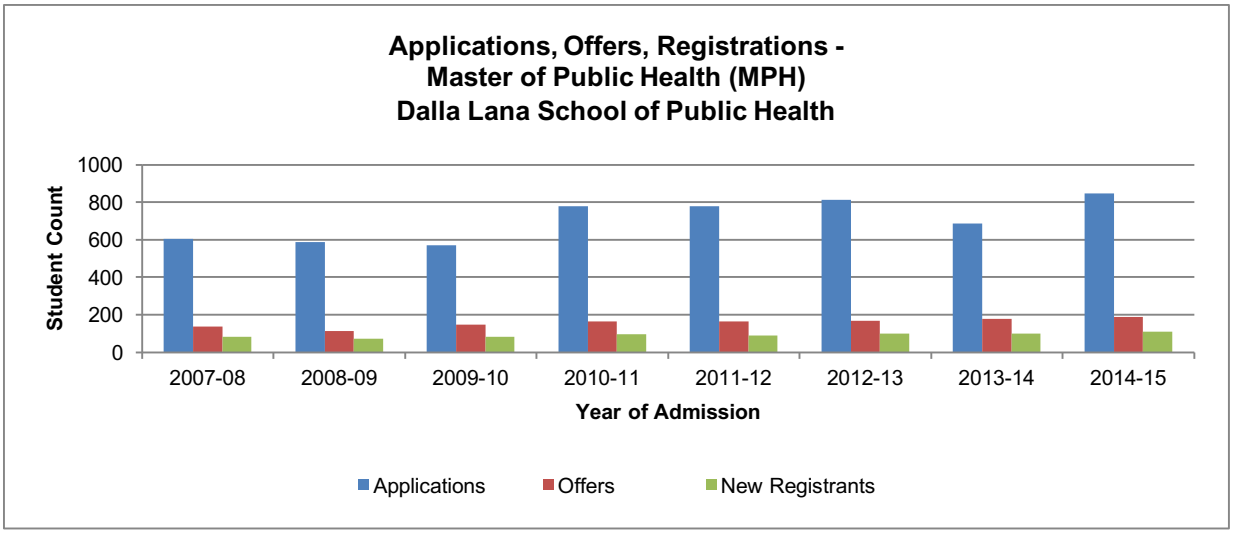
Since the introduction of the current funding policy that guarantees a minimum level of support to PhD students, it was not possible to provide a similar guarantee for our Master's students. Although many receive scholarships (such as our Dalla Lana scholarships), the great majority do not. As a consequence, some drop in our yield has recently been experienced from competition with some of the many other graduate programs in public health that have sprung up in Canada in the last few years, some of which have started to offer significant financial incentives at the Master's level. This is a challenge shared by all MPH programs at the DLSPH. A funding model sustainable over the long-term is needed, especially given the continuing proliferation of similar programs across Canada.

Quality Indicators

Table 3.1.iii presents data on applications and offers, pooling all MPH fields. Application numbers per program are highly variable with the two largest applicant pools being MPH Health Promotion and Epidemiology, with over 300 applications each, annually.

Table 3.1.iii: MPH Degree - Public Health Sciences

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	604	586	571	779	778	811	685	846
Offers	139	113	146	166	166	167	178	187
New Registrants	82	71	84	95	90	101	99	110



* Application numbers do not necessarily reflect numbers of applicants meeting general or program-specific eligibility.

Table 3.1.iv: Offer Rate MPH Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
MPH (Public Health Sciences)	23.0%	19.3%	25.6%	21.3%	21.3%	20.6%	26.0%	22.1%
Dalla Lana School of Public Health	25.6%	26.1%	31.1%	26.9%	27.6%	27.5%	31.9%	28.2%
Division IV Life Sciences	28.4%	28.6%	30.8%	26.2%	26.2%	26.8%	25.9%	27.1%
U of T	43.2%	43.6%	44.3%	39.7%	39.6%	39.1%	40.2%	39.9%

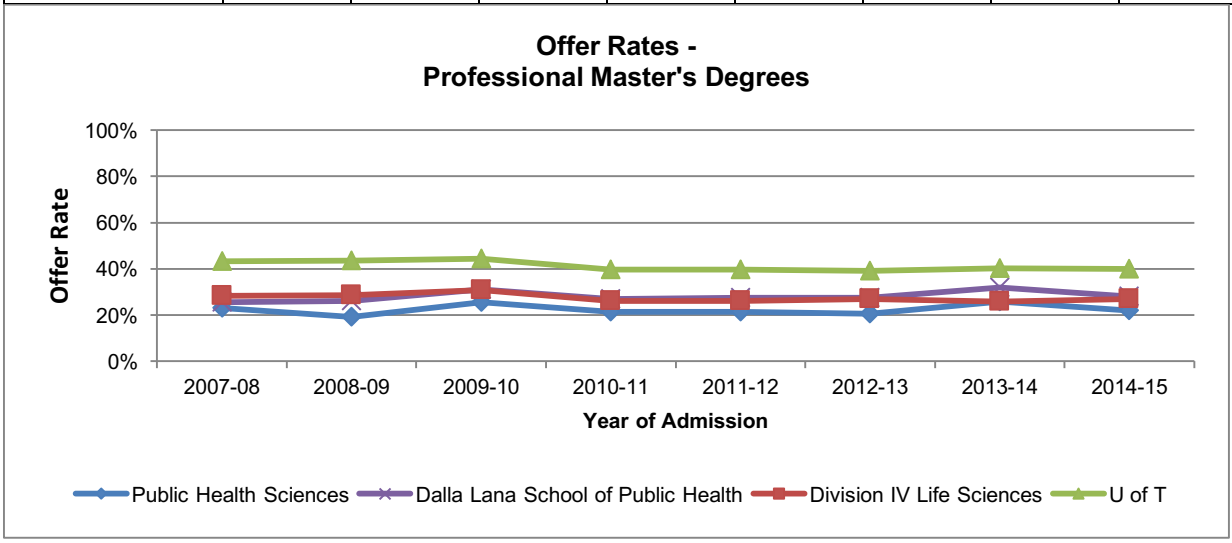
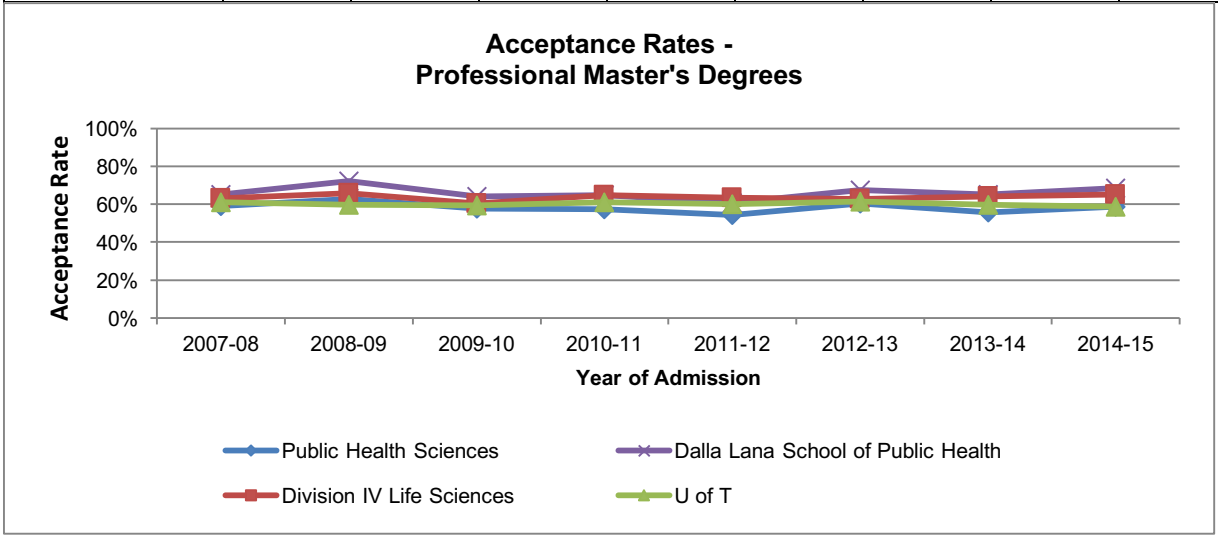


Table 3.1.v: Acceptance Rate – MPH

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
MPH (Public Health Sciences)	59.0%	62.8%	57.5%	57.2%	54.2%	60.5%	55.6%	58.8%
Dalla Lana School of Public Health	65.3%	72.2%	64.2%	64.9%	60.9%	67.5%	65.1%	68.4%
Division IV Life Sciences	63.1%	65.7%	60.3%	64.9%	63.4%	62.7%	64.1%	65.2%
U of T	61.2%	59.7%	59.3%	61.0%	59.9%	61.5%	59.8%	58.6%



Enrolment, Withdrawal & Graduations: Table 3.1.vi shows that the total number of students enrolled full-time in the MPH program has increased by 25% from 2010-2015. Proportionally, this growth has occurred in four of the five fields while the Epidemiology field had approximately the same enrolment.

Table 3.1.vi: Full-time + Part-time Enrolment (Headcount)

MPH (Public Health Sciences) Enrolment	Fall 2010 (FT + PT)	Fall 2011 (FT + PT)	Fall 2012 (FT + PT)	Fall 2013 (FT + PT)	Fall 2014 (FT + PT)	Fall 2015
Community Nutrition	20+5	20+5	29+5	28+5	28+4	33+5
Epidemiology	61+11	66+10	55+12	58+7	63+7	58+9
Family and Community Medicine	2+4	2+6	2+7	4+8	5+10	3+13
Health Promotion	54+17	55+21	63+17	60+12	65+11	72+8
Occupational & Environmental Health	20+6	17+6	24+2	22+4	28+5	31+3
Total	**157+44**	**160+49**	**173+43**	**172+36**	**189+37**	**197+38**

Overall, part-time students account for less than 20% of the MPH enrollment and declines in some fields were nearly balanced by increases in others. Part-time students tend to be those who are employed (typically in public health or healthcare) and who wish to upgrade their credentials. However, since many courses are offered only during normal business hours and all MPH students must participate in a practicum placement, there are significant barriers for those employed full-time to enroll in the programs.

Time to Degree Completion

The mean and median times to degree completion (TTC) over the past five years, and a comparison to U of T data for eight years, are provided in Table 3.1.viii. Students are undertaking their programs, largely in a cohort, resulting in efficient completion rates, even for part-time students.

Table 3.1.viii: Time to Degree Completion by year

Mean Times to Completion (TTC) of M.P.H. by year				
	Full-time		Part-time	
Graduation Year	Number of Graduates per year	Mean (TTC)	Number of Graduates per year	Mean (TTC)
2010-11	58	**Unavailable	8	**Unavailable
2011-12	80	1.8	17	3.0
2012-13	85	1.8	11	2.6
2013-14	77	1.7	19	2.9
2015-16	90	1.7	11	2.6

**Unavailable due to errors in attributed number of graduates.*

	Health Policy, Management, & Evaluation (PMAS, FT)		Dalla Lana School of Public Health (PMAS, FT)		Life Sciences (PMAS, FT)		All U of T (PMAS, FT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	37	1.6	88	1.6	417	1.9	1424	1.6
2008-09	30	1.7	80	1.6	411	1.9	1652	1.7
2009-10	34	1.7	68	1.5	404	1.8	1791	1.7
2010-11	32	1.7	89	1.5	497	1.8	2055	1.7
2011-12	36	1.7	136	1.7	541	1.8	2118	1.7
2012-13	36	1.7	138	1.7	546	1.8	2268	1.6
2013-14	40	1.7	130	1.7	544	1.8	2587	1.6
2014-15	33	1.7	143	1.7	580	1.8	2775	1.6

A comparison of PHS professional master's student satisfaction to overall U of T student satisfaction with their program, quality of interaction and coursework, and their program/department support can be found in **Appendix 15**.

Quality Enhancement

The curriculum renewal process in 2012 spurred not only changes in the MPH curriculum, but also faculty interest in education innovation and scholarship that resulted in the following new initiatives:

On-line Quarter Course Modules

In winter 2015, the MPH program launched a pilot project offering four quarter course on-line modules. The purpose of this initiative was threefold:

1) To enhance breadth of curricular offerings to MPH students with limited elective space in their timetables through a menu of quarter course credits;
2) To provide on-line formats that enhance access to courses for students completing field work and practica outside of Toronto or working students who benefit from flexible scheduling of course time; and
3) To begin to build faculty expertise in on-line teaching and learning. A team of five interested faculty members, with education technology support from the Centre for Teaching Support and Innovation and administrative support from the Graduate Office, developed and implemented the following initial quarter courses:

    - Addictions and Mental Health,
    - Introduction to Environmental Health,
    - Survey Methods, and
    - Community Development.

Student and faculty feedback was positive and establishing policies and procedures for quarter course credits has been helpful for offering quarter credit campus-based and reading courses as well. The next step will be to develop a menu of quarter course on-line offerings to expand elective offerings in accessible formats.

Case-based Introduction to Public Health Course

The curriculum renewal process identified the need to revise the introductory public health course that all DLSPH students take to include a focus on interdisciplinary problem solving. Following the completion of a week of seminars and orientation sessions, students participate in case-based learning tutorials and complete interdisciplinary case studies which were developed from extensive research on actual public health challenges in specific communities across Canada. Cases are presented in an end of term poster presentation and celebration. DLSPH alumni are also involved in this course as tutors, poster judges, alumni panelists and presenters.

Service Learning

Service learning provides valuable opportunities for students to learn first-hand about public health while contributing to the mandates of relevant community organizations and workplaces. Several of the MPH fields, including HP, ND and OEH, incorporate service learning experiences into coursework. Health Promotion students work with the community organization SKETCH. Nutrition and Dietetics students work with Toronto Public Library branches and with community food organizations. OEH students are involved with onsite workplace hazard assessment at the Toronto Transit subway repair shop and Irving Tissue as part of their required coursework.

As part of the Health Promotion 1 course, HP students participate in service learning at the SKETCH arts studio. Sketch Working Arts for Street Youth, www.sketch.ca, creates opportunities for young people (ages 16 to 29) who are living street-involved, homeless or otherwise on the margins, to experience the transformative power of the arts. HP students engage in a collaborative arts-based workshop with SKETCH staff and youth exploring application of health promotion theories and principles to the SKETCH work.

Health promotion students also engage with young social entrepreneurs who have just launched a youth engagement initiative called Next Gen Men exploring concepts of healthy masculinity, http://nextgenmen.ca/, to provide ideas and input for programming. Next Gen Men is a non-profit, after-school program for boys aged 12-14 years old that disrupts the prevalent ideas and misconceptions about what it means to 'be a man' today.

As part of the Introductory Occupational and Environmental hygiene course, OEH students visit the TTC subway shop where they identify hazards that workers face, based on classification into chemical, physical, biological and ergonomic categories. Students also visit Irving Tissues where they conduct both noise and aerosol measurements and provide data to help ensure compliance with legal exposure limits.

Nutrition and Dietetics students participate in the Toronto Public Libraries' Seniors Strategy by planning and implementing nutrition workshops in local branches. The needs assessment, program planning and evaluation aspects of this initiative are integrated into two foundational skill building courses and enable students to meet several of the required dietetic competencies while contributing to community library programming. Students learn valuable skills working with language interpreters, settlement workers and numerous community agencies to deliver their workshops in priority neighbourhoods.

As part of the Management of Community Food Systems course, ND students also work with community food organizations to explore and address issues identified by those organizations. Last year, students worked in groups to complete a needs assessment for an urban agriculture program, developed a food security strategy for a community health centre for immigrant women, and developed and pilot tested nutrition education materials for in-store and on-line use at a major grocery retailer.

ND Partnership with UHN and TPH

In 2015, the MPH Nutrition and Dietetics field launched a formal partnership with University Health Network (UHN) and Toronto Public Health (TPH). UHN includes Toronto General Hospital, Toronto Western, Princess Margaret Cancer Centre and Toronto Rehabilitation Institute and employs over 60 registered dietitians (RDs) in an extensive range of clinical specializations. Toronto Public Health is the largest urban public health department in Canada and also employs over 60 RDs who specialize in public and population health aspects of nutrition. This partnership has enabled significant curriculum development such that students not only meet the competencies required for entry level dietetics but also acquire transferable skills that prepare them for leadership roles across the health services continuum.

Lunch and Learn Series

One of the unanticipated outcomes of the curriculum renewal process was the establishment of a community of faculty interested in education scholarship. In 2015, this group launched a monthly lunch and learn series where core, adjunct and status faculty come together to share expertise and ideas, problem-solve and support development of new approaches to teaching. Topics discussed have included on-line teaching and learning strategies, use of Ted talks in teaching, providing formative feedback, the philosophy of education, developing course rubrics, and providing effective feedback on writing to students whose first languages are not English.

Breadth and Uniqueness of Fields

The U of T MPH program is unique in its breadth of fields and 'uniqueness' of some of the fields offered under the MPH program. The 2012 MPH situational assessment indicated that employers value the discipline-specific depth provided by the MPH fields giving DLSPH MPH graduates a hiring advantage in the market-place.

Engagement of Professional Field Leaders in Teaching and Learning

The MPH programs actively encourage leaders from the field to be involved in teaching activities as sessional, status and adjunct faculty. This ensures close contact with working professionals and ensures that students have ready access to timely and relevant issues and resources. The following are examples of field leaders involved in teaching discipline-specific foundational courses:

FIELD	**COURSE**	**INSTRUCTOR**
Epidemiology	• CHL5405 Health Trends and Surveillance • CHL5418 Scientific Overviews in Epidemiology	Ms. Effie Gournis (Toronto Public Health); Jason Garay (Cancer Care Ontario) Dr. Liane Macdonald (Public Health Ontario); Dr. Natasha Crowcroft (Pubic Health Ontario)

	• CHL5401 Introduction to Epidemiology	Dr. Ian Johnson (Public Health Ontario) (with Jennifer Brooks)
Family and Community Medicine	• CHL 5613 Leading QI in Community Populations • CHL 5623 Practical management Concepts and cases in in leading Small health Organizations • CHL 5605 Research Issues in family Medicine	Dr. Phil Ellison Dr. Phil Ellison Dr. Sheila Dunn, Dr. Nick Pimlott
Health Promotion	• CHL 5118 International Peace Building • CHL 5117 A Global perspective on the Health of Women and Children • CHL 7001 Population and Health Intervention Research • CHL 5110 Theory and Practice of Program Evaluation	Dr. Akwatu Khenti (with C. Chalin and J. Lee) Dr. Akwatu Khenti (with C. Chalin and J. Lee) Dr. Erica Di Ruggiero (with D. Cole) Dr. Jacqui Bender (with C. Strike and R. Schwartz)
Occupational and Environmental Health	• CHL 5910 Occupational & Env. Hygiene 1 • CHL 5410 Occupational Epidemiology • CHL 5918 Biohazards	Paul Bozek Dr. Paul Demers (OCRC) Dr. James Scott
Nutrition and Dietetics	• NSF 1209 Foundations of Practice 2 • NSF 1210 management of Community Food Programs	Tracie Burke (UHN), Daniela Bottoni (TPH) with C. Gord Ashley Motran with A. Fox and D. Cole

In addition:

- The MPH Nutrition and Dietetics field is the only professional master program in Ontario, and one of only two in Canada that provides a focus on public health nutrition (Memorial University in Newfoundland offers a thesis option master degree in public health nutrition).
- There are no comparable MPH programs in Family and Community Medicine. The University of Western Ontario offers a clinically-oriented Master of Clinical Science degree and a research-oriented PhD in Family Medicine. These are not specifically Public Health degrees. The MPH Health Promotion field differs in significant ways from other HP programs offered in Schools of Public Health across Canada, with respect to its orientation, breadth and depth of course offerings and practicum opportunities. The Universities of Alberta and Waterloo and Dalhousie and Simon Fraser Universities include *health promotion* components in their Master's programs, but do not have a distinct HP program.

- The MPH Occupational and Environmental Health field is the oldest and most well established graduate program in occupational hygiene in the country. It is the only Canadian MPH degree specializing in occupational hygiene based in a School of Public Health which provides students with a cross-disciplinary appreciation of public health. The program's affiliation with the Occupational Medicine residency program provides unique access to health care practitioner working with the same client population.

Challenges

- Recent Proliferation of MPH Programs Across Canada and Within Ontario: There has been a proliferation of MPH degrees in Canada, as well as several new MPH programs at universities within a two hour drive of the University of Toronto. While total numbers of applications to DLSPH are robust, the proportion of applications meeting individual program-specific eligibility requirements can be much lower and applicants often apply to several graduate programs even within U of T. There is considerable competition for the strongest applicants from professional and MSc programs, internationally, within central Ontario, even across the large set of offerings at U of T. DLSPH needs to ensure the unique strengths and brand of its MPH offerings are protected and widely promoted.

With both enrolment expansion and increased competition, specific MPH fields perceive that it may become difficult to expand or maintain an adequate supply of practicum placements. With rapid expansion of public health training, better data on employment outcomes are needed.

- Fitting the Cross Cutting Competencies Into Curricula: Recent efforts to enhance course offerings that provide students with skills, knowledge and professional attributes for the cross-cutting competencies established by the CRTF have been difficult in MPH fields with a high number of required courses. Some fields already have few electives to allow students to get academic breadth. More requirements only increase the amount of rigidity in the curricula. Other fields have greater electives space but need a broader range of offerings (in timing, duration and delivery mode) to accommodate growing numbers. This represents an exciting opportunity for the fields to collaborate on new educational offerings.
- Reliance on Status Faculty: Status and adjunct faculty are essential underpinnings for a professional program. They bring essential components of professional practice to our programs. However, the reliance on these faculty members can pose a challenge, particularly because those that support the professional programs often work in organizations that do not have education as a mandate. This important resource is subject to fiscal realities and a related degree of uncertainty and risk. With rapid expansion of public health training at essentially all degree-granting institutions in central Ontario, strong status- and adjunct-faculty can be lost to more secure positions.
- Student Funding: Since the introduction of the current funding policy that guarantees a minimum level of support to PhD students, it was not possible to provide a similar guarantee for all our Master's students. It has therefore been difficult to compete with other new graduate programs that have started to offer financial incentives at the Master's level. This is a challenge shared by all MPH streams at the DLSPH. A funding model sustainable over

the long-term is needed, especially given the recent proliferation of similar programs across Canada. At the same time, DLSPH can do more to promote awareness of the financial advantages of DLSPH including scholarship, bursaries, practicum funding and labour market outcomes.

- Space: As the program grows, securing adequate numbers of lecture halls and tutorial break-out rooms to accommodate students in core courses has become very challenging.

Future Priorities

- Professional Development: The most recent DLSPH strategic plan highlights an expanded emphasis on improving the student experience, notably in relation to supports and opportunities for critical development of cross-cutting professional competencies, for example leadership, facilitation and communication, project and team management, job readiness, innovation and partnership.
- Research Methods: Our MPH streams are currently assessing needs and performance in relation to basic, intermediate and advanced competencies in quantitative and qualitative research methods. This will include leveraging discipline-specific strengths and needs, to ensure appropriate breadth of training and coverage across the various MPH streams.
- Teaching Excellence and the Student Experience: Recent institution-wide initiatives have greatly bolstered the visibility and stature of the University of Toronto's teaching stream, complementing the DLSPH's expanded emphasis on promoting and instilling teaching excellence and innovation. DLSPH will have to monitor student expectations and experience to remain the first choice for specialist-level MPH training.
- Increase the use of the 6-week modular courses: This would enable students to acquire competencies tailored to their needs at a depth beyond what individual guest lectures enable while at the same time allowing more flexibility in acquiring these competencies by mixing and matching quarter course modules in the context of a limited number of course elective slots within existing programs.

Summary

The curriculum renewal process initiated in 2011/12 generated a systematic review of the MPH program, identified areas for growth and development, and fostered innovative teaching and learning strategies. Building on the discipline-specific and cross-program competencies, core courses have been revised, new courses developed and creative educational approaches implemented. This process is cyclical and ongoing. Priorities moving forward include student professional development, appropriate breadth and depth of research methods training, and promoting teaching excellence.

3.2 Master of Health Science in Bioethics

Program Description

The MHSc Program in Bioethics is offered through the Graduate Department of Public Health Sciences and coordinated by the University of Toronto Joint Centre for Bioethics. The MHSc Program in Bioethics was created in 1999 and offered through the Institute of Medical Science in the Faculty of Medicine until June 30, 2015. Effective July 1, 2015, the MHSc Program in Bioethics was transferred together with the University of Toronto Joint Centre for Bioethics to the Dalla Lana School of Public Health.

The MHSc Program in Bioethics is a 2-year professional master's program for health practitioners, researchers, and administrators.

Program Objectives

The goal of the MHSc program is to enhance students' core knowledge and skill competencies in bioethics research, education and practice, ideally to strengthen ethics capacity in their professional health institutions and settings. Degree level competencies for the program can be found in **Appendix 16**. Specific learning objectives are:

- To provide qualified students with an interprofessional education in the theory and practice of bioethics;
- To provide students with opportunities to apply knowledge and skills in health settings; and
- To foster attributes, attitudes and interpersonal skills suitable for individuals engaging in bioethics activities.

Admission Requirements

Entry into the MHSc Program in Bioethics requires a recognized undergraduate degree in one of the health sciences (for example, MD, BScN, BScOT, BScPT, BSW) or equivalent with a final-year average of at least mid-B from a recognized university. Applicants from other disciplines are considered on a case-by-case basis depending on the availability of space and the ability to meet School of Graduate Studies and Graduate Department of Public Health Sciences standards. Successful applicants normally have at least three years of full-time professional work experience. Suitable preparation for entry into the MHSc in Bioethics (including equivalency of undergraduate education) is the decision of the Director of the program.

Applicants must provide original transcripts, a curriculum vitae, a letter of intent (max 1000 words), a writing sample demonstrating the applicant’s analytical and argumentative skills, preferably in bioethics (max 750 words), three letters of recommendation (of which one must be an academic reference attesting to the applicant’s academic preparation and capacity for collegial study and research and the others together attesting to the applicant’s skills, knowledge and character as well as capacities for interpersonal and collegial research and/or practice), and if the applicant is currently employed by an institution (health care or otherwise), a letter from a senior administrator in her/his institution (for example, Department Chair, Dean,

Hospital CEO or VP) agreeing to provide the necessary professional release time to complete the program (over two years for domestic students and one year for international students) and clarifying the institution's view of how her/his graduate education will help strengthen bioethics capacity in her/his home institution.

Curriculum and Program Delivery

The MHSc Program in Bioethics is a professional degree program designed to help clinical practitioners and health administrators increase their knowledge and skills in bioethics. The two-year program is offered in modular format with a strong emphasis on interprofessional exchange and practical experience informed by theory, including a practicum component. The MHSc program exposes students to the breadth of clinical, organizational and research ethics issues facing our health system today. The MHSc Program in Bioethics has 16 core teaching faculty with graduate appointments in the Division of Clinical Public Health (DLSPH), the Institute of Health Policy, Management and Evaluation (DLSPH), and/or the Department of Philosophy.

The MHSc Program in Bioethics requires successful completion of 9 full-course equivalents (FCE), including a 48 hr practicum, over a prescribed 2 year period (see Course Descriptions in **Appendix 17**). All course work and the practicum should normally be completed in these time frames. In accordance with SGS policy, all requirements for the professional degree must be completed within six years. Courses in the first year of the program cover key topic areas in bioethics, and concentrate on providing students with the theoretical foundations of the field in terms of legal frameworks, research methods, philosophical approaches and resource allocation ethics. The application of theory to practice in clinical, organizational and research settings is emphasized. Courses in the second year of the program give students the opportunity to further develop core knowledge (e.g., in research ethics, organizational and health systems ethics) while adding more core skill competencies, such as teaching bioethics, developing a bioethics curriculum, and contributing to bioethics scholarship (including the preparation of a paper in publishable form covering an area or issue of the student's choice). Based on their individual interests in the areas and activities of bioethics, students complete a mentored applied learning course (practicum), and a practical bioethics course that aims to support the student in preparing a "capstone" project that, ideally, builds on the practicum experience and the core knowledge and skills gained throughout the MHSc program.

Teaching modalities emphasize interactive adult learning practices, including pre-reading, case-based learning, small group exercises, facilitated group discussions and the use of mixed media (e.g., video clips). Guest lectures by ethics experts are featured in most courses. At the end of Year 1, students are grouped into small co-consulting teams of three students, who meet at least 3 times to provide peer-based consultation and support for each student’s practicum and capstone project. This is augmented by faculty mentorship provided by the Practicum Course instructor and the Capstone Course co-instructors.

Assessment of Learning

Students are evaluated on a per-course basis. Course assignments include academic papers (e.g., essays, ethical analysis of cases), in-class presentations (individual and/or group) and assignments intended to develop relevant professional skills in bioethics e.g., in CHL 3003Y (Empirical Approaches to Bioethics), one of the course assignments is to develop a grant proposal for a bioethics research project; in CHL 3002Y (Teaching Bioethics), students prepare a teaching curriculum that addresses ethical issues in their healthcare context; and in CHL 3006Y (Writing in Bioethics), students prepare and submit an abstract to the annual Canadian Bioethics Society Conference). The practicum course involves a learner-and-supervisor contract outlining the learning objectives of the practicum, expected deliverables and evaluation methods.

Student Awards

As this is a professional degree program, our students would not generally apply for scholarships/awards. Some may subsequently go on to apply for these post-graduation but they are not a feature of the current graduate program model. Again, as it is a professional degree program, the focus is on development of both core knowledge and skills. The program includes a practicum, which is intended to help students link the classroom experience to the ethics practice; many of the course assignments are designed to develop professional skills (e.g., drafting a research grant proposal, developing a curriculum for teaching health professionals, writing an ethics policy brief to inform decision-makers, leading a mock ethics committee meeting, writing a commentary for publication and a conference abstract). Post-graduation, the JCB continues to engage with its graduates in a number of ways, including participation in JCB working groups and research projects. Some graduates have gone on to become teachers in the MHSc Program in Bioethics; others have continued on to advanced bioethics training through the JCB Fellowship in Clinical and Organizational Ethics, most of whom are now practicing healthcare ethicists in health institutions; others have returned to clinical practice and stayed engaged through the JCB's weekly Bioethics Seminar Series, by joining their institution's ethics committee or Research Ethics Board, or becoming involved in ethics curriculum development in their university clinical department.

Student Funding

Students may access a Professional Master's Bursary as allotted by the DLSPH. MHSc Program in Bioethics students may also apply for the Larry Librach Prize in Ethics and End of Life Care[20]. Students may also be eligible to apply for an Ontario Graduate Scholarship; however, none have applied for this to date. In the past, there were approximately 12 years of NIH-Fogarty International Center funding to fund students from low-and-middle income countries. This grant was renewed 3 times. The program does not currently hold an active NIH-Fogarty grant,

[20] http://jcb.utoronto.ca/about/awards.shtml?utm_source=JCB+Members&utm_campaign=242825374e-JCB-Awards-Faculty-05_12_2016&utm_medium=email&utm_term=0_03f73e70ac-242825374e-90489993&mc_cid=242825374e&mc_eid=d5825906a6

so this funding stream is no longer operative. However, the program is looking into applying again in May 2017.

Quality Indicators

The MHSc in Bioethics Program attracts students not only locally but also throughout Ontario, across Canada, and internationally. This unique program is a leading developer of practitioners engaged in bioethics education, consultation, policy, research and leadership activities. With a few exceptions, all enrolled students complete the program. MHSc graduates have an impressive publication record as contributors of articles to peer-reviewed major academic and professional journals – over 85% of MHSc graduates have published at least one article based on their program. These publications are in well-known journals such as *American Journal of Bioethics, Academic Medicine*, *British Medical Journal*, *The Lancet*, *Indian Journal of Medical Ethics*, and *PLoS Medicine*. More than 150 MHSc graduates are leading ethics programs in health organizations in the Greater Toronto Area, across Canada, and nine low- and middle-income countries. Numerous MHSc graduates are now leaders in bioethics research, education, policy and practice, in both academia, health and research institutes, government and industry.

Table 3.2.i: Professional Master's degree - MHSc in Bioethics

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	51	22	25	23	24	26	25	26
Offers	20	14	18	20	18	23	18	14
New Registrants	16	11	13	17	15	16	16	13

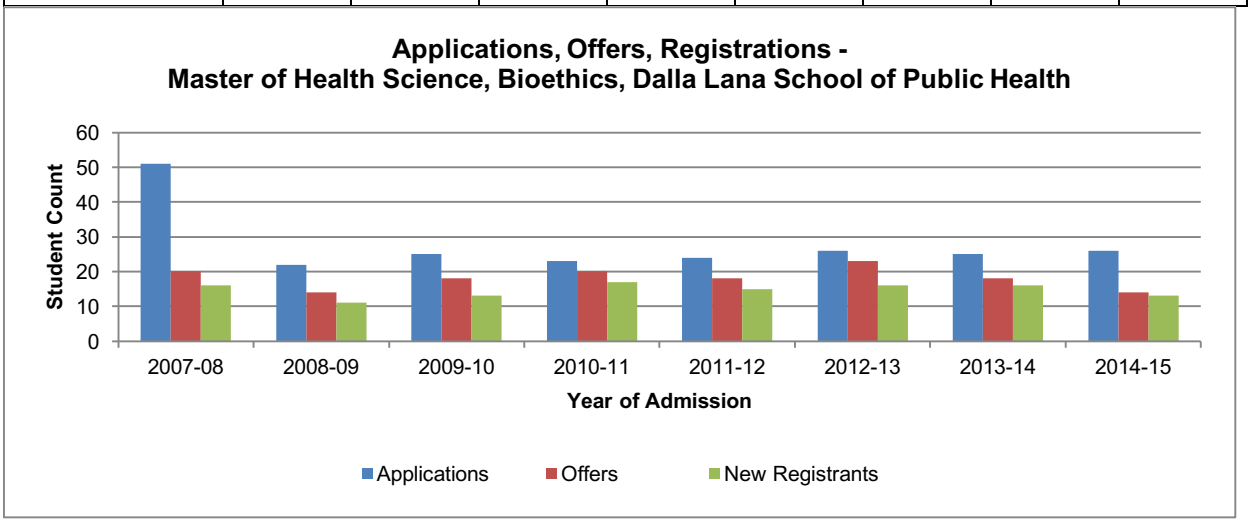


Table 3.2.ii: Offer Rate - Professional Master's Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Bioethics	39.2%	63.6%	72.0%	87.0%	75.0%	88.5%	72.0%	53.8%
Dalla Lana School of Public Health	25.6%	26.1%	31.1%	26.9%	27.6%	27.5%	31.9%	28.2%
Division IV Life Sciences	28.4%	28.6%	30.8%	26.2%	26.2%	26.8%	25.9%	27.1%
U of T	43.2%	43.6%	44.3%	39.7%	39.6%	39.1%	40.2%	39.9%

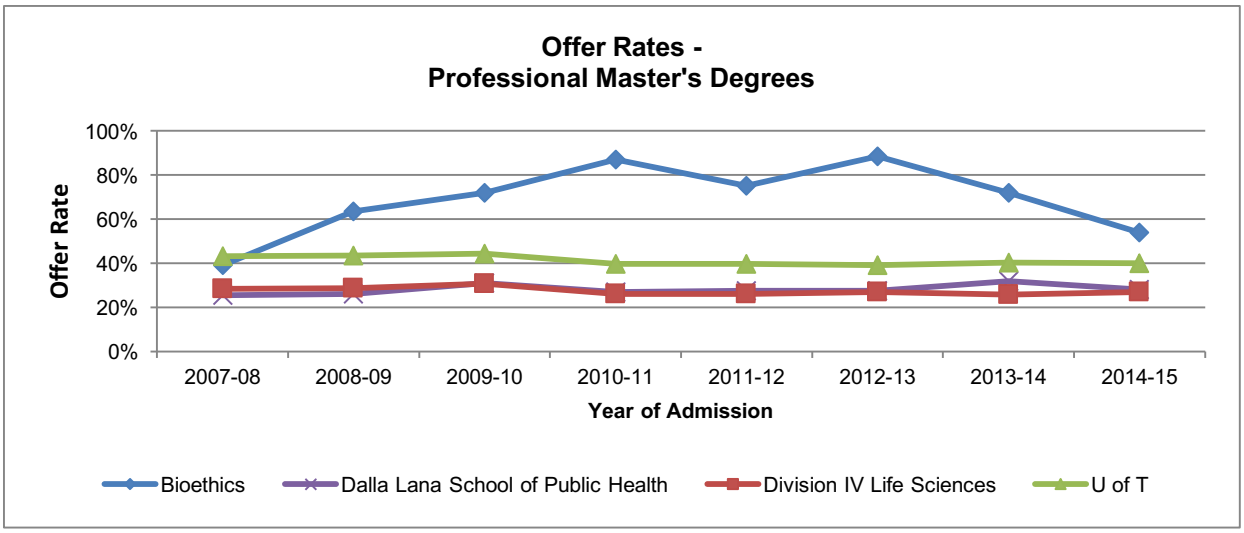


Table 3.2.iii: Acceptance Rate - Professional Master's Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Bioethics	80.0%	78.6%	72.2%	85.0%	83.3%	69.6%	88.9%	92.9%
Dalla Lana School of Public Health	65.3%	72.2%	64.2%	64.9%	60.9%	67.5%	65.1%	68.4%
Division IV Life Sciences	63.1%	65.7%	60.3%	64.9%	63.4%	62.7%	64.1%	65.2%
U of T	61.2%	59.7%	59.3%	61.0%	59.9%	61.5%	59.8%	58.6%

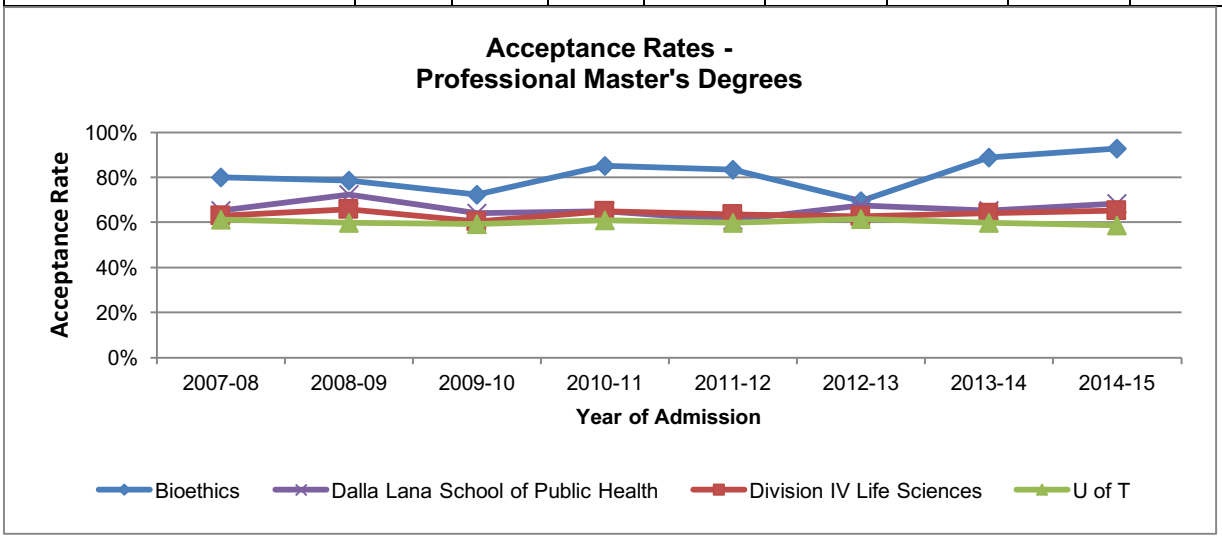


Table 3.2.iv: Enrolments Bioethics Program

Faculty	Degree	FT/PT	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015
Medicine	MHSC	FT	19	23	24	25	24	28	29	7
DLSPH	MHSC	FT	0	0	0	0	0	0	0	14
Total	**MHSC**	**FT**	**19**	**23**	**24**	**25**	**24**	**28**	**29**	**21**

Note: Programs were transferred from the Faculty of Medicine to The Dalla Lana School of Public Health in stages. The table above shows enrolment by program and by Faculty, and shows the change of ownership from Faculty of Medicine to Dalla Lana by the light blue shading.

Table 3.2.v: Bioethics - Professional Master's degree

	Bioethics (PMAS, FT)		Dalla Lana School of Public Health (PMAS, FT)		Life Sciences (PMAS, FT)		All U of T (PMAS, FT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	8	1.2	88	1.6	417	1.9	1424	1.6
2008-09	16	1.1	80	1.6	411	1.9	1652	1.7
2009-10	13	1.2	68	1.5	404	1.8	1791	1.7
2010-11	13	1.2	89	1.5	497	1.8	2055	1.7
2011-12	16	1.2	136	1.7	541	1.8	2118	1.7
2012-13	16	1.1	138	1.7	546	1.8	2268	1.6
2013-14	11	1.5	130	1.7	544	1.8	2587	1.6
2014-15	15	1.7	143	1.7	580	1.8	2775	1.6

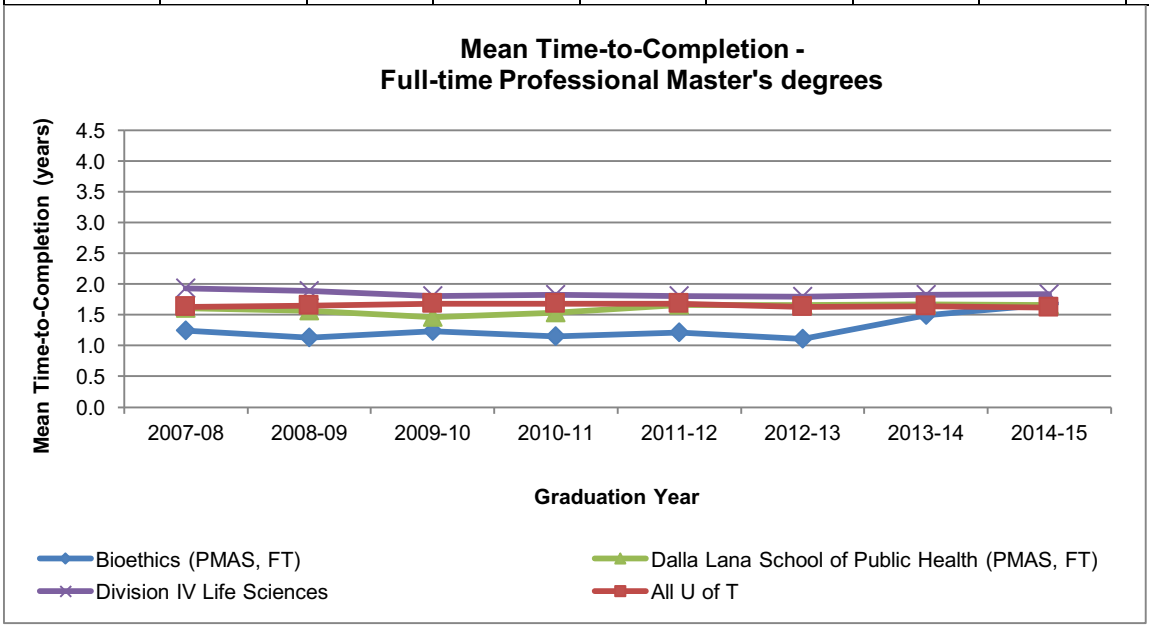
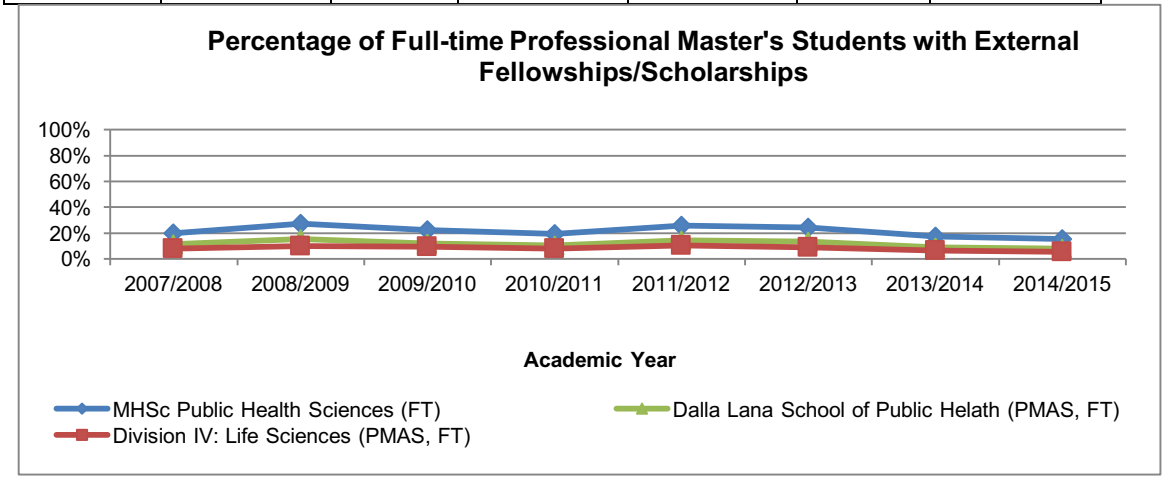


Table 3.2.vi: MHSc Bioethics Students with Fellowships/Scholarships

	MHSc Bioethics (FT)			MHSc Public Health Sciences (FT)		
Academic Year	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	0	21	0.0%	25	125	20.0%
2008/2009	1	19	5.3%	35	129	27.1%
2009/2010	0	23	0.0%	31	140	22.1%
2010/2011	0	24	0.0%	30	157	19.1%
2011/2012	0	25	0.0%	41	160	25.6%
2012/2013	0	24	0.0%	42	173	24.3%
2013/2014	0	28	0.0%	30	172	17.4%
2014/2015	0	29	0.0%	29	190	15.3%

	Dalla Lana School of Public Health (PMAS, FT)			Division IV: Life Sciences (PMAS, FT)		
Academic Year	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	25	218	11.5%	73	955	7.6%
2008/2009	36	234	15.4%	101	1,015	10.0%
2009/2010	31	267	11.6%	101	1,105	9.1%
2010/2011	30	287	10.5%	89	1,166	7.6%
2011/2012	41	288	14.2%	126	1,213	10.4%
2012/2013	42	318	13.2%	112	1,253	8.9%
2013/2014	30	336	8.9%	79	1,285	6.1%
2014/2015	29	362	8.0%	72	1,369	5.3%



MHSC Bioethics not graphed due to low numbers (<3 students with fellowships/scholarships in each year)

Quality Enhancement

MHSc: New concentrations

The MHSc Program in Bioethics is a 2-year professional master's program for health practitioners, researchers and administrators. The goal of the MHSc program is to enhance students' core knowledge and skill competencies in bioethics research, education and practice, ideally to strengthen ethics capacity in their professional health institutions and settings. The curriculum has emphasized ethical issues in health care, particularly at the clinical level and in health research, and to address the needs of the *healthcare* professional. The MHSc Program in Bioethics curriculum is evolving to meet the learning needs of current health professionals and to anticipate the evolving nature of health and healthcare, including: i) enhancement of the existing curriculum to include ethical issues of health systems and institutions (i.e., not clinical level alone), and ii) proposal to create a new concentration in public and global health ethics.

Over the last 5 years, there has been an increasing interest among students in addressing ethical issues at a health system level and in exploring the upstream drivers at the level of health institutions and systems of the downstream ethical issues experienced in direct patient care and healthcare research. CHL 3004Y ('Ethics & Health Institutions' – originally 'Ethics Committees and Consultation') serves to meet this emerging learning need.

The transition of the MHSc Program in Bioethics into the DLSPH has opened the opportunity to create a new program concentration on 'Public Health and Global Health Ethics' to address the unique learning needs of the *public health* professional, to introduce some foundational training in public health ethics for all MHSc students to build knowledge and understanding of such issues including but not limited to those at the intersection healthcare and public health (e.g., ethics and SARS), and to locate the ethical issues of contemporary health systems within a global context. In 2015-16, steps to plan the new concentration have included: i) development of draft syllabi for two new 0.5 FCE graduate courses in Public and Global Health Ethics (completed), ii) clarification of core knowledge and competencies for the MHSc program overall (initiated), and iii) identification of opportunities to introduce public health ethics knowledge and competencies into curriculum of foundational MHSc program courses (e.g., CHL 3001Y: Core Topics in Bioethics; CHL 3005Y: Legal Approaches to Bioethics; PHL 2146: Topics in Bioethics – Theoretical Approaches) (initiated). These inputs will inform the development of a Major Modification proposal for submission in 2016-17.

In addition to substantial enrolment expansion in the MHSc in Bioethics, the JCB plans to introduce a number of specialty concentrations — for example, in research ethics, organizational ethics, and bioethics research. Students may opt to complete the program as currently structured (as a general bioethics program) or to select a concentration. Each cohort of students will share a common set of first year courses, and the second year will both provide an advanced course in, as well as tailor course work to, the area of concentration. The concentrations are expected to draw more applicants to the program as greater numbers are likely to see themselves in a program that they can tailor to their needs/interests and for which they can receive recognition. Given the success of its

international MHSc in Bioethics, the JCB is investigating NIH Fogarty International Center funding and other funded programs to continue its leadership role in international capacity building in research ethics and ethics program development in low- and middle-income countries.

MHSc graduates are leading ethics programs in health organizations in the Greater Toronto Area, across Canada, and in nine low and middle income countries. In 2009, a special issue of the Journal of Academic Ethics showcased five research ethics programs developed and led by international MHSc graduates in Ghana, India, Nigeria, Pakistan, and the Sudan.

3.3 Master of Health Science (MHSc), Health Administration

Program Description

The MHSc is a two year graduate degree with an overall objective to prepare individuals for leadership in complex and dynamic health care environments. The program is offered in a modular format to allow high achieving professionals to earn a degree without interrupting their careers. Interactive, competency based learning allows students to build a portfolio of experiences reflecting real-work exposure and achievements. Practicum placements deliver valuable experiential learning under the supervision and mentorship of top health sector executives.

In November 2014, the MHSc Health Administration Program was awarded a seven-year accreditation by the Commission on Accreditation of Healthcare Management Education, the highest possible ranking. This is the third time in a row that the program has been awarded the highest possible ranking – an achievement matched by only a small handful of similar programs.

Program Objectives

The overall objective of the MHSc program is to prepare graduates for the unique demands of leadership within the healthcare sector. The program brings business and management principles into alignment with a health services focus. Graduates are skilled at applying innovative solutions to the issues and constraints of the healthcare environment.

The interdisciplinary curriculum equips graduates with a solid foundation in key areas of leadership knowledge including health policy and economics, health care trends and issues, strategic planning, change management and quality, marketing, outcomes and evaluation, human resource management, information systems, accounting and finance, and quantitative decision-making methods.

IHPME faculty are amongst the foremost thinkers, researchers and practitioners influencing the health care system. In addition to core, tenured faculty, the program incorporates a number of status and adjunct faculty members who work in leading-edge health services organizations and can provide insights to help students apply theory to real world situations. In addition, the program draws on many guest speakers who also contribute to the achievement of the program's objective. Classmates, including managers and professionals from all segments of the public and private health sectors, enhance learning by offering opportunities to share skills and knowledge with others with diverse professional backgrounds and experiences.

This objective is in line with the University of Toronto's Statement of Institutional Purpose (University of Toronto Governing Council, October 15, 1992): "The University of Toronto is committed to being an internationally significant research university, with undergraduate, graduate and professional programs of excellent quality". The objective is also in line with the Dalla Lana School of Public Health's stated goal of "training the next generation of scientists,

educators and practitioners who will shape healthier societies in Canada and around the world".

Admission Requirements

Applicants are admitted under the General Regulations of the School of Graduate Studies. The following four criteria are used to assess applications.

- Academic performance – Applicants must have a high academic standing equivalent to a B+ (77%-79%) or better, on each of the last two years of a four-year undergraduate program, or its equivalent from a recognized university. A variety of 4-year undergraduate degrees offer a suitable basis for admission, including degrees in arts, sciences, business and clinical areas. Some prior preparation in quantitative courses such as statistics, accounting, and micro-economics is preferred.
- Experience – In most cases, applicants must have a minimum of three years relevant clinical or management experience (following an undergraduate degree or training), preferably in the health or related sector.
- References – The Program values the perceptions of individuals who can speak to the applicant's leadership potential in a work setting (colleagues, supervisors, senior leaders, etc.).
- Motivation – Faculty place a high premium on candidates who have strong motivation and can ensure ongoing commitment throughout the Program. Motivation is evaluated through an applicant's letter of intent and through the admissions interview process (where possible).

The admission requirements ensure students have an appropriate background to succeed in the program. The MHSc degree is training future health care leaders and applicants to the program will have indicated through their previous experiences evidence of leadership potential. An important component of the program is peer-to-peer learning and selecting individuals from a range of backgrounds and differing experiences ensures this objective is achieved. All students in this program are currently working in leadership positions. Because they are developing skills throughout the program that are directly relevant to their place of employment, the benefits of completing the degree are directly evident and ensure learning outcomes are met.

Curriculum and Program Delivery

The curriculum for the MHSc Health Administration program stems from its mission to prepare individuals for leadership in complex and dynamic health care environments. All courses have clearly articulated learning objectives, which are based on the competencies viewed as necessary to leading in these environments. The 26 competencies of the National Center for Healthcare Leadership (NCHL) Health Leadership Competencies Model provide the framework for these objectives and for curriculum development. The NCHL Health Leadership Competency Model™ delineates outstanding leadership at three stages – entry, mid-level, and advanced.

The Program's curriculum is designed so that all graduating students will have reached the mid-level stage for each of the full group of 26 competencies. Although the curriculum covers all 26 NCHL competencies, the Program gives particular emphasis to 14 of the 26 that most closely reflect its mission and the views of stakeholders.

Accountability	Achievement orientation	Change leadership
Collaboration	Communication skills	Financial Skills
Impact and influence	Innovative thinking	Organizational awareness
Professionalism	Self-confidence	Strategic orientation
Talent development	Team leadership	

Taken together, these 14 competencies demonstrate the importance of credibility, creativity, and the ability to engage and motivate in complex and dynamic health care environments. Equally important, they respond to students' and graduates' underlying motivation for becoming health leaders so they can contribute to better outcomes and better population health.

Overall responsibility for the MHSc degree rests with the IHPME Graduate Coordinator, but there is a dedicated Program Director and Practicum Coordinator whose responsibilities include ensuring the curriculum remains current, attracting and training program faculty, and monitoring student welfare. The Director is an accomplished academic with advanced training in leadership training. Both the Program Director and Practicum Coordinator have extensive contacts within the health care environment and both have relevant leadership experience. Their strengths as leaders, and their large health care networks, ensure that the program content is continually updated.

IHPME is committed to ensuring its programs are current and innovative in terms of content and delivery. The MHSc program was recently awarded a seven year accreditation by the Commission on Accreditation of Healthcare Management Education, the highest possible ranking. The process of preparing for the Accreditation involved reviewing the Program's:

- Mission, vision, goals and objectives, performance outcomes and quality improvement efforts
- Application and recruitment processes; the competencies that form the basis for its curriculum; the curriculum; teaching, learning and assessment methods; and student and graduate achievement.
- Faculty teaching scholarship and service

The Accreditation Report made three suggestions for improvement:

- The Program must incorporate the target audience to be served and unique aspects into its mission statement. The Program must incorporate its aspirations toward an ideal state into its vision statement.
- The Program must make available full and accurate information regarding the competencies that form the basis for its curriculum, as well as student achievement, including, at a minimum: completion rates for the last graduating class, and the percent of those students employed within three months of graduation.
- The Program must develop a process to regularly evaluate student progress towards mastery of the full set of competencies, at the Program level, and provide evidence of use of the results for continuous improvement.

All three suggestions have been acted upon and approved by CAHME as of academic year 2015/16.

In addition to the recommendations, the site visit team highlighted three areas of program strength (outstanding performance). These relate to the program's competency-based admission process; its competency-based practicum; and its purposeful integration of the field of practice into all aspects of the curriculum.

Finally, similar to all IHPME programs, learning is not solely accomplished in the classroom. Students in the program have access to the wide range of lectures and symposiums that the University of Toronto offers. The program also offers a set of professional leadership competency development workshops to students that focus on key behavioral competencies such as collaboration, team leadership, impact and influence, oral and written communication skills, dialogue and conflict management, and interpersonal understanding.

In terms of program delivery, the MHSc program is offered on a modular basis, concentrating class time into Wednesday evening, all day Thursday, Friday and Saturday, five times in a four month term or Block. The program starts in September of each year and consists of five consecutive Blocks. All students are registered as full time students. **Appendix 18** outlines course requirements (organized by block) and **Appendix 19** provides a list of courses offered in support of the degree.

Assessment of Learning

Learning in the MHSc Program is competency-based and instruction takes a variety of formats allowing learners to explore and apply subject material with assistance and guidance from faculty. All courses, and the Program overall, have clearly articulated learning objectives that, in combination, permit the learner to develop specific competencies.

A primary feature of the Program is that the majority of the classroom time is devoted to small group activities that allow learners to develop the ability to use concepts, as opposed to simply learning about them. Theory "bursts" help situate knowledge, but there is a program expectation that students come to classes prepared with readings completed and pre-class

work submitted. Because class time is concentrated, groups continue to work between Blocks using a variety of networking options.

The MHSc Program includes a practicum as a required component. The objective of the practicum is to broaden the student's appreciation for, and skills in, managing health services organizations. Students evaluate, test and further develop their leadership competencies in a practical setting under the supervision and mentorship of a senior level executive in the host organization.

Practicum placements are arranged by the program and specifically tailored to individual student needs given their past work experience and their specific learning and career objectives. Practicum sites include: acute, rehab and mental health hospitals; community organizations; long-term care; government and government-related agencies; research organizations; voluntary organizations; and professional associations.

IHPME follows the Graduate Grading and Evaluation Practices Policy of the Governing Council, University of Toronto. Information on the grading practices within IHPME is available to all instructors through a series of Tip Sheets available on the IHPME website. In addition, a yearly workshop is offered to all new, and continuing, instructors which reviews the University of Toronto's grading practices, as well as discusses common issues and concerns.

Student Awards

The MHSc students are eligible to receive a number of awards. There are many awards available through the School of Graduate Studies, as well as a number of open awards through IHPME. The MHSc cohort has two designated awards: the Robert Wood Johnson Award, recognizing the student who is felt to be most likely to contribute to health services leadership, and the Harold Livergant Award, recognizing an outstanding first year student working in the area of complex continuing care management and/or policy.

Student Funding

Each year, IHPME receives bursary money from the University (the amount is dependent on student enrolment). In the fall, any student with financial need is encouraged to apply for support using the OSAP (Ontario Student Assistance Program) forms. To date, all students who have demonstrated some financial need (their expenses are greater than their income) have received varying amounts of support ($1000 - $5000).

All MHSc students are employed professionals. While not all work places have policies surrounding tuition support, a number of students each year are able to access some support for their tuition through their employer.

Quality Indicators

Ongoing evaluation is integral to the program, which incorporates quality improvement into all activities. Evaluation draws on a variety of tools and outcome measures. It also involves all key stakeholder groups - students, graduates, preceptors, faculty, and other members of the

University and practitioner communities. Evaluation occurs at all levels – from the individual course to the program as a whole.

At the course level:

- ***At the end of each in-class session, students complete a one-minute evaluation***. Faculty thus have immediate feedback on content, teaching methods, and assignments; these short evaluations allow for ongoing course correction.
- ***At the end of the course, students complete a formal course evaluation***, in which they assign numerical ratings to course quality and faculty teaching and also provide comments. The faculty member, IHPME Director, and (as of the 2013/14 academic year) the program director see the individual evaluation results.

At the block (semester) level:

- ***At the end of each block, students complete a five-minute evaluation***, which elicits feedback about each course and the block as a whole. This evaluation is the source of valuable comments and suggestions on course design and content. The results are reviewed by individual course faculty and the program director. A summary of the results is presented to the MHSc Advisory Committee, and feedback is presented to students through the program director and the MHSc Advisory Committee student representative.

The five-minute block evaluation also yields information on coordination at the block level. It permits examination of fit between courses and reading and assignment loads, and the results serve as the starting point for block meetings and discussion between block faculty and the program director. The evaluation and subsequent discussions promote integration so that knowledge does not become compartmentalized by discipline. Beginning in 2014, curriculum mapping at the block level is looking at enhancing fit from both knowledge and competency perspectives.

At the program level:

- ***Competency mapping has been an excellent tool for reviewing the curriculum.*** Results of the first exercise identified gaps in coverage, which led to discussions with key stakeholder groups on Program emphasis and then to the identification of a subgroup of 13 competencies considered critical to the Program's mission to prepare health care leaders. Faculty met individually with the program director, and courses were revised to be sure all 26 NCHL competencies were covered at the target level by Program end. The practicum learning and assessment tools were also modified to emphasize development of the Program's 13 critical competencies, and the Program added new activities, such as the year one peer-coaching program. The second mapping exercise (in 2012/13 – the self-study year) showed coverage of all 26 NCHL competencies at the target mid-career with additional emphasis on the 13 critical competencies.

- ***Six months post the program, students complete a formal program evaluation.*** This survey evaluates satisfaction with the Program overall and with its individual components, as well as self-rated preparedness in various knowledge and competency areas. The MHSc Advisory Committee reviews the results. Many of this survey's measures (for example, self-ratings of knowledge and skills gained and competency preparedness) are also in the Program's alumni survey and allow for comparisons as the Program evolves.
- ***The MHSc Advisory Committee and the program's admissions committee review a summary of the characteristics of the applicant pool*** to assess the program's accessibility.
- ***The program's External Advisory Committee provides ongoing advice*** from practitioners on the program's mission and goals, content and structure, selection and admission criteria, overall relevance, and relationships with the field. Advice, for example, increased emphasis on case teaching, is incorporated into the curriculum.
- ***Program alumni are surveyed periodically***. Like the program evaluation tool, the alumni survey looks at overall measures of program satisfaction, including level of preparedness and the curriculum's appropriateness for the tasks and challenges facing alumni. It also tracks graduate career paths for alignment with the program's mission, goals, and objectives.

Taken together, these evaluations enable the program to assess progress in achieving its mission and goals.

Student Registration Data

Table 3.3.i provides information on applications, offers and registrations to IHPME's MHSc program during the period under review. Table 3.3.ii provides information on the offer rate and Table 3 provides information on the acceptance rate. Comparative information from the Dalla Lana School of Public Health (DLSPH) and the University of Toronto is provided in Tables 3.3.ii and 3.3.iii.

The MHSc program aims to enrol 40 students each year, and this is reflected in the numbers below. The number of applications has remained relatively stable over time, which is then reflected in the offer rate. IHPME's offer rate is roughly equivalent to the rates seen in the DLSPH and at the University of Toronto. IHPME's acceptance rate (around 85%) is much higher than the comparator groups. This reflects the reputation of the MHSc program and its position as the leading program in Canada and the US. Most applicants would rank acceptance into the MHSc program as a top priority. Applicants who do not accept their offer to the MHSc program are not selecting other programs; it is usually a change in employment or family situation which has delayed them undertaking any educational program.

Table 3.3.i: Professional Master's Degree - Health Policy Management and Evaluation (HPME)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	166	145	173	156	120	141	135	150
Offers	43	45	47	43	48	48	46	51
New Registrants	33	38	40	34	37	36	39	44

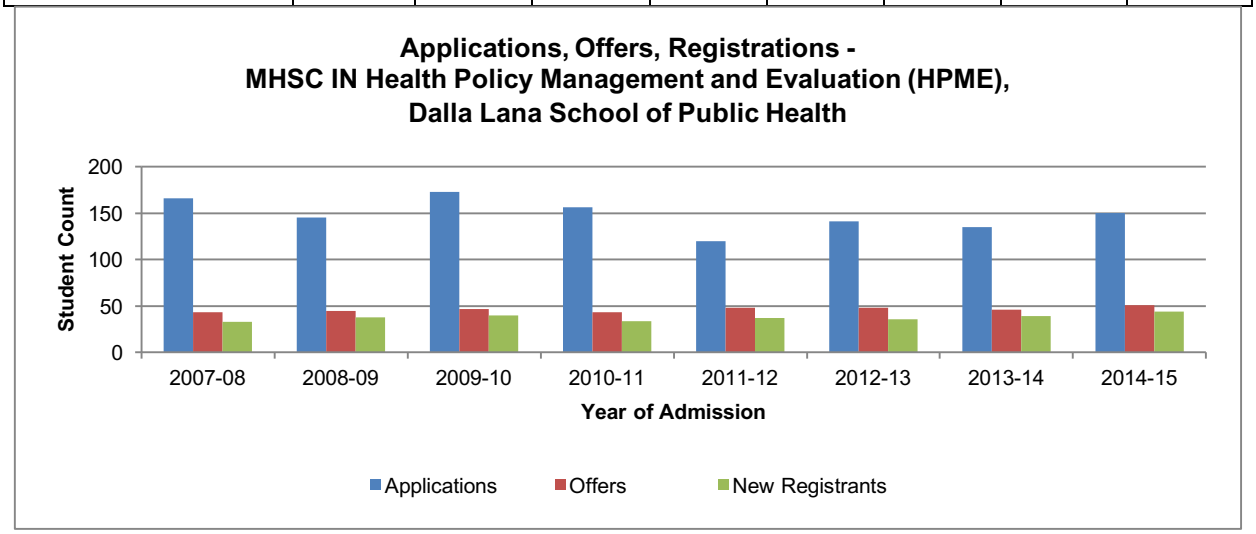


Table 3.3.ii: Offer Rate – Professional Master's Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HPME	25.9%	31.0%	27.2%	27.6%	40.0%	34.0%	34.1%	34.0%
Dalla Lana School of Public Health	25.6%	26.1%	31.1%	26.9%	27.6%	27.5%	31.9%	28.2%
Division IV Life Sciences	28.4%	28.6%	30.8%	26.2%	26.2%	26.8%	25.9%	27.1%
U of T	43.2%	43.6%	44.3%	39.7%	39.6%	39.1%	40.2%	39.9%

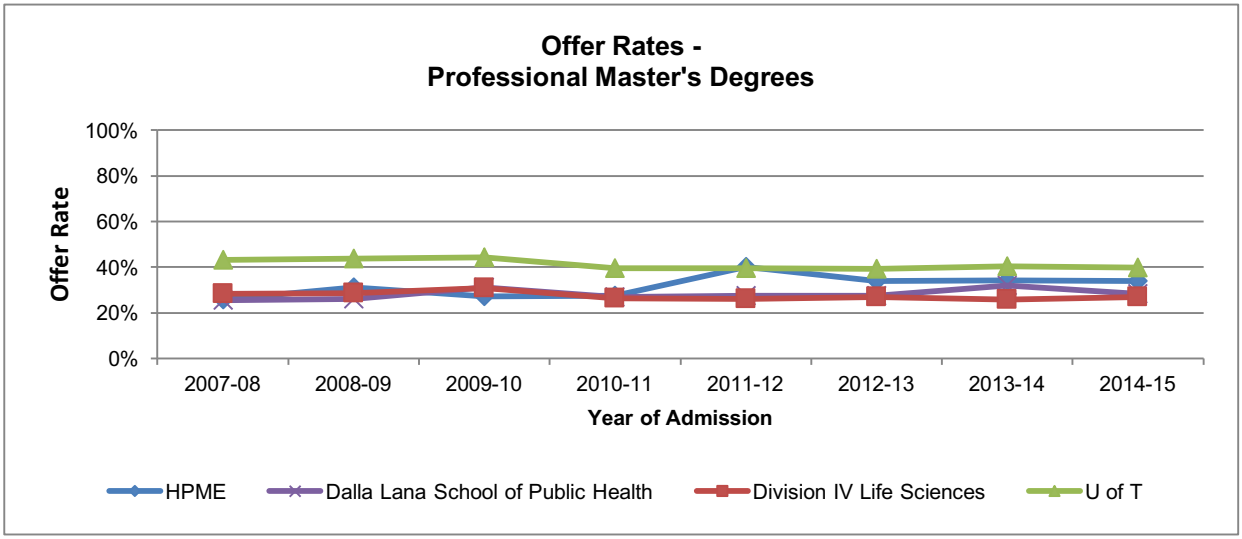


Table 3.3.iii: Acceptance Rate – Professional Master's Program

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HPME	76.7%	84.4%	85.1%	79.1%	77.1%	75.0%	84.8%	86.3%
Dalla Lana School of Public Health	65.3%	72.2%	64.2%	64.9%	60.9%	67.5%	65.1%	68.4%
Division IV Life Sciences	63.1%	65.7%	60.3%	64.9%	63.4%	62.7%	64.1%	65.2%
U of T	61.2%	59.7%	59.3%	61.0%	59.9%	61.5%	59.8%	58.6%

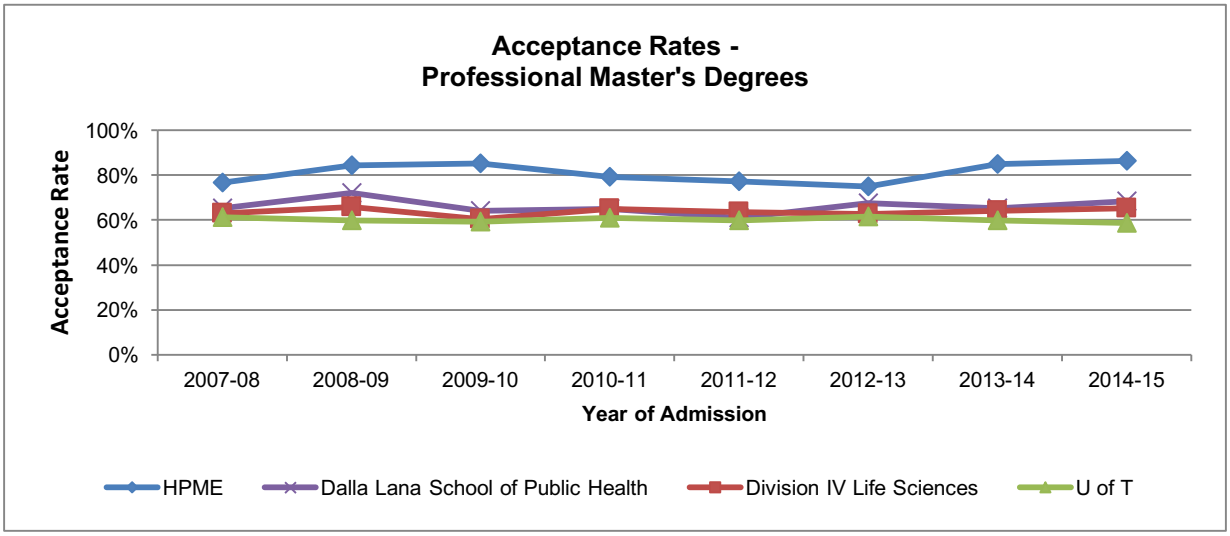
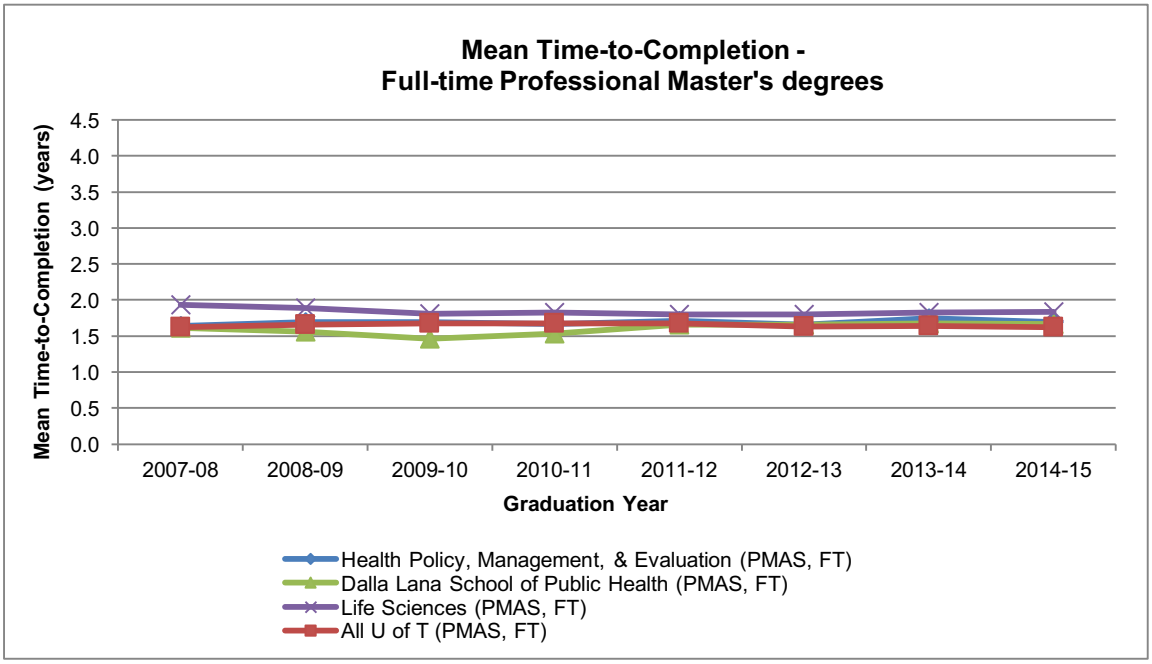


Table 3.3.iv provides information on the number of graduates per year and the mean time to graduation. The MHSc program admits 40 students each year and about 40 graduate each year (a few students do withdraw each year, normally for personal reasons). The 2014/1015 graduate number is particularly low because a number of students opted to stay an extra term

to complete their practicums. These students will be included in the graduate count for 2015/2016. The MHSc is structured to be completed in 5 terms and the mean time to completion reflects this.

Table 3.3.iv Health Policy, Management & Evaluation – Professional Master's degree

	Health Policy, Management, & Evaluation (PMAS, FT)		Dalla Lana School of Public Health (PMAS, FT)		Life Sciences (PMAS, FT)		All U of T (PMAS, FT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	37	1.6	88	1.6	417	1.9	1424	1.6
2008-09	30	1.7	80	1.6	411	1.9	1652	1.7
2009-10	34	1.7	68	1.5	404	1.8	1791	1.7
2010-11	32	1.7	89	1.5	497	1.8	2055	1.7
2011-12	36	1.7	136	1.7	541	1.8	2118	1.7
2012-13	36	1.7	138	1.7	546	1.8	2268	1.6
2013-14	40	1.7	130	1.7	544	1.8	2587	1.6
2014-15	33	1.7	143	1.7	580	1.8	2775	1.6



Student Achievement Metrics

In preparing the accreditation report, IHPME completed a survey of its graduates. The following points capture some student achievement metrics:

- Degree completion rate of 96% – 100% over the last five years.
- Job placement rate of 94-100% three month post program completion. Although most students maintain full-time employment while in the Program, most graduates also report moving into new positions while in the Program or within six to twelve months after graduation. This finding is in keeping with the results of the 2013 alumni survey of graduates from 1979 to 2013, in which 94% of respondents either agreed or strongly agreed that completing the Program had helped them achieve their objectives when they enrolled. In addition, 80% were still working in health care.
- Student preparedness and satisfaction, as measured in the final Program evaluation. About 90% of 2013/14 respondents rated themselves as competent to very competent in all 14 critical competencies. One hundred percent said they were either satisfied or strongly satisfied with the Program.

Graduate Achievement Metrics

With respect to graduate achievements, the following was reported in the 2013 survey:

- The majority of graduates worked in the not-for-profit health care sector, with only one graduate working outside health care.
- More than half of the graduates were employed in the hospital sector (acute care, rehabilitation, complex continuing care, speciality, or mental health).
- The second largest employers were government and government-related agencies, such as the Local Health Integration Networks – the regional health authorities responsible for planning, funding, and integrating (but not delivering) health care services in Ontario.

Graduates worked in a variety of roles:

- 10% had obtained or were continuing in positions at the senior executive level,
- 71% were progressing to or maintaining positions at the managing staff and senior staff levels,
- 7% were practicing physicians with leadership responsibilities, and
- 8% were entering early career positions, for example, business analysts.

The diversity and distribution of positions is commensurate with the diversity of work experience of students entering the MHSc program. It also reflects the progression of program graduates over time into positions of increasing responsibility across health care.

Quality Enhancement

The program director, in conjunction with the MHSc Advisory Committee, has primary responsibility for the ongoing evaluation of the curriculum, including:

- Responding to program student, teaching faculty and preceptor concerns,
- Identifying of admission and graduation targets (in consultation with the IHPME director and graduate coordinator) and achieving these targets,
- Reviewing course evaluations and identifying and managing issues around the student experience,
- Identifying and recruiting staff and faculty to support the program's teaching and administrative load, and
- Promoting faculty development and identifying needs and opportunities for faculty. The program director, MHSc Advisory Committee, and IHPME director regularly review these results for ongoing curriculum and course-level improvement.

The following are sample course-level results on a scale of 1 (excellent) – 5 (poor). The overall program standard is 2 for each measure.

Item	*Grand Average Across Courses*	*Median*
Overall evaluation of course	2.0	2.0
Quality of guest faculty	2.0	1.9
Contribution of in-class activities	2.0	2.0
Appropriateness of assignments	1.9	1.9
Extent to which objectives were met	1.9	1.8
Overall instructor knowledge of field	1.4	1.3

Although all grand average scores meet program benchmarks, median scores show variation across courses.

Actions for improvement:

- At program curriculum review, discuss results and methods for improvement and share best practices
- Provide support to individual faculty (whose measures are above the median)
- A Faculty Development Workshop: The Art of Giving Competency-Based Feedback is planned for both in-class and student assessment activities

<u>Final 2015 Program Evaluation Results</u>

100% of students reported being prepared/very prepared on all 13 of the program's critical competencies:

- 100% of students reported being prepared/well prepared in 14/16 knowledge areas,
- 42% and 58% of students reported being somewhat prepared/not prepared in accounting/finance, health informatics/eHealth and change leadership, and
- 100% of students reported being satisfied/very satisfied with the program.

Actions for improvement:

- Development of a pre-program fundamentals course that will offer on-line modules in accounting/finance skills for incoming students to ensure a base line competency set prior to entering the program,
- Revision of HAD 5733: Health Services Finance building on the baseline preparation,
- Integration of students/alumni into revising the Health Informatics/eHealth offering, and
- Re-organization of HAD 5731: Translating Leadership into Practice to focus primarily on leading and managing change at the micro and macro levels.

Preceptor evaluations: 2013 results

- Grand average score of 4.4 on 5-point scale from 1 (unacceptable) to 5 (outstanding), and
- 85% of students reported being satisfied/very satisfied with their practicum experience.

Actions for improvement:

- Preceptor focus group delivered fall 2014 to discuss preceptor training, evaluation, and best practices, and
- Recommendations integrated into the practicum learning and evaluation processes and implemented in academic year 2015/16.

3.3A Master of Health Science in Health Administration / Master of Social Work

The combined MHSc Health Administration/Master's in Social Work allows individuals to integrate their commitment to serving vulnerable individuals and populations with the knowledge and skills needed to lead in today's challenging health and social services environment. An integrated and comprehensive program of study, this degree will interest those with a strong interest in both social work and health/social sciences management. The combined MHSc Health Administration/MSW program provides:

- A unique combination of social work knowledge and values with business and management expertise.
- Faculty who are the foremost thinkers, researchers and practitioners in social work and heath care today.
- Practicum placements under the mentorship of leading social work practitioners, practice leaders and health care executives.
- A comprehensive, interdisciplinary curriculum.

There are two full-time streams of study:

- 3-year program for students admitted with a four-year undergraduate degree
- 2.5-year program for students admitted with a Bachelor in Social Work.

Admission Requirements

Candidates must meet the Admission Standards for both the MSW and MHSc Health Administration Programs. The Institute of Health Policy, Management and Evaluation uses four dimensions to assess applicants to the Program:

- Academic performance – high academic standing equivalent to a University of Toronto B+ or better (77%-79%) on each of the last two years of a four-year undergraduate degree is required. A variety of 4-year undergraduate degrees offer a suitable basis for admission. Some prior preparation in quantitative courses such as statistics, accounting, and macro-economics is preferred.
- Experience – both in health care and in other environments.
- References – the Program values the perceptions colleagues and supervisors place upon an applicant's capabilities.
- Motivation – faculty place a high premium on candidates who have strong motivation and can ensure on-going commitment throughout the Program. Motivation is evaluated through an applicant's letter of intent and through the admissions interview process (where possible).

While all four criteria are assessed, it is the overall impression of a candidate's strengths and suitability that will determine admission.

3.4 Master of Health Informatics (MHI) - Health Policy, Management and Evaluation

Program Description

The MHI is a 16-month full time program that requires the completion of 10 FCE courses, including a 600 hour practicum, over four consecutive terms (16 months). The program combines expertise in health systems with applied knowledge in information and communication technologies. The program is targeted at early to mid-career professionals from healthcare, business and technology backgrounds. In addition to a mix of survey, problem-based and practice course work, the program includes a four month professional practicum placement which provides experiential learning under the mentorship of leading health informaticians within government, private sector, and health service provider organizations. In June of 2016, an "executive" version of the MHI degree is being launched. This degree option will be offered in a 22-month modular format, and will incorporate an employer based project instead of practicum. This program is designed for established mid- to senior career candidates who will be able to continue professional employment while gaining the specialized MHI knowledge. The courses, while structured differently, will cover the identical material as is covered in the regular stream of the program.

Program Objectives

The overall objective of the MHI program is to produce clinically and technologically astute solution architects capable of bridging the knowledge and cultural gaps that are pervasive in today's healthcare delivery sectors. The interdisciplinary curriculum initially ensures graduates have a solid foundation in key component domains such as health information systems and technologies, healthcare delivery and clinical systems, data processing and analysis, enterprise architectures and systems, knowledge management, decision support, human-computer interface and change management. Building on this, graduates will then demonstrate a working knowledge of the interrelated complexity, methods, tools, standard practice and implementation of health information technologies. Finally, graduates of the program will exhibit the capacity to generalize skills in innovative and context-specific ways generate custom solutions to healthcare system problems.

The program's faculty (tenured, teaching stream, status and adjunct) is renowned across Canada and internationally for their contributions to the advancement of health informatics and health information management. They are selected for their excellence in research and teaching, and for their health services, industry or information management knowledge and experience. Members of the MHI faculty have been actively involved in health informatics development activities for the Canadian health services system, as well as in international settings.

The program's objective is in line with the University of Toronto's Statement of Institutional Purpose (University of Toronto Governing Council, October 15, 1992): "The University of Toronto is committed to being an internationally significant research university, with undergraduate, graduate and professional programs of excellent quality". The objective is also in line with the Dalla Lana School of Public Health's stated goal of "training the next generation of scientists, educators and practitioners who will shape healthier societies in Canada and around the world".

Admission Requirements

Students are admitted to the MHI program under the general regulations of the School of Graduate Studies. Required background includes:

- An appropriate four year undergraduate degree (for instance, Health Sciences or Social Sciences specialty, Regulated Health Professions in Ontario, Computer Science or Information Science Specialty) or its equivalent, from a recognized university, with a minimum "mid B" average in the last academic year, and
- Demonstrated English language proficiency.

Preference is given to candidates with relevant professional experience, such as:

- Health services professionals,
- Health sciences/clinical practitioners with demonstrated basic literacy in technology applications relevant to the health sector, or
- Information technologists and specialists within a healthcare setting or healthcare technology vendor.

Curriculum and Program Delivery

Students in the MHI Program come from a diversity of backgrounds that are reflective of the broad scope of the health care delivery sector itself: health sciences (physicians, nurses, pharmacists, lab technicians, radiologists, social workers, or other allied health professionals); health administration (health services professionals, managers and consultants); and information sciences and technology (computer science specialists, healthcare information technology vendors and developers, engineers). The program seeks to identify the complementary skill sets among the diverse health informatics students, converge them within a singular cohort to develop the health informatics professional identity, then expand on the specialized skills required in specific health informatics roles and functions that occur across the full spectrum of the organizational, clinical and technology structures of the health and healthcare delivery systems.

Initially, the program introduces the theoretical and practical knowledge of health informatics domains such as clinical care and information and communication technology (ICT) to level the knowledge and experience of students from diverse professional backgrounds. Then in broad-survey as well as practice and experiential based courses, the program a) expands and strengthens theoretical and practical knowledge relevant to key curricular domains in the health informatics discipline, and b) facilitates student cohort cohesion, dynamic interaction and vicarious learning opportunities; thus establishing coherent professional identify within the student cohort. Finally, through a domain specific elective and advanced seminar courses, and in consideration of their interests, strengths and dynamic market demand students are able to identify appropriate professional directions for careers in healthcare settings. Small group and problem-based learning opportunities provide a highly interactive environment that allows students to benefit from each other's experiences through challenging group discussion.

Specific program learning outcomes include:

- Comprehensive knowledge of health care delivery policies and systems.
- Understanding and ability to communicate how effective use of information within health systems improves health and medical processes with the goal to facilitate successful outcomes for health care consumers.
- Knowledge and skills required to contribute to the development of information and communication technology infrastructure supporting health care, such as point-of care informatics applications, electronic health records and other ICT.
- Ability to facilitate the design and implementation of effective and efficient methods and processes for acquiring, processing and storing data.
- Ability to develop appropriate models for evaluating information systems, classification systems, health ICT systems and the quality of health information services.
- Knowledge of and sensitivity to the protection of patient confidentiality and privacy.
- Ability to analyze data, produce information and transfer knowledge that meets the needs of clinicians, managers and decision makers.
- Ability to critically analyze systemic, organizational and cultural issues associated with the implementation of e-health initiatives across the clinical, medical, community, and technological domains of health care Ability to provide leadership; develop interpersonal relations; engage in conflict resolution; as well as articulate ideas with impeccable oral and written communications skills.
- Ability to manage change in health care organizations from diverse communities drawing on the social and behavioural sciences.
- Ability to engage in the evaluation of both business and health care delivery practices focusing on structure, process and outcomes measurement and improvement.

Appendix 20 provides the Degree Level Expectations of the MHI degree, **Appendix 21** provides a list of course requirements organized by session and **Appendix 22** provides a list of courses offered in support of the program.

Overall responsibility for the MHI degree rests with the IHPME Graduate Coordinator, but there is a dedicated Program Director whose responsibilities include ensuring the curriculum remains current, attracting and training program faculty, student recruitment and admissions, and monitoring student welfare. The Director (Dr. Julia Zarb) is an accomplished academic with 20 years of experience in health information technology strategy and marketing leadership for industry and provider associations and vendor organizations. The Program Director has extensive contacts within the health informatics environment in Canada, Britain and the US, and established National Health IT Week, represented the Electronic Health Record Vendors' Association (HIMSS, US), and brought multiple technologies and national initiatives to market.

In addition, the Institute has a designated Program Lead (Dr. Emily Seto) whose research interests include the evaluation and design of healthcare technology to facilitate patient self-care and clinical decision support for chronic disease management. Dr. Seto has over 10 years of experience researching in the field of health informatics at the University Health Network and advising on eHealth provincial initiatives. This position ensures collaboration within the program to provide for a curriculum and Program focus that meets evolving market demands. Dr. Zarb and Dr. Seto's strengths as leaders, and their large healthcare networks, ensure that the program content is continually updated.

IHPME is committed to ensuring its programs are current and innovative in terms of content and delivery. The MHI program has an Advisory Committee that has been particularly active in the development of the executive stream, bringing best practices from the alumni, industry and healthcare leaders, students and faculty who comprise the group. There are a number of areas of innovation that can be highlighted in the MHI program, including the relationship with the Faculty of Information, which provides instruction on modelling and analyzing healthcare data, and onsite human factors learning at the Centre for Global eHealth Innovation.

Finally, similar to all IHPME programs, learning is not solely accomplished in the classroom. Students in the program have access to the wide range of lectures and symposiums that the University of Toronto offers. The program itself also offers additional learning opportunities including professional skills workshops, clinical site visits at Toronto-area hospitals, access to healthcare associations and databases, and participation in health informatics conferences that provide access to new technologies.

Assessment of Learning

The MHI Program curriculum is designed and sequenced to provide for the development of fundamental health informatics competencies. Students are assessed on their achievement of these competencies through a variety of formats including in-class examinations, term papers, group assignments and presentations.

An important component of the MHI program is the 4-month practicum or, for executive stream students, employer-based project. This educational activity provides an opportunity to apply the theory and knowledge gained in course work directly in a health informatics related organization. Prior to their placement, regular stream students are assessed with regards to their academic and professional strengths and weaknesses as well as their career goals and aspirations, and are matched with current preceptor organizations and projects accordingly. For both MHI streams, a learning contract is developed with clear competencies to be mastered identified. This component of the MHI program is assessed on a Pass/Fail basis and the final determination of success is a joint Institute/Practicum or project decision.

IHPME follows the Graduate Grading and Evaluation Practices Policy of the Governing Council, University of Toronto. Information on the grading practices within IHPME are available to all instructors and students through a series of Tip Sheets available on the IHPME website. In addition, a yearly workshop is offered to all new, and continuing, instructors which reviews the University of Toronto's grading practices, as well as discusses common issues and concerns.

Student Awards

The University of Toronto offers a wide range of awards to its graduate students, information about which is available on the School of Graduate Studies website. In addition, IHPME hosts an annual Research Day which includes judged poster and presentation sessions. Monetary values (from $150 - $1000) are awarded in over ten different categories.

Student Funding

Each year, IHPME receives bursary money from the university (the amount is dependent on student enrolment). In the fall, any student with financial need is encouraged to apply for support using the OSAP (Ontario Student Assistance Program) forms. To date, all students who have demonstrated some financial need (their expenses are greater than their income) have received varying amounts of support ($1000 - $5000).

Part of the MHI program involves a 4 month practicum. While not guaranteed, to date, the majority of students have been placed in paid practicums. Executive stream students are required to be employed and to continue their employment throughout their studies.

Quality Indicators

Table 3.4.i provides information on applications, offers and registrations to IHPME's MHI program during the period under review. Table 3.4.ii provides information on the offer rate and Table 3.4.iii provides information on the acceptance rate. Comparative information from the DLSPH and the University of Toronto is provided in Tables 3.4.ii and 3.4.iii.

When the MHI program was established in 2008, it had a target of enrolling 25 students per year. Within four years, the program had achieved this goal. As the program has become better

known, the number of applicants, and the number of students admitted, has grown steadily – from 8 in its inaugural year to 33 last year. Acceptance rates to the MHI program (77% last year) are slightly higher than the comparator groups. This reflects the reputation of the MHI program and its position compared to similar programs in Canada and the US.

Table 3.4.i Professional Master's degree - Master of Health Informatics (MHI)

		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications		23	62	78	80	91	104	99
Offers		10	26	23	25	33	35	43
New Registrants		8	17	16	15	30	24	33

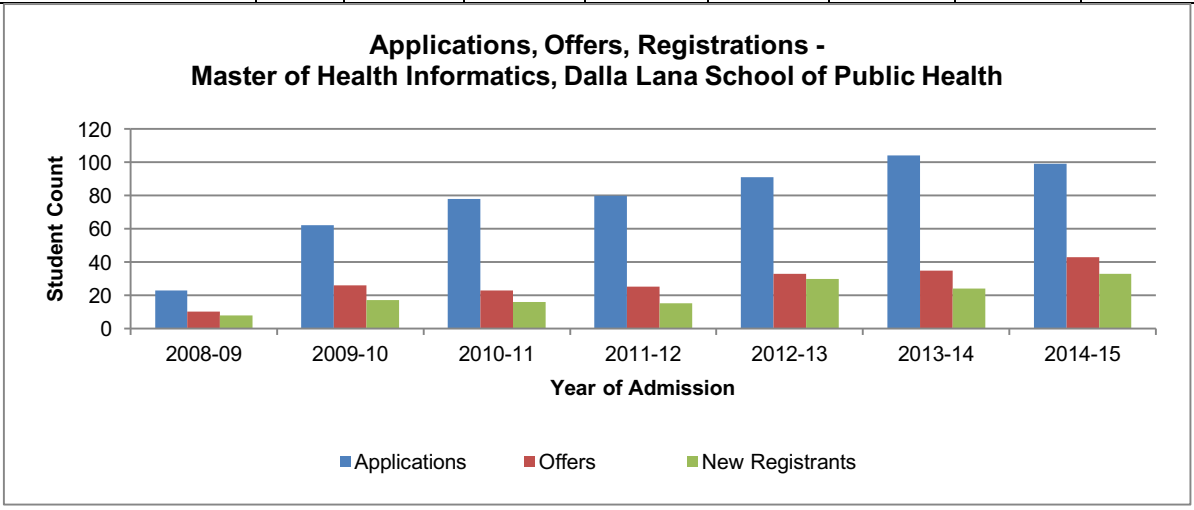


Table 3.4.ii Offer Rate - Professional Master's Programs

		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Health Informatics		43.5%	41.9%	29.5%	31.3%	36.3%	33.7%	43.4%
Dalla Lana School of Public Health		26.1%	31.1%	26.9%	27.6%	27.5%	31.9%	28.2%
Division IV Life Sciences		28.6%	30.8%	26.2%	26.2%	26.8%	25.9%	27.1%
U of T		43.6%	44.3%	39.7%	39.6%	39.1%	40.2%	39.9%

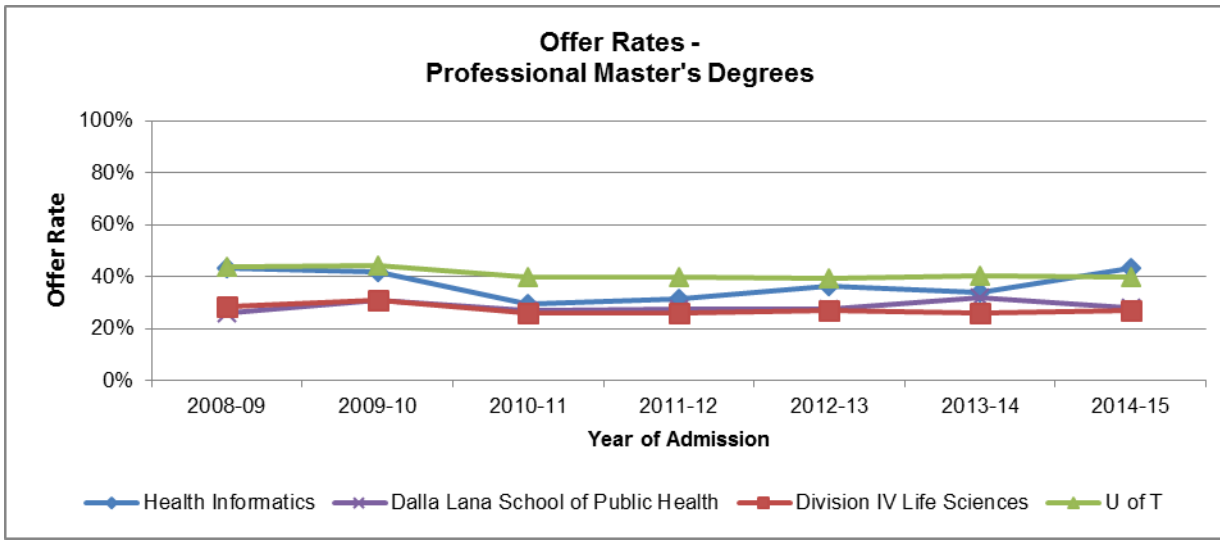


Table 3.4.iii: Acceptance Rate - Professional Master's Programs

		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Health Informatics		80.0%	65.4%	69.6%	60.0%	90.9%	68.6%	76.7%
Dalla Lana School of Public Health		72.2%	64.2%	64.9%	60.9%	67.5%	65.1%	68.4%
Division IV Life Sciences		65.7%	60.3%	64.9%	63.4%	62.7%	64.1%	65.2%
U of T		59.7%	59.3%	61.0%	59.9%	61.5%	59.8%	58.6%

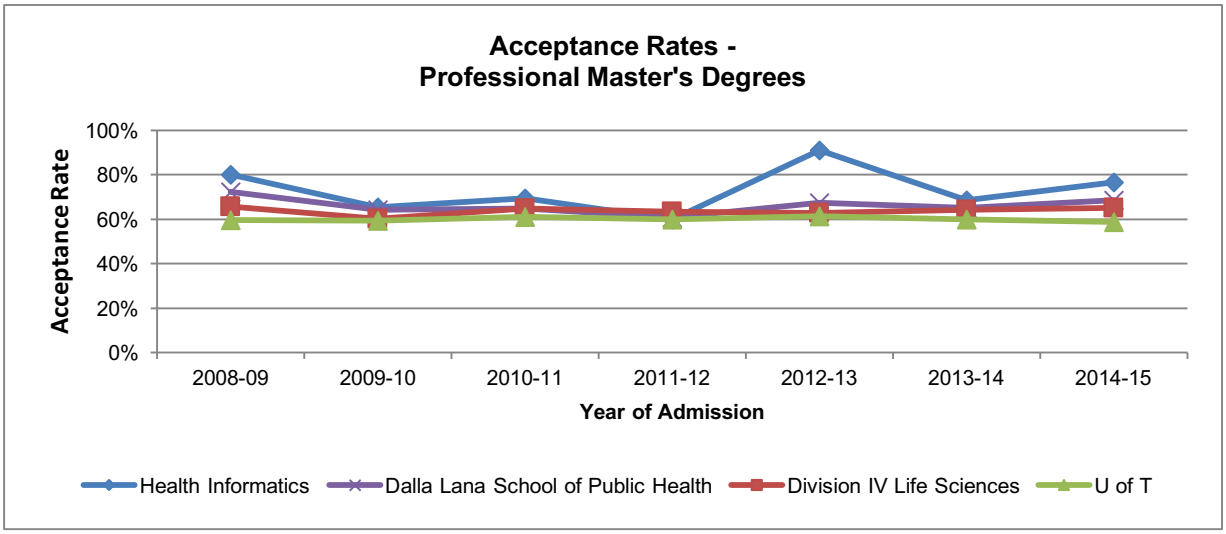


Table 3.4.iv provides information on the enrolment and Table 3.4.v the number of graduates from the MHI program and mean time to graduation. As the table indicates, virtually all students who start the program complete it within the 16 month schedule. Only one student has withdrawn from the program (because of a family medicine residency opportunity in

Saskatchewan that was unanticipated when she began the program) and only a few students have taken an extra term to complete (mainly because of practicum opportunities that were available only in the winter term).

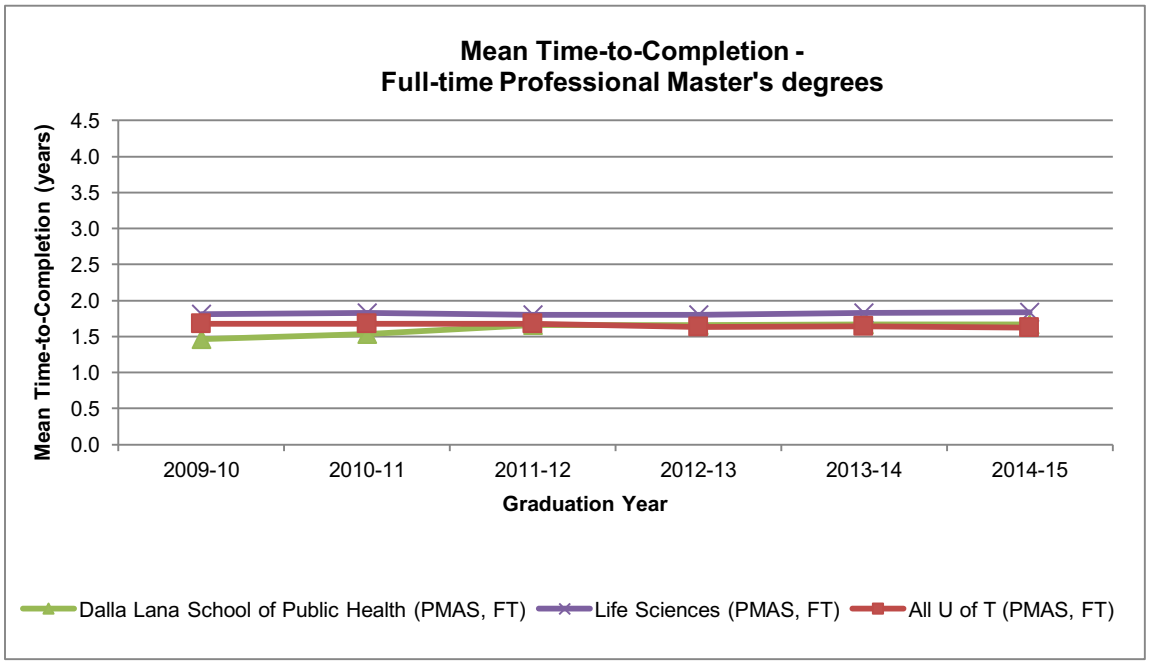
Table 3.4.iv: Health Informatics Enrolment

Faculty	Degree	FT/PT	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015
Medicine	MHI	FT	8	24	33	28	43	52	0	0
DLSPH	MHI	FT	0	0	0	0	0	0	55	69
Total	**MHI**	**FT**	**8**	**24**	**33**	**28**	**43**	**52**	**55**	**69**

Note: Programs were transferred from the Faculty of Medicine to The Dalla Lana School of Public Health in stages. The table above shows enrolment by program and by Faculty, and shows the change of ownership from Faculty of Medicine to Dalla Lana by the light blue shading.

Table 3.4.v Health Informatics - Professional Master's degree

	Health Informatics (PMAS, FT)		Dalla Lana School of Public Health (PMAS, FT)		Life Sciences (PMAS, FT)		All U of T (PMAS, FT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2009-10	7	1.3	68	1.5	404	1.8	1791	1.7
2010-11	17	1.4	89	1.5	497	1.8	2055	1.7
2011-12	13	1.4	136	1.7	541	1.8	2118	1.7
2012-13	13	1.3	138	1.7	546	1.8	2268	1.6
2013-14	28	1.4	130	1.7	544	1.8	2587	1.6
2014-15	22	1.3	143	1.7	580	1.8	2775	1.6



Quality Enhancement

The MHI Program is being consistently enhanced by incorporating recommendations from student, faculty and community advisory stakeholders. Student Town Halls, Faculty and MHI Advisory Committee meetings have offered increasing options for feedback from within the MHI community.

The MHI Program Director, in conjunction with the MHI Academic Director, faculty and the MHI Advisory, is responsible for ongoing management of the program, including:

- Response to student, teaching faculty and preceptor concerns and issues,
- Identification of admission targets (in consultation with the IHPME Director and Graduate Coordinator),
- Response to course evaluations and identification of challenges within course content and delivery,
- Identification and recruitment of faculty to conduct MHI regular and executive-stream teaching,
- Faculty support and development, and
- Curriculum and course-level improvements.

Table 3.4.vi provides information on 10 course-level student evaluations which have been selected to reflect areas of ongoing focus for development within the MHI program. The scale ranges from 1 (poor) to 5 (excellent). The Grand Average is for MHSc and MHI courses combined. For all items, there has been an increase in the evaluations between 2013/14 and 2014/15; with the majority of items rating very good to excellent. Overall knowledge of the field, including current thinking is rated at a stellar 4.5.

Table 3.4.vi: Overall course evaluations with grand average calculated by DLSPH

	2013-2014	**2014-2015**
Evaluation Item	**Grand Average**	**Grand Average**
Quality of syllabus (document with readings, assignments, grading etc.)	3.6	3.9
Quality of invited speakers, panelists, guest faculty	3.8	4.3
Integration & coordination with other program courses	3.6	3.9
Overall evaluation of the course.	3.7	4
Conduciveness of class atmosphere to learning	3.6	4
Balance between theory and practice	3.6	3.9
Contribution to your learning	3.7	4
Extent to which course required critical thinking, analysis & argument	3.8	4.1
Extent to which course tied theory to practical applications	3.7	4
Enthusiasm for subject	4.1	4.4
Overall knowledge of field including current thinking	4.1	4.5

(where 1 = 'Poor' and 5 = 'Excellent')

MHI student cohorts have improved their academic performance over the past 5 years, from a B+ class average to an A average with much lower heterogeneity and variance in the population. This is most likely the result of a stabilized curriculum as well as a greater number of applications to the program (due to word of mouth reputation and improved marketing), consistently predictive selection criteria, and an improved admission process that is based on the Multiple-Mini Interview format.

Student Experience

Responses collected from the 2015 MHI Town Hall survey and live event indicated appreciation of several program attributes, as well as areas for improvement. (Source: 2015 MHI Town Hall Survey, Year 1/N=17, Year 2/N=26.)

Positive responses included the variety of instructor backgrounds included in the program, the level of health informatics knowledge provided, the contribution of the program to Health Informatics understanding, the usefulness of courses and content, the value of guest lectures and support after graduation.

Actions for improvement that were identified included:

- Orientation. While the current orientation positioned program expectations well, it would benefit from more interactive opportunities and exposure to campus resources.
- Improved continuity and interrelation of courses. Program assignment calendars and a guest lecture roster were suggested as possible strategies to address this issue.
- Increased in training of practical skills. Industry association membership with case-based publications and work group opportunities has been introduced to the program. 'Speed mentoring' events are in development, as is preceptor and alumni events to increase contact with professionals in the field.
- Better classroom space, with air conditioning, areas for group work, and electrical outlets.
- Practicum preparation, communications and a streamlined application process. The new Program Director is intending to revamp the practicum process, and related materials over the coming year.
- Better branding at industry events. The MHI program is planning booth space at two major conferences for recruitment and branding purposes.

Faculty & Curriculum

Development of the executive stream has offered faculty, students and advisors opportunities to examine the curriculum of the program and pedagogic issues, with a goal of optimizing the delivery of all courses.

Actions for improvement that were identified include:

- Instructional workshops by the University of Toronto Centre for Teaching Support and Innovation. A workshop with the Faculty of Information.
- Executive MHI instructor development meetings, with interim evaluations of teaching and student experience for the first cohort.
- Standardization of the adjunct selection and contribution processes.
- Content updates within courses, including additional guest lectures, case-based learning, and capstone project development.
- Standardization of syllabus format, with guidelines for course instructors.
- Full adoption of eGrades.
- Development of a pre-program statistics fundamentals course.
- Re-organization of the following courses in response to evaluations and student feedback, and instructor transitions:
    - MHI1002 Clinical Complexity of Care
    - MHI2008 Project Management
    - MHI2005 Practicum

Practicum

Over the course of the past five years, at least 90% of MHI students have consistently ranked 'Excellent' to 'Outstanding' on practicum performance evaluations.

MHI2005Y Practicum Final Evaluation Ratings for 2014-2015 cohort (N=33)	
Outstanding	39%
Excellent	45%
Very Good	13%
Good	3%
Grand Total	100%

While the practicum is obviously an important and highly valued component of the MHI program, the following actions for improvement have been identified:

- A preceptor event will be hosted to encourage ongoing participation in practicum placements, interaction with alumni and students, and program recruitment. A preceptor focus group will be hosted within the 2016/17 year to discuss preceptor training, evaluation, and best practices.
- Re-organization of the Practicum for MHI, and the development of a Health Informatics Project course to optimize processes for applied learning within program.

3.5 Master of Science in Public Health Sciences, Biostatistics

Program Description

The MSc in Public Health Sciences, Biostatistics field trains students to be professional Biostatisticians. Biostatistics involves the development and application of statistical methodology to further understanding of data arising in public health, and the health and biological sciences more broadly.

The MSc is a 5.0 full credit equivalent program that can be completed in one year of study. Students may choose between two formats:

1. *A course only version of the MSc*: This option appeals to most students and meets the needs of those who intend to pursue a PhD in biostatistics and those who plan to join the workforce after completing the MSc.

2. *A thesis version of the MSc*: This option appeals to mature students who are already working as biostatisticians, and who have a clearly identified research area they wish to pursue.

Students in the Thesis option are not required to take electives. Sometimes there are exceptions where a student wishes to substitute a required course with an elective. This student must consult with the Division Head.

A Master's thesis with general content pre-approved by the student's advisory committee is required. To replace required course training hours the thesis must include an in-depth analysis and interpretation of data from the health or biological sciences. An oral defense of the thesis is required.

Students receive a deep and broad experience in all aspects of data analysis, mathematical statistics, classical and modern methods in linear and non-linear models, survival analysis and may choose from a collection of more specialized topics such as Bayesian methods, statistical methods applied to genetics, and computer intensive techniques.

Program Objectives

The objective of the MSc in Public Health Sciences, Biostatistics field is to prepare students for entry into a PhD program and for a career as a biostatistician to work in universities, government departments, hospitals, pharmaceutical/health corporations and other health agencies such as cancer research units, by providing training in the theory and practice of biostatistics. Degree level expectations can be found in **Appendix 23**.

Admission Requirements

In addition to the minimum standard admission requirements of a 4 year undergraduate degree with a minimum B standing in the 4th year and demonstrated proficiency in English language,

prerequisite courses in linear algebra, advanced calculus, probability and mathematical statistics are required.

Curriculum and Program Delivery

Graduates of the MSc in Public Health Sciences, Biostatistics field will learn:

- Mathematical statistical techniques: Knowing the mathematical properties of statistical methods and to be able to read the statistical literature to use new statistical methods and to understand the strengths and weaknesses of these new methods.
- Computational proficiency: Handling large datasets, solving for numerical results in statistical analyses, and fluency in at least one statistical package.
- Specialized applied statistical expertise: Knowledge of specialized statistical methods for models that are used in biomedical/population health research including methods for the analysis of categorical and survival data.
- The art of data analysis: Understanding how to link scientific questions and mathematical statistical methods. Translating the scientific questions into mathematical language, and the results of a statistical analysis back to the scientist.

Course work which support these learning outcomes (see **Appendix 24** for courses offered):

Mathematical statistical expertise is first covered in STA2112/STA2212 or CHL5226/CHL5223. Mathematical methods play a major role in CHL5209 and CHL5210. In addition, these methods are also reinforced in many of the elective courses. In all courses, a new statistical technique is described and there is at least a basic justification of the methods based on mathematical statistical principles.

Computational proficiency: Outside of STA2112/STA2212 and CHL5226, there is a heavy statistical computational component to almost all the other courses in the program. This is especially true in the required courses: CHL5207, CHL5209, CHL5210, and CHL5223. There is an especially heavy emphasis in many of the elective courses such as CHL5223 and the CHL7001 courses "Statistical Methods in Data Mining", "Statistical Analysis of Health Data from Complex Samples", "Statistical Models on Complex Human Genetic Diseases" and STA7002 "Simulation Methods".

Specialized applied statistical expertise: Categorical methods are covered in CHL 5210 and Survival methods are covered in CHL5209. The different elective course are usually built around specialized methods for different types of problems and one can see what method is being studied by looking at the title of the course. In addition, the seminar course, CHL5250, exposes students to a wide range of different statistical techniques.

Art of data analysis. A basic understanding of public health is given in the overview course, CHL 5004 "Introduction to Public Health Sciences". The seminar course, CHL5250, exposes students to a broad range of examples of different techniques which are in the context of how these methods are used for a problem in the biomedical/population health sciences. The course

CHL5207, is a two semester, practicum course where the student start with a scientific problems and are learning the art of data analysis.

We have a very extensive 2-term practicum course, Lab in Statistical Design and Analysis. The practicum course places students in a professional environment in the research community.

The format was introduced to increase student experience with applied data analysis. The course is mandatory for both MSc and PhD students within the Biostatistics Program and includes two components per week: a 2 hour lecture and a 4 hour practicum at the supervisor's workplace. The emphasis is on practical consideration from the collective experience of the course instructors who are applied statisticians. Student evaluation consists primarily of a presentation at the end of each term, and a final report. Students are also assessed each term by their practicum supervisor.

Assessment of Learning

The MSc in Public Health Sciences, Biostatistics field uses a combination of approaches, including exams (many courses), assignments (many courses), problem-sets with heavy requirements involving computer usage, report writing (for example in Practicum), presentations (some examples) and poster presentations.

Student Awards

Students have regularly taken part in the student data analysis challenge at the Statistical Society of Canada's annual conference and they have won many of the years.

Student Funding

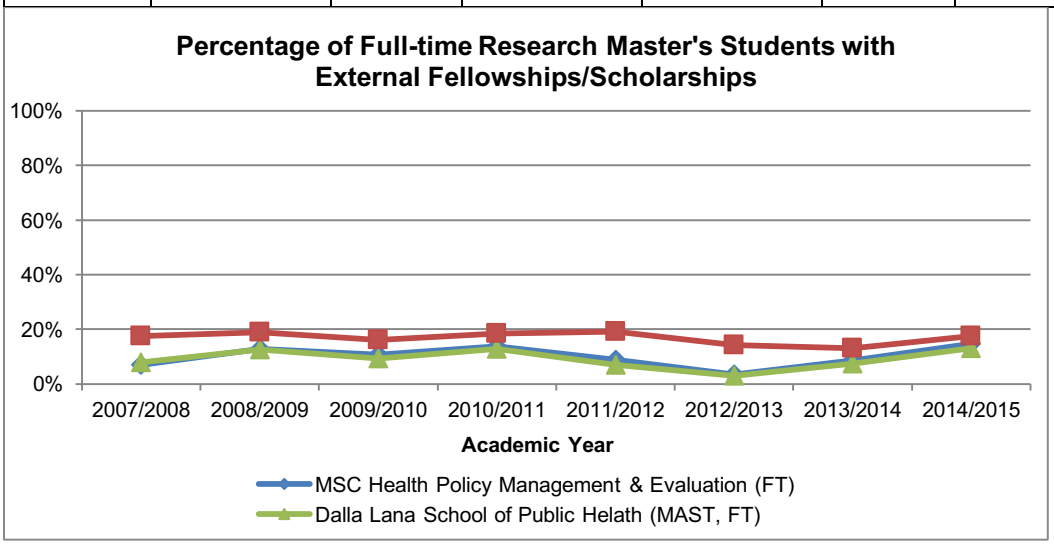
There are some bursaries for the top applicants. Also available are TA positions (including some that are available in other departments, such as statistical sciences) and research projects. Note: after the first semester, students are highly sought after as RA's to do statistical analyses for researchers across the biomedical research community in Toronto.

Biostatistics students with fellowships/scholarships are included under the Public Health Sciences degree in the following Table 3.5.i.

Table 3.5.i: Research Master's degree

	MSC Health Policy Management & Evaluation (FT)			MSC Public Health Sciences (FT)		
Academic Year	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	5	72	6.9%	1	4	25.0%
2008/2009	10	78	12.8%	1	9	11.1%
2009/2010	9	85	10.6%	0	12	0.0%
2010/2011	11	80	13.8%	1	14	7.1%
2011/2012	7	80	8.8%	0	21	0.0%
2012/2013	4	115	3.5%	0	18	0.0%
2013/2014	10	117	8.5%	0	20	0.0%
2014/2015	18	123	14.6%	1	23	4.3%

	Dalla Lana School of Public Health (MAST, FT)			Division IV: Life Sciences (MAST, FT)		
Academic Year	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	6	76	7.9%	186	1,068	17.4%
2008/2009	11	87	12.6%	198	1,055	18.8%
2009/2010	9	97	9.3%	168	1,043	16.1%
2010/2011	12	94	12.8%	199	1,081	18.4%
2011/2012	7	101	6.9%	214	1,114	19.2%
2012/2013	4	133	3.0%	158	1,105	14.3%
2013/2014	10	137	7.3%	145	1,114	13.0%
2014/2015	19	146	13.0%	197	1,120	17.6%



Quality Indicators

Table 3.5.ii: Research Master's degree - Public Health Sciences

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	46	45	46	53	61	80	73	105
Offers	25	25	22	31	31	38	44	48
New Registrants	4	13	12	14	12	18	22	21

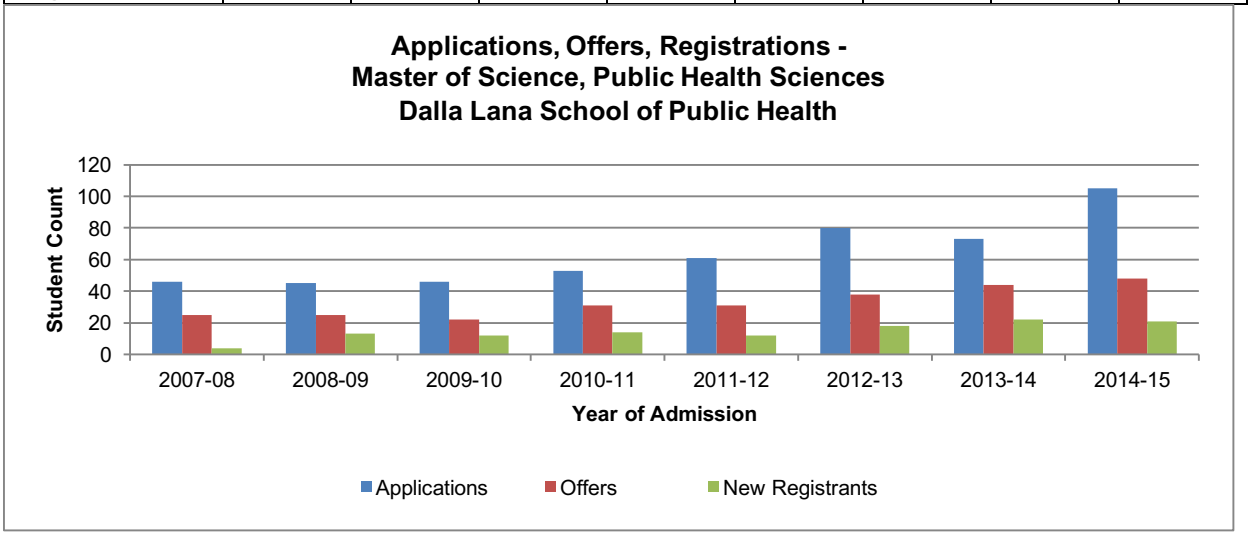


Table 3.5.iii: Offer Rate - Research Master's Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Public Health Sciences	54.3%	55.6%	47.8%	58.5%	50.8%	47.5%	60.3%	45.7%
Dalla Lana School of Public Health	42.9%	49.1%	46.8%	53.7%	45.5%	46.2%	43.6%	47.5%
Division IV Life Sciences	43.0%	43.9%	39.1%	41.1%	39.0%	37.1%	36.1%	38.1%
U of T	36.7%	38.2%	32.0%	30.9%	30.3%	28.6%	29.1%	29.2%

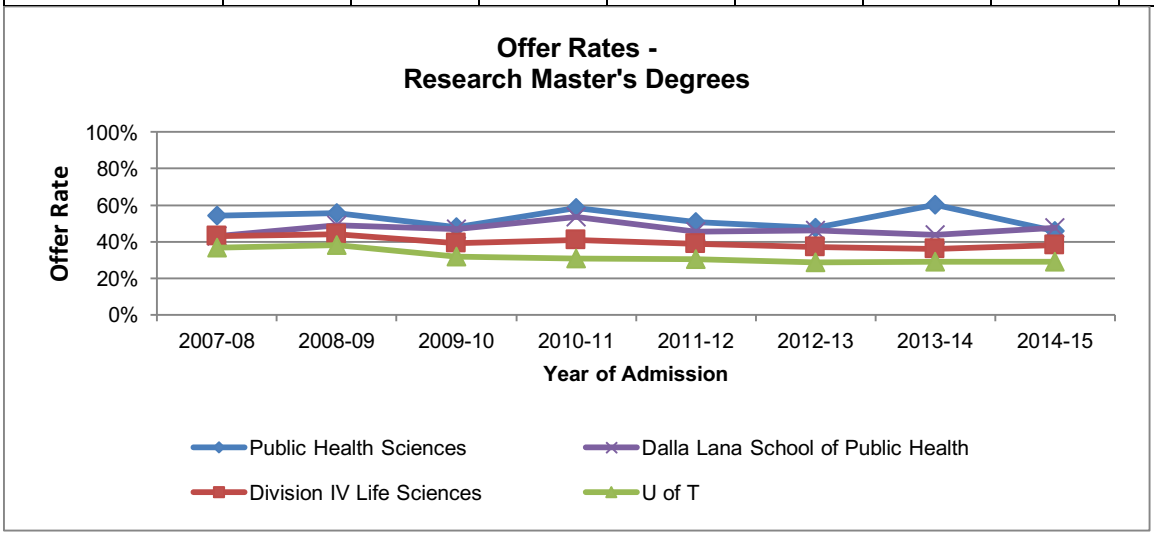


Table 3.5.iv: Acceptance Rate - Research Master's Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Public Health Sciences	16.0%	52.0%	54.5%	45.2%	38.7%	47.4%	50.0%	43.8%
Dalla Lana School of Public Health	52.9%	67.9%	69.9%	66.7%	66.3%	73.4%	71.4%	52.8%
Division IV Life Sciences	57.1%	59.1%	58.2%	60.9%	58.2%	58.7%	60.5%	56.5%
U of T	55.7%	55.8%	57.4%	56.7%	55.9%	55.8%	58.0%	55.5%

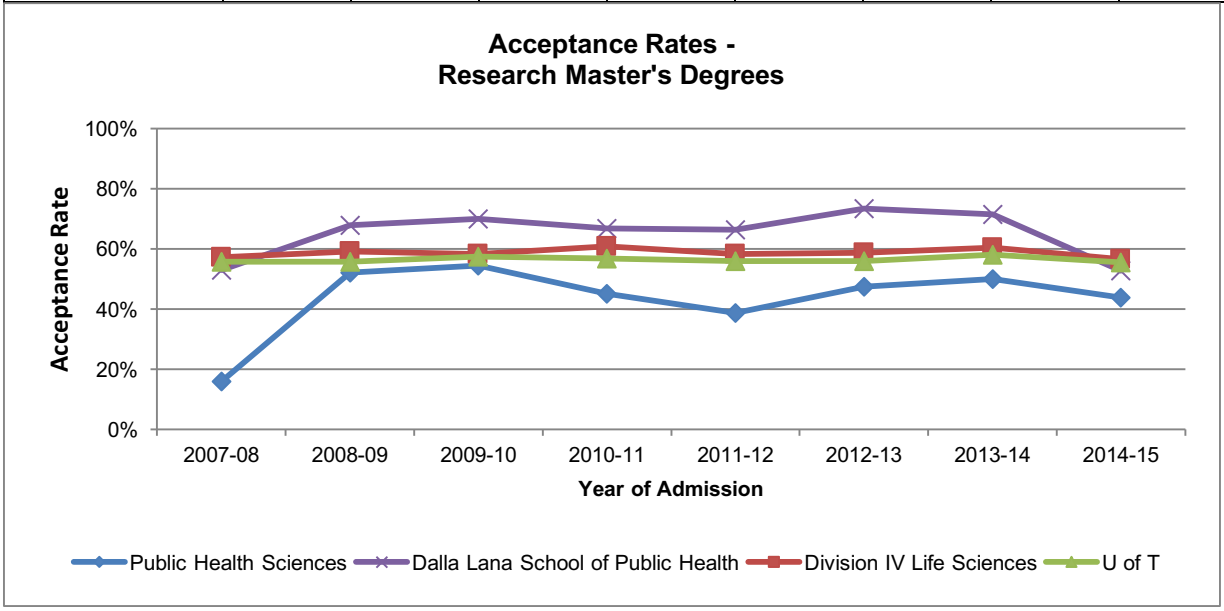
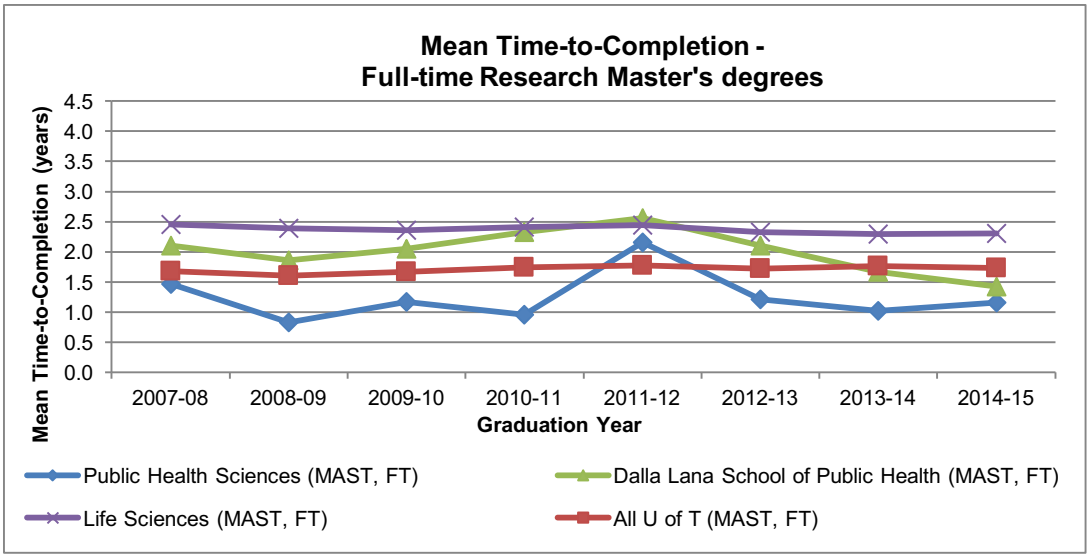
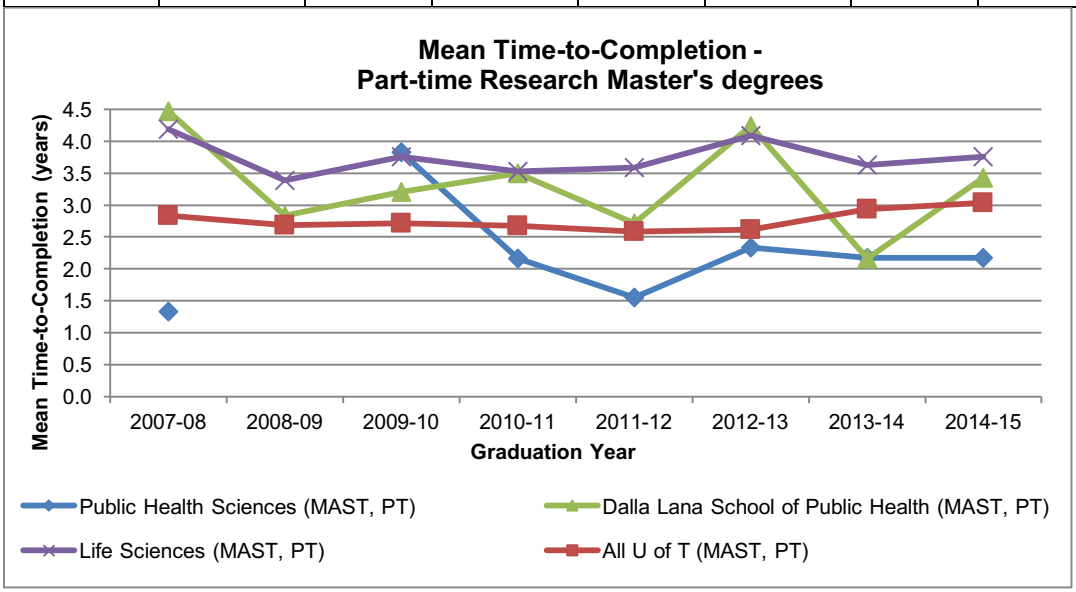


Table 3.5.v: Public Health Sciences -Research Master's degree

	Public Health Sciences (MAST, FT)		Dalla Lana School of Public Health (MAST, FT)		Life Sciences (MAST, FT)		All U of T (MAST, FT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	12	1.5	35	2.1	297	2.5	1112	1.7
2008-09	2	0.8	14	1.9	293	2.4	1320	1.6
2009-10	6	1.2	32	2.1	352	2.4	1299	1.7
2010-11	8	1.0	35	2.3	361	2.4	1257	1.7
2011-12	13	2.2	49	2.6	364	2.4	1227	1.8
2012-13	11	1.2	29	2.1	343	2.3	1169	1.7
2013-14	13	1.0	64	1.7	399	2.3	1289	1.8
2014-15	19	1.2	66	1.4	379	2.3	1319	1.7



	Public Health Sciences (MAST, PT)		Dalla Lana School of Public Health (MAST, PT)		Life Sciences (MAST, PT)		All U of T (MAST, PT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	1	1.3	5	4.5	19	4.2	97	2.8
2008-09	0		4	2.8	12	3.4	86	2.7
2009-10	2	3.8	8	3.2	15	3.8	80	2.7
2010-11	2	2.2	6	3.5	12	3.5	82	2.7
2011-12	3	1.6	7	2.7	12	3.6	74	2.6
2012-13	2	2.3	7	4.2	12	4.1	98	2.6
2013-14	2	2.2	4	2.2	9	3.6	80	2.9
2014-15	2	2.2	7	3.4	15	3.8	61	3.0



Quality Enhancement

The field continues to add courses to reflect the changing nature of the discipline. These have included courses on data mining, genomics, clinical trials and applied Bayesian methods. As well, we include course work in order to admit students from science backgrounds. This is in addition to our usual pool of students from a traditional mathematical statistical undergraduate background.

3.6 Master of Science in Community Health

Program Description

The Master of Science in Community Health (MScCH) program has been in operation since 2007. It differs from the School's other degrees in its emphasis, content, intended audience and method of delivery. A 5.0 credit program, the MScCH is geared to applicants with very specific academic career development goals that are relevant to practicing health professionals.

Five fields are currently offered: Addictions and Mental Health; Family and Community Medicine (FCM); Health Practitioner Teacher Education; Occupational Health Care; and Wound Prevention and Care. The Health Practitioner Teacher Education field is seen to be broadly generic and applicable to all health professions, while the other fields represent specific areas of professional practice.

MScCH Specializations

- Addictions and Mental Health
- Family and Community Medicine
- Health Practitioner Teacher Information
- Occupational Health Care
- Wound Prevention and Care

Program Objectives

Objectives of the program are:

- To provide experienced health practitioners, whether they work in either academic or community settings (or both), with the skills to become effective clinical/public health leaders and teachers in their specific professional discipline.
- To further extend the continuum of higher education opportunities for health professionals to exceed the current traditional continuing education. It emphasizes critical, analytic, interpretive and scholarly skills.
- To develop professional models for improved inter-professional team practice and education spanning clinical, community and public health domains of practice.

The detailed objectives for each specialization are provided in **Appendix 25**.

The program largely offers a flexible, time-efficient, classroom-based, modular programmatic delivery model. It uses existing facilities and current faculty within the DLSPH and Faculty of Medicine.

Admission Requirements

The MScCH is a graduate-level, professional degree program, which is intended for, and limited to, health professionals who wish to enhance their professional knowledge and skills, while being able to remain employed/in practice. Admission to the FCM stream requires appropriate licensure in a regulated health profession (or equivalent) and a valid license to practice in

Canada or in the applicant's home jurisdiction. This program is not intended to assist applicants in becoming licensed health practitioners in Canada.

Applicants who have demonstrated interest and ability in scholarly work throughout their health professional training will be given preference. Applicants must also have a demonstrated proficiency in the English language.

Curriculum and Program Delivery

The MScCH was designed to enable a choice of program completion options. The MScCH may be completed within 12 consecutive months (full-time), or students can take up to 5 years to complete the degree on a part-time basis. A full-time student would need to commit to a minimum of 8-14 weeks, full-time, on-campus class attendance plus 160-320 practicum hours of supervised and evaluated field work.

The MScCH degree requires the completion of 5.0 full course credit equivalents (FCE) including at least one supervised, 160-hour field placement/practicum in which learners are expected to apply their new skills and record and reflect upon their experiences. All students will complete the introductory public health course plus one additional "core" course, with the majority also completing one or more graduate courses addressing the theories and strategies of effective teaching. Field specific required courses, electives and one or two supervised field placements or practica round out the program.

<u>Special Features of this Professional Master's Degree</u>

- Health professional practice orientation
- Emphasis on basic theory as foundation
- Learn useful skills and strategies
- Critical appraisal education and clinical literature
- Familiarity with research project issues
- Experience from individual field work practice
- Accessible for distance and part-time
- Classroom materials presented face-to-face
- Educational Technology as a Resource
- Academic Skills enhancement in Presentation/Writing
- Best Practice Faculty Development design

Many health professionals are required to participate in regular, formal continuing education to maintain their license to practice. Students in the MScCH program have the opportunity to receive partial credit in specified introductory graduate courses for work previously completed in specified matched Faculty of Medicine Continuing Education (CE) courses taught by the same graduate faculty as in the MScCH program. In all cases, the students are required to complete additional work beyond the CE requirements in order to receive the graduate course credit.

Assessment of Learning

The progress of MScCH students is monitored throughout the program, and has been found to be comparable to that of graduate students in other programs. MScCH students are subject to the same performance standards as students in other programs, including minimum performance requirements in all courses. For required and optional practica, a standardized set of expectations are provided to students and preceptors to ensure the practicum experience meets acceptable standards as well as student needs.

Student Awards

Because of the nature of their program, MScCH students are not eligible for many of the awards that other Master's students are eligible for. Some students in the program have successfully applied for bursaries.

Student Funding

MScCH (AMH) students are not guaranteed any level of funding by the university. Many or most students in the program are employed (health professionals) who continue to receive part or full-time salaries. Other students have been able to obtain paid practica. Some students needing funding have been able to obtain funding as Research Assistants.

Quality Indicators

Applicants to the MScCH programs have been very well qualified, including many from regulated health professions (e.g., physicians, nurses, naturopaths, social workers, paramedics). Although many students have been away from formal education for several years, students have performed well in courses, at levels consistent with that seen from students on other programs. Similarly, performance in required and optional practica has been viewed by practice supervisors as excellent.

Many graduates of the MScCH programs are on faculty at Faculties of Health Sciences across Canada, including a large number at the University of Toronto.

MScCH data on applications, offers, enrolment, etc., follow in tables 3.6.i to 3.6.v.

Table 3.6.i: Professional Master's degree - Master of Science in Community Health (MScH)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	11	53	67	86	64	61	68	81
Offers	11	34	42	50	37	40	47	44
New Registrants	8	28	25	34	22	27	33	32

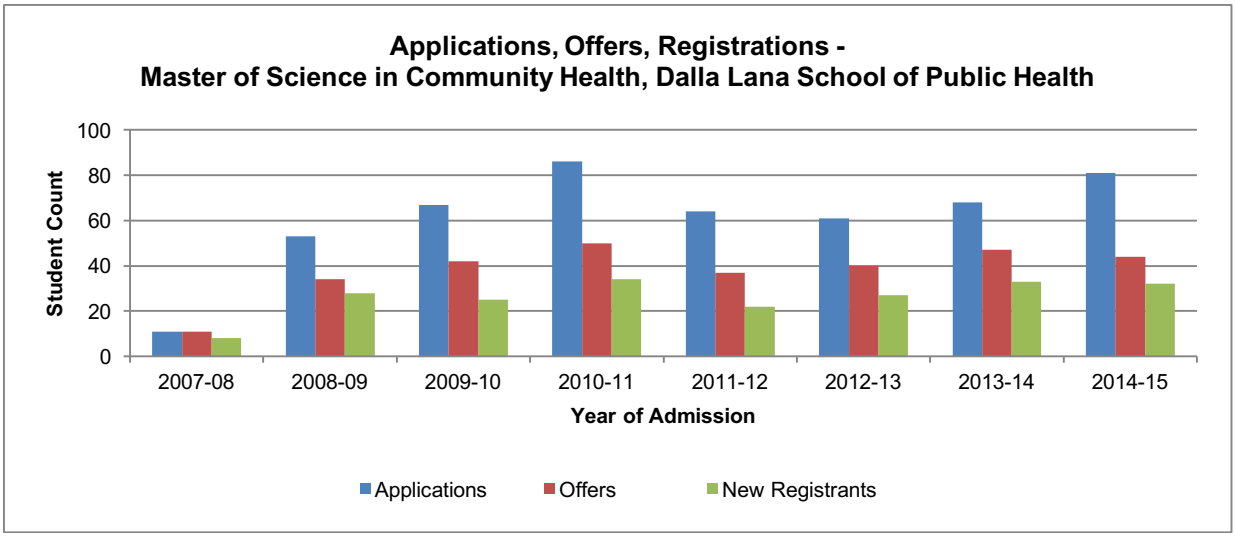


Table 3.6.ii: Offer Rate - Professional Master's Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Community Health	100.0%	64.2%	62.7%	58.1%	57.8%	65.6%	69.1%	54.3%
Dalla Lana School of Public Health	25.6%	26.1%	31.1%	26.9%	27.6%	27.5%	31.9%	28.2%
Division IV Life Sciences	28.4%	28.6%	30.8%	26.2%	26.2%	26.8%	25.9%	27.1%
U of T	43.2%	43.6%	44.3%	39.7%	39.6%	39.1%	40.2%	39.9%

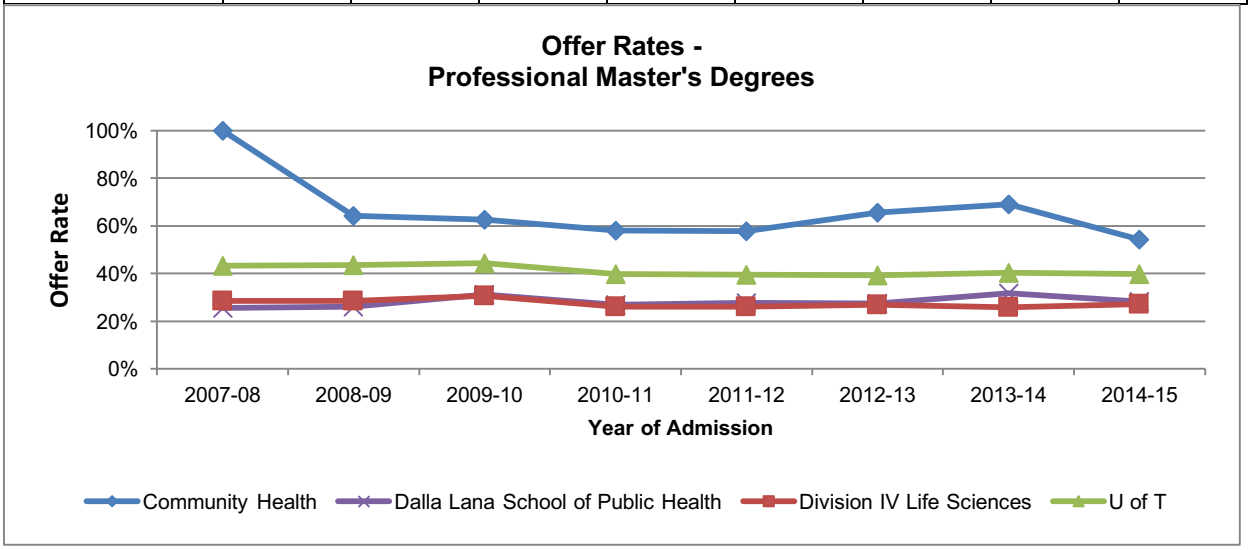


Table 3.6.iii: Acceptance Rate - Professional Master's Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Community Health	72.7%	82.4%	59.5%	68.0%	59.5%	67.5%	70.2%	72.7%
Dalla Lana School of Public Health	65.3%	72.2%	64.2%	64.9%	60.9%	67.5%	65.1%	68.4%
Division IV Life Sciences	63.1%	65.7%	60.3%	64.9%	63.4%	62.7%	64.1%	65.2%
U of T	61.2%	59.7%	59.3%	61.0%	59.9%	61.5%	59.8%	58.6%

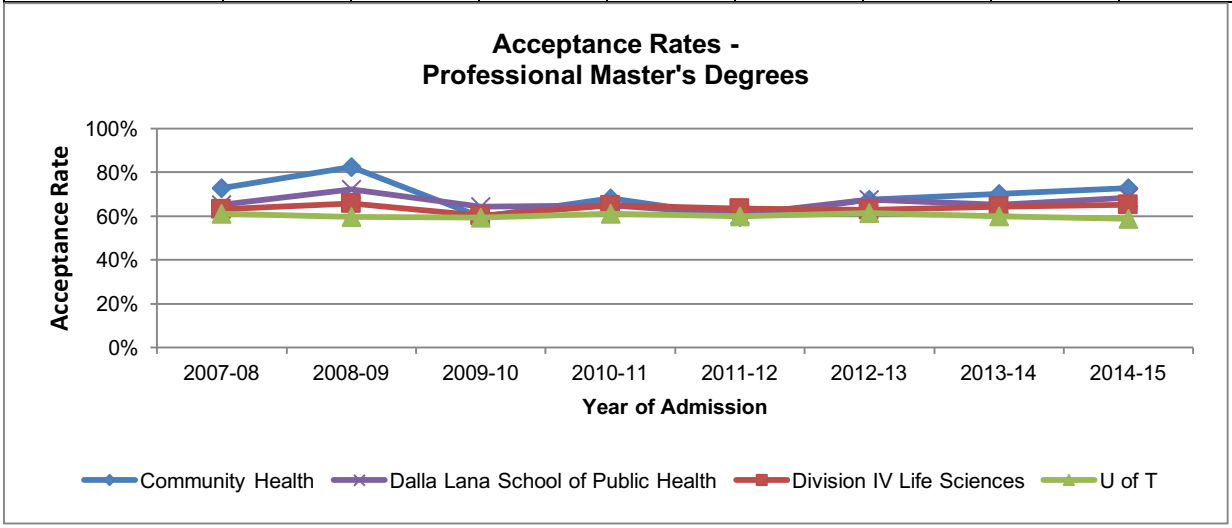


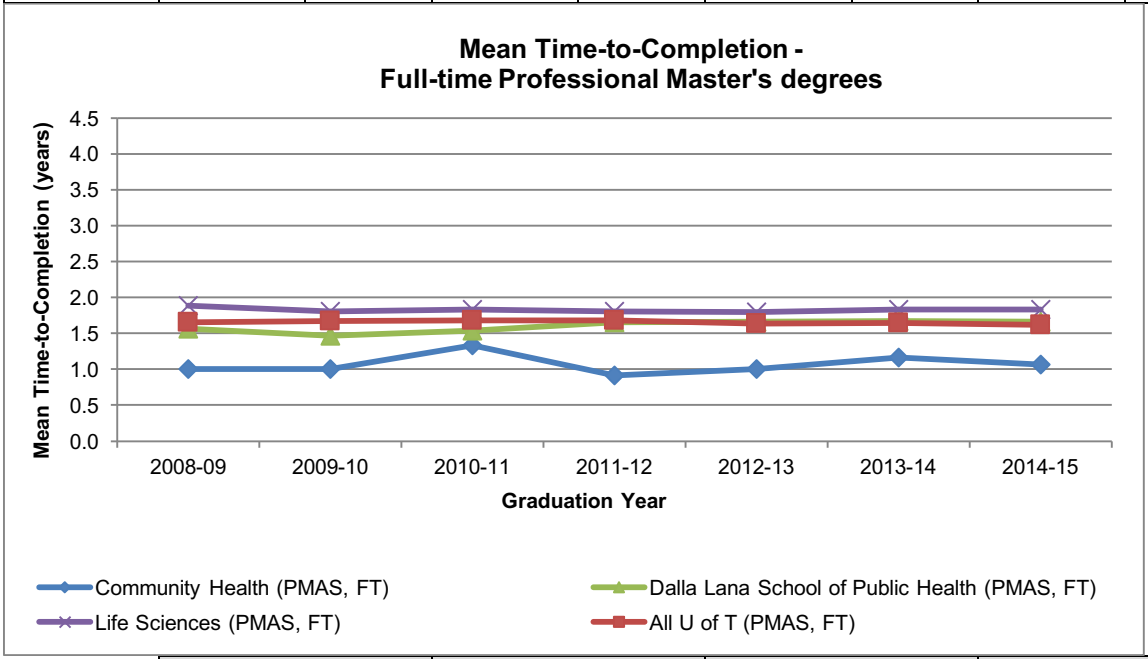
Table 3.6.iv: Community Health Enrolment

Faculty	Degree	FT/PT	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015
Medicine	MSCH	FT	10	5	3	3	3	0	0	0
		PT	28	40	53	68	73	0	0	0
DLSPH	MSCH	FT	0	0	0	0	0	8	10	3
		PT	0	0	0	0	0	69	58	58
Total	**MSCH**	**FT**	**10**	**5**	**3**	**3**	**3**	**8**	**10**	**3**
		PT	**28**	**40**	**53**	**68**	**73**	**69**	**58**	**58**

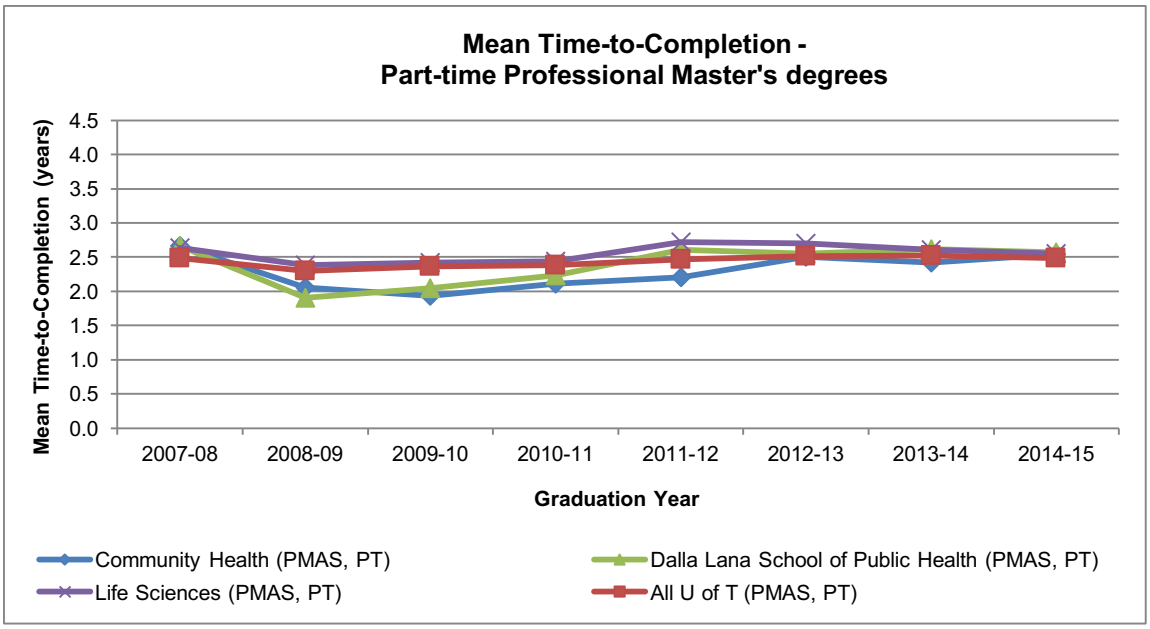
Note: Programs were transferred from the Faculty of Medicine to The Dalla Lana School of Public Health in stages. The table above shows enrolment by program and by Faculty, and shows the change of ownership from Faculty of Medicine to Dalla Lana by the light blue shading.

Table 3.6.v: Community Health - Professional Master's degree – Time to Completion

	Community Health (PMAS, FT)		Dalla Lana School of Public Health (PMAS, FT)		Life Sciences (PMAS, FT)		All U of T (PMAS, FT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2008-09	2	1.0	80	1.6	411	1.9	1652	1.7
2009-10	9	1.0	68	1.5	404	1.8	1791	1.7
2010-11	5	1.3	89	1.5	497	1.8	2055	1.7
2011-12	4	0.9	136	1.7	541	1.8	2118	1.7
2012-13	1	1.0	138	1.7	546	1.8	2268	1.6
2013-14	2	1.2	130	1.7	544	1.8	2587	1.6
2014-15	5	1.1	143	1.7	580	1.8	2775	1.6



	Community Health (PMAS, PT)		Dalla Lana School of Public Health (PMAS, PT)		Life Sciences (PMAS, PT)		All U of T (PMAS, PT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	2	2.7	15	2.7	72	2.6	531	2.5
2008-09	6	2.1	43	1.9	100	2.4	517	2.3
2009-10	10	1.9	64	2.0	134	2.4	652	2.4
2010-11	12	2.1	39	2.2	69	2.4	613	2.4
2011-12	18	2.2	35	2.6	54	2.7	538	2.5
2012-13	18	2.5	29	2.6	45	2.7	514	2.5
2013-14	30	2.4	49	2.6	55	2.6	463	2.5
2014-15	27	2.5	38	2.6	40	2.5	450	2.5



Quality Enhancement

- Regular meetings with Program Directors and DLSPH leadership have been instituted to ensure that faculty and student concerns are met.
- Course and instructor evaluations are reviewed by the Vice-Dean Education and Division Head of Clinical Public Health.
- Curriculum renewal efforts are underway to enrich course offerings across the MScCH programs.
- Faculty development seminars have been started to exchange ideas and techniques in graduate pedagogy.
- Plans to survey program students and graduates are being developed.

3.6A Certificate in Community Health

A Certificate in Community Health may be awarded in exceptional circumstances to students who have completed 70% of the program requirements (at least 3.5 full-course equivalents (FCEs), including the required courses for the field, and with the approval of the department.

3.7 Master of Science (MSc) Health Policy, Management and Evaluation

Program Description

The MSc graduate degree consists of four concentrations: Clinical Epidemiology and Health Care Research (CEHCR); Health Services Research (HSR); Quality Improvement and Patient Safety (QIPS); and Systems Leadership and Innovation (SLI).

MSc HPME Specializations

- Clinical Epidemiology and Health Care Research
- Health Services Research
- Quality Improvement and Patient Safety (NEW)
- System Leadership and Innovation (NEW)

The CEHCR and HSR concentrations have existed since the establishment of IHPME. The QUIPS concentration was introduced in 2012 and SLI will be enrolling its first cohort in the spring/summer of 2016. There was a fifth concentration, the Health Technology Assessment and Management (HTAM) concentration that was closed as of September 2016. Current applicants with interests in HTAM are directed to the HSR concentration.

Program Objectives

The MSc graduate program's overall objective is to educate and develop researchers who have the capacity to engage in and influence our health care system through practice, policy and research. The program delivers comprehensive, interdisciplinary education that incorporates elements of health policy, leadership, innovation, economics, technology assessment and health services and health care research. The training is rigorous and ensures research readiness for the range of career paths chosen, which includes academic, research, clinical service, policy-making and administration.

This objective is in line with the University of Toronto's Statement of Institutional Purpose (University of Toronto Governing Council, October 15, 1992): "The University of Toronto is committed to being an internationally significant research university, with undergraduate, graduate and professional programs of excellent quality". The objective is also in line with the Dalla Lana School of Public Health's stated goal of "training the next generation of scientists, educators and practitioners who will shape healthier societies in Canada and around the world".

Within this overall objective, each concentration has a unique focus. The CEHCR concentration is directed at health professionals (for instance, physicians, nurses, pharmacists) with an emphasis on the determinants and effects of clinical decision making. The HSR concentration emphasizes health services research, with fields available in Health Services Organization and Management, Health Policy, Health Services Outcomes and Evaluation, Health Informatics, Health Economics, and Health Technology Assessment. The QIPS concentration is directed at individuals working in the quality arena with a focus on improvement science,

healthcare quality and safety. Finally, the SLI concentration was developed in cooperation with Undergraduate Medical Education (UME) and Postgraduate Medical Education (PGME) in the University of Toronto's Faculty of Medicine to offer a leadership focus to UME students and PGME trainees at the University of Toronto.

Admission Requirements

Applicants are admitted under the General Regulations of the School of Graduate Studies. All applicants require an overall B+ average or higher in the last two years of an appropriate bachelor's degree from a recognized university. Applicants must also satisfy IHPME's additional admission requirements as outlined below.

For applicants to the Clinical Epidemiology and Health Care Research (CEHCR) concentration, a degree in a health profession (e.g., MD, BScN, BScOT, BScPT, DDM, MN) from a recognized university with a B+ average in the final two years is required. These health professionals must also submit an educational plan that ensures protected time for research as part of the application process.

Preference is given to applicants to the Quality Improvement and Patient Safety (QIPS) concentration who are health professionals engaged in quality improvement initiatives. Applicants to the Systems Leadership and Innovation (SLI) concentration must be active as a trainee within the Post-Graduate Medical Education (PGME) program, or be registered in the Undergraduate Medical Education (UME) program at the University of Toronto, Faculty of Medicine. UME students who are accepted must register part-time; PGME students who are accepted may register full-time or part-time.

The admission requirements ensure students have an appropriate background to succeed in our program. IHPME MSc applies strong research skills to applied settings and the admission requirements reflect this duality. Most applicants to the program are involved in relevant research work that can be incorporated into their course work. They are also developing skills throughout the program that are directly relevant to their place of employment. This helps to ensure that the learning outcomes are met, and that the benefits of completing the degree are directly applicable to the work environment.

Curriculum and Program Delivery

<u>Program Overview</u>

The MSc degree can be completed on a thesis (CEHCR, HSR) or a non-thesis (CEHCR, QIPS and SLI) basis. The thesis option involves the completion of 3 FCE and a thesis. The non- thesis option involves the completion of 5 FCE, of which a minimum of 2 FCE must be a research practicum or project.

Overall responsibility for the MSc degree rests with the IHPME Graduate Coordinator, but each concentration has a designated Director whose responsibilities include ensuring the curriculum remains current, attracting and training program faculty, and monitoring student welfare. All

Directors are accomplished academics with active research portfolios and extensive contacts within their discipline. Their strengths as individual researchers, and their research networks, ensure that the program content is continually updated.

The MSc program is offered through a combination of traditional (weekly) courses and modular (compressed) courses. This mixture of formats ensures that the needs of the various concentrations are addressed. The MSc – HSR and the MSc - CEHCR concentrations tend to attract students whose preferences are for a traditional weekly format; they either are not in employment or their positions allow for time to attend educational programs. The MSc – QIPS program, in comparison, attracts individuals who are employed and, for this group, a compressed format is more manageable. Having a range of delivery options generally benefits the entire Institute. It allows for maximum use of available classrooms (they are used weekdays, evenings and weekends) and provides options for enrolled students across all degree programs.

IHPME is committed to ensuring its programs are current and innovative in terms of content and delivery. There is tremendous competition for students in the health services/health care area of study, with similar programs at York University, Ryerson University, McMaster, Queens as well as nationally and internationally. Our MSc program has an excellent reputation; but we recognize that we must continually review and improve our offerings to ensure that we remain competitive. All our courses are evaluated by enrolled students and their comments are incorporated into program planning. Concentration Directors are continually updating curriculum and working with program faculty to refresh course content and new courses are being added as optional courses on a yearly basis.

There are a number of areas of innovation that can be highlighted in the MSc program. IHPME has strong relationships with researchers in the vast network of research institutes, hospital and health care agencies and community organizations available in the Toronto area. Researchers in these settings are able to supervise IHPME MSc students, adding to the range of opportunities available to our students. Our students, themselves, are often talented researchers and bring their expertise to the classrooms to share with their peers and instructors. IHPME has a number of thriving research centers (Health Services and Policy Research Network, the Canadian Center for Health Economics) which offer training and fellowship opportunities to our students. And, finally, IHPME has relationships with a number of agencies (ICES, Statistics Canada) which can facilitate access to data.

Degree Level Expectations

Appendix 26 captures the Degree Level Expectations (DLE) of the MSc, **Appendix 27** outlines course requirements (organized by area of concentration) and **Appendix 28** provides a list of courses offered in support of the degree (again, organized by area of concentration)

The MSc aims to develop and refine research skills within the various areas of concentration. The first expectation relates to **depth and breadth of knowledge**. All MSc students are expected to develop a solid understanding of the issues and topics current in health services

and health care research. While the specifics may differ by area of concentration, students graduating with the MSc degree are expected to have a solid understanding of current policy issues, with a specific emphasis on research evidence. These skills are developed through a combination of lectures, applied assignments, readings, guest speakers and class room discussions. IHPME is very fortunate in that many of its professors are leading edge researchers/practitioners in the health care arena; MSc students benefit from the real world experiences that these professors are able to bring to the classroom. The composition of the MSc classes also supports this first expectation. Because of the strength of the MSc applicant pool, we are able to select students who have significant experience in a broad range of disciplines as well as work place settings. The interactions between student peers is definitely an advantage of our MSc program. The other strength of this program is the wide range of guest speakers who are incorporated into the course curriculum. IHPME has an extensive network of alumni, stakeholders and "friends" that are very willing to share their experiences and knowledge with our students.

Practicums are required by three of the four concentrations and are an option for the fourth concentration. Practicums also contribute to meeting the first expectation, depth and breadth of knowledge. Because of the research focus of our MSc degree, these practicums allow students a "living laboratory" to develop and strengthen their knowledge of health systems/health care issues and topics. Students complete practicums in a wide range of settings; again, the network of IHPME stakeholders is sufficiently wide and diverse that most interests are able to be accommodated. Unlike co-op placements, where a list of positions are posted and students need to apply, our practicums involve reviewing with each student the learning goals that they need to focus upon and then deciding on a suitable setting.

Our second expectation relates to **research and scholarship.** It is our expectation that all MSc students will graduate with a conceptual understanding and methodological competence that will allow them to undertake and critique research and to discuss and add to the conceptual models and ideas in health services and health care research. MSc students are strongly encouraged to pursue original research questions for their thesis research. Their skill set should include both understanding and having the ability to challenge traditional assumptions, models and paradigms. These skills are developed through a range of required methodological courses, specific to each area of concentration. Students are required in their programs to cover core methodological competencies without which they will not be able to graduate. Each of the specific concentrations also has a rigorous research component to their programs, either a completion of a thesis or a major paper or a research practicum. This ensures that the theoretical knowledge acquired in the classroom is applied in real research settings.

Our third learning outcome is related to **level of application of knowledge**. All IHPME MSc students are expected to be able to apply an existing body of evidence to the critical analysis of a specific problem or issue. This learning outcome is seen as a basic tenet of a skilled researcher and is reinforced in all MSc students through coursework, practicums and thesis or major project work. More importantly, though, it is the IHPME culture which develops this skill within our students. IHPME is a multi-disciplinary department with a rich culture of lectures, seminars and visiting scholars. It is located in Canada's most dynamic health services and

health care research environment. There are multiple opportunities for students to engage with the brightest scholars possible – not only nationally but internationally. This environment embodies the application of research knowledge; through multiple channels students are provided opportunities to learn how to critically analysis a research question through the use of existing evidence.

The fourth expectation is related to **professional capacity and autonomy.** It is the intention of the IHPME MSc program to ensure that all students graduate with the skills necessary for employment including the ability to work independently, to exhibit ethical behaviour consistent with academic integrity and to accept personal responsibility and accountability in respect to their work. These are skills that are implicit in the many course assignments, group projects and class discussions that students complete over the course of their studies. Through the pursuit of scholarship funding, students also gain valuable experience in grantmanship and become familiar with grant application agencies and processes. To complete their work, students must prepare research protocols and work with the relevant Research Ethics Committees (often multiple committees) to have their research approved. Students are encouraged/required to prepare their work in a format that is suitable for publication. As a graduate program, students are expected to manage their own time to ensure all assignments are completed and submitted in a timely manner. If work is not at an acceptable standard, students are expected to accept personal responsibility and to work with the necessary, and available, resources to ensure success in their program. Our expectation is that students graduate with the qualities and transferable skills necessary for successful employment.

The final expectation that we have for our MSc students is development of **communication skills**. It is part of IHPME's philosophy that all graduates of its programs must be able to communicate their research results (and research ideas) clearly. This skill is developed through an emphasis on feedback that is built into most of the program's coursework. Students, individually and in teams, are given multiple opportunities to present, and defend, their work. Students in thesis based concentrations must publicly defend their thesis research. Outside of the program specific opportunities to develop communication skills, IHPME holds an annual Research Day where every student has an opportunity to present either an oral presentation or a poster. In addition, there is a wide range of opportunities to present work open to MSc students through the multitude of research days associated with related Research Institutes (HCTP, HSPRN, THETA), not to mention opportunities to present at national and international conferences. All MSc students are strongly encouraged to participate in as many of these activities as possible. Not only do they gain experience themselves, but they also learn by watching the experiences of their peers.

Assessment of Learning

Almost all courses completed for the MSc degree include a combination of exercises, projects and essays/term papers that emphasize the development of skills to analyze and apply theory to complex research problems. Initial courses offer the basics including research skills and program theory, while more senior courses focus on developing concentration specific knowledge, attitudes and skills. The concentration structure allows for more advanced

education in each area and, through assignments and classroom procedures, prepares students for specialized practice and research leadership roles. Specific details linking course objectives to course activities to methods of assessment are available in each course outline.

The opportunity to complete research practicums is available to all students in the MSc program, and is a requirement for many of the concentrations. In settling on a practicum, the student, with a faculty advisor, works with a field supervisor (the practicum advisor) to develop a list of learning objectives and activities to achieve these objectives. During the practicum, the faculty advisor monitors the placement and ensures the objectives are being achieved. The deliverables do differ somewhat between practicums, but are well specified prior to the practicum beginning.

IHPME follows the Graduate Grading and Evaluation Practices Policy of the Governing Council, University of Toronto. Information on the grading practices within IHPME are available to all instructors through a series of Tip Sheets available on the IHPME website. In addition, a yearly workshop is offered to all new, and continuing, instructors which reviews the University of Toronto's grading practices, as well as discusses common issues and concerns.

Students who choose the thesis option must defend their thesis at an oral final examination before a Thesis Examination Committee consisting of the thesis supervisor, the thesis committee (a minimum of one and typically two faculty members), an internal reviewer, an external reviewer (normally, external to the University of Toronto) and a non-voting Chair.

Student Awards

All research stream MSc students in IHPME are eligible to apply for external funding through agencies such as CIHR and OGS. As indicated in Table 3.7.i, about 10% of our students are supported through such grants. Given that the MSc can be completed in one year, and is usually completed in just over one year, these rates are judged as satisfactory (the award would normally have to be applied for, and awarded, prior to admission to the program).

It should also be noted that the majority of students in the MSc program are supported through some form of Research Fellowship offered through a training program. Virtually all of the students in the CEHCR specialization, and many students in the HSR specialization, have protected time in a Fellowship program to complete their degree. Many of the QIPS students have a similar arrangement; those that do not, are in paid employment in the quality arena. The SLI students are either undergraduate students supported through a LEAD scholarship or are in a funded post graduate position. Our own statistics suggest that it is a minority of students who do not have some external funding and who rely on the Institute for financial support.

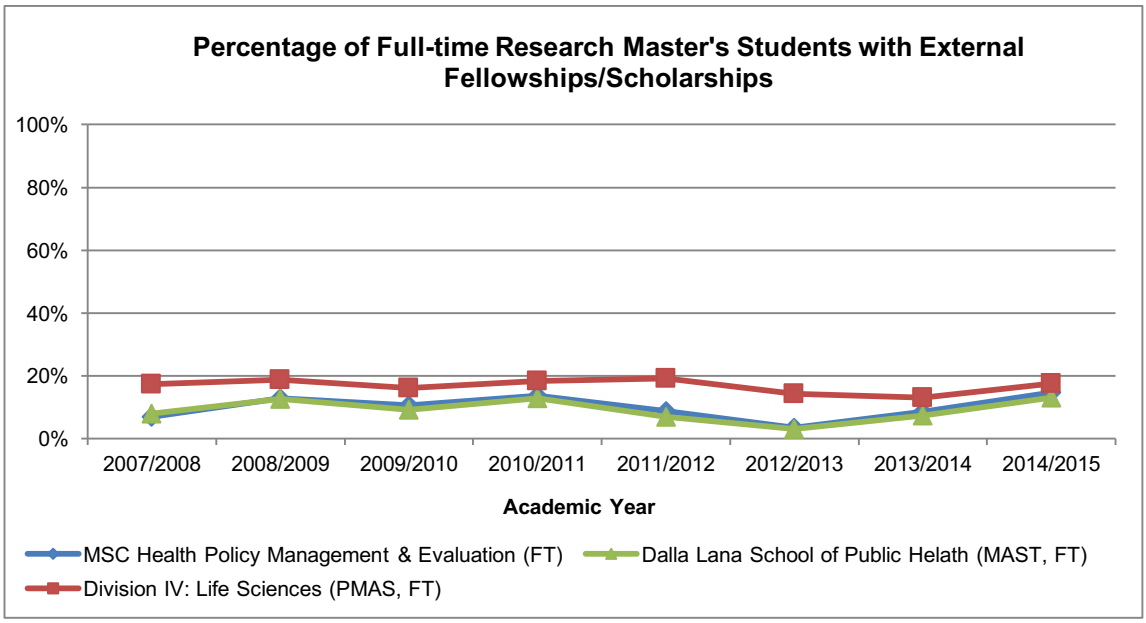
To assist students in their academic careers, IHPME does offer a yearly seminar on how to apply for external funding. The University of Toronto offers a series of similar sessions targeted at the large federal funding agencies to which we direct our students. Throughout the academic year, the students organize a "Lunch and Learn". The topics covered in the Lunch and Learn vary month to month, but do include a number of sessions on professional and presentation skills.

The Dalla Lana School of Public Health also offers a monthly series of lectures/workshops on the development/refinement of teaching skills to which all students are invited.

Table 3.7.i: MSc Students with Fellowships/Scholarships

	MSC Health Policy Management & Evaluation (FT)			MSC Public Health Sciences (FT)		
Academic Year	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	5	72	6.9%	1	4	25.0%
2008/2009	10	78	12.8%	1	9	11.1%
2009/2010	9	85	10.6%	0	12	0.0%
2010/2011	11	80	13.8%	1	14	7.1%
2011/2012	7	80	8.8%	0	21	0.0%
2012/2013	4	115	3.5%	0	18	0.0%
2013/2014	10	117	8.5%	0	20	0.0%
2014/2015	18	123	14.6%	1	23	4.3%

	Dalla Lana School of Public Health (MAST, FT)			Division IV: Life Sciences (MAST, FT)		
Academic Year	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	6	76	7.9%	186	1,068	17.4%
2008/2009	11	87	12.6%	198	1,055	18.8%
2009/2010	9	97	9.3%	168	1,043	16.1%
2010/2011	12	94	12.8%	199	1,081	18.4%
2011/2012	7	101	6.9%	214	1,114	19.2%
2012/2013	4	133	3.0%	158	1,105	14.3%
2013/2014	10	137	7.3%	145	1,114	13.0%
2014/2015	19	146	13.0%	197	1,120	17.6%



Student Funding

The University of Toronto has recommended that all graduate units "work towards providing a guaranteed minimum level of financial support to all its full time doctoral stream students equivalent to $15,000 per year (indexed according to cost of living) plus tuition (domestic or visa) for the first 5 years of study, including, where necessary, 1 year at the master's level". "Doctoral students" refers to students in doctoral stream graduate studies, i.e. MSc and PhD students.

The policy also recommends that "units should establish a policy for funding that is well advertised, transparent, and which is monitored" and that "students should be made aware of these policies prior to their admission".

In support of this policy, IHPME has implemented (and posted on its website) the following funding policy:

- Students who receive income of $15,000 plus tuition per annum or more are not considered part of the funded cohort.
- Students who hold fellowships or scholarships with a value over $23,000 are not considered part of the funded cohort.
- Licensed MDs who are involved in a clinical training program or clinical duties are not considered part of the funded cohort.
- The minimum stipend for all new and continuing full-time graduate students, who are part of the IHPME funded cohort, is $15,000 plus tuition per annum, effective September 1, 2009.

- Students in the funded cohort who receive an external award (or multiple awards) valued at less than $15,000/annum are provided with “top up” funds to meet the minimum guaranteed stipend.
- Students in the funded cohort who receive an external, competitively reviewed award (or multiple awards) valued at $15,000 to $23,000/annum are provided with “top up” funds to meet the minimum guaranteed stipend and awarded a bonus of $3,000 per year.
- Students in the funded cohort who receive an external, competitively reviewed award (or multiple awards) valued at $24,000 to $29,000/annum are not eligible for the minimum stipend, but are awarded a bonus of $3,000 per year.
- Students in the funded cohort who receive an external, competitively reviewed award (or multiple awards) valued at or over $30,000/annum are not eligible for the minimum stipend or bonus.
- Full funding is guaranteed for the first year of study for full-time MSc students.
- Full funding will be guaranteed for the first 4 years for full-time PhD students. For full-time MSc/PhD transfer program students, full funding is guaranteed for 1 year of Master’s study and 3 years of PhD study.

In addition to this guaranteed funding package (recognizing that $15,000 for living expenses in Toronto is not overly generous), there are often opportunities for students to acquire additional funds through research and teaching assistantships. The reality is that many MSc students are either licensed MDs engaged in clinical training programs or employed professionals who do not need to rely on IHPME funding.

Quality Indicators

Student Registration Data

Table 3.7.ii provides information on applications, offers of admission and registrations to IHPME’s MSc program during the period under review. Table 3.7.iii provides information on the offer rate and Table 4 provides information on the acceptance rate. Comparative information from the Dalla Lana School of Public Health (DLSPH) and the University of Toronto is provided in Tables 3.7.iii and 3.7.iv.

The increase in the number of applications and offers/new registrants between 2011 and 2012 reflects the introduction of the QIPS concentration. Our offer rate is comparable to the DLSPH and higher than the University of Toronto average. This is likely due in some measure to our program marketing activities. With DLSPH, we host a Fall Fair that provides an opportunity for prospective students to hear about our programs and meet/question faculty and staff. We also hold webinars, attend student organized career fairs and distribute our program material widely. The aim of these activities is to ensure that only qualified individuals proceed with their applications and these strategies have proven successful. Most applicants are well qualified and would likely succeed in our program. We are limited in the number we can accommodate by the factors such as class size and student funding available.

Our acceptance rates have been around 80%, other than for the most recent year. These rates are slightly higher than the DLSPH rates and higher than the University of Toronto rates. Again, this can be explained by our extensive marketing strategies. Most students who have been offered a position in our program are making this their first (and often only) choice. The lower rates in 2014-15 (also seen in DLSPH) are somewhat of a puzzle. Anecdotally, there is no sense that acceptance rates overall were lower last year. A review of our admission data indicate a larger than normal number of deferrals last year and a larger number of applicants selecting medical school over our MSc HSR concentration. This statistic will be monitored to ensure that this is not an emerging trend.

Table 3.7.ii: Applications, Offers and New Registrants to IHPME MSc program

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	152	126	110	109	148	197	216	194
Offers	60	59	51	56	64	90	82	94
New Registrants	41	44	39	44	51	76	68	54

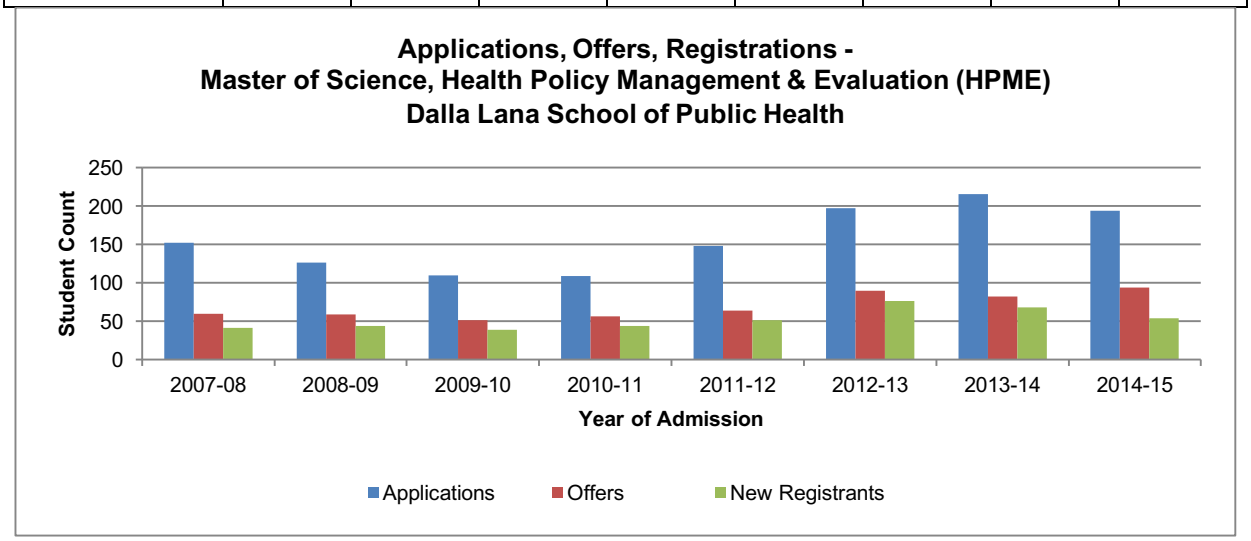


Table 3.7.iii: Offer Rate – IHPME MSc Program

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HPME	39.5%	46.8%	46.4%	51.4%	43.2%	45.7%	38.0%	48.5%
Dalla Lana School of Public Health	42.9%	49.1%	46.8%	53.7%	45.5%	46.2%	43.6%	47.5%
Division IV Life Sciences	43.0%	43.9%	39.1%	41.1%	39.0%	37.1%	36.1%	38.1%
U of T	36.7%	38.2%	32.0%	30.9%	30.3%	28.6%	29.1%	29.2%

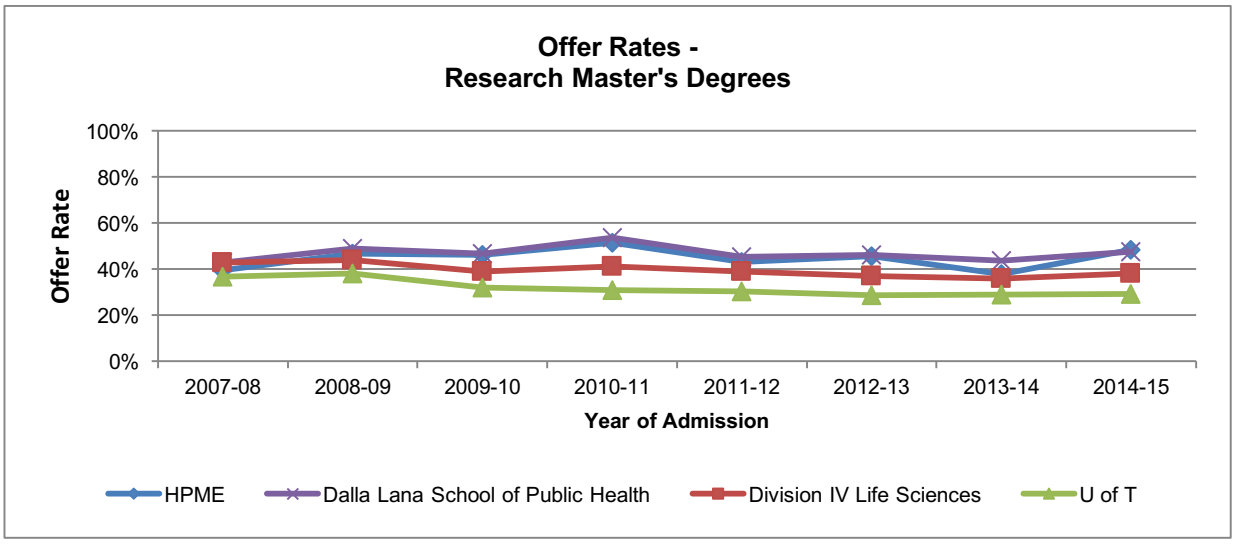


Table 3.7.iv: Acceptance Rate – IHPME MSc Program

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HPME	68.3%	74.6%	76.5%	78.6%	79.7%	84.4%	82.9%	57.4%
Dalla Lana School of Public Health	52.9%	67.9%	69.9%	66.7%	66.3%	73.4%	71.4%	52.8%
Division IV Life Sciences	57.1%	59.1%	58.2%	60.9%	58.2%	58.7%	60.5%	56.5%
U of T	55.7%	55.8%	57.4%	56.7%	55.9%	55.8%	58.0%	55.5%

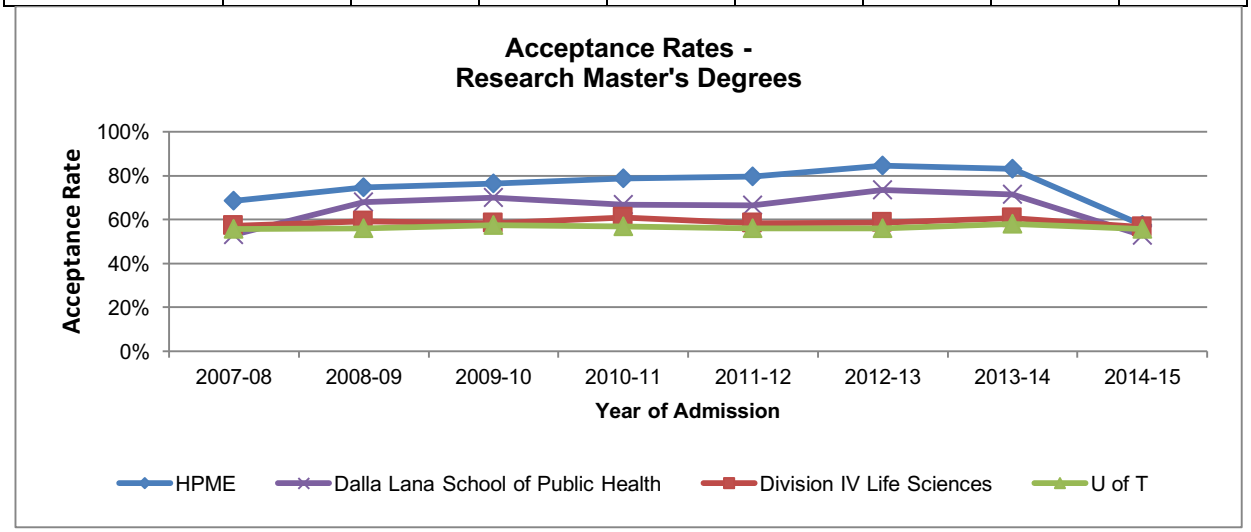


Table 3.7.v provides information on the yearly number of full time graduates from the MSc program, and their "time to convocation" (years in the program). Table 3.7.vi provides the similar information for part time students. The large increase in the number of full time graduates in 2013/2014 reflects the addition of the QIPS concentration. There has been a general downward trend in the mean number of years in the program for full time students, which is in line with IHPME policy. The MSc degree provides funding for one year of study and the program would like students to graduate in, more or less, one year. The Institute offers

yearly workshops for supervisors where one of the topics reviewed is the scope and nature of a dissertation. The Graduate Coordinator and Program Director also routinely monitor the progress of MSc students and intervene if expected timelines are not being met.

The average time to completion for part time students is 3.9 years. These values are quite variable over the years and reflect the relatively small number of students enrolled in the program and the very diverse times they take to graduate (that is, most part time students complete in 3 years but one outlier who has taken 8 years to graduate can skew the overall rates quite dramatically).

Table 3.7.v: Health Policy, Management & Evaluation - Research Master's degree (Full Time) Graduates and Time to Graduation

	Health Policy, Management, & Evaluation (MAST, FT)		Dalla Lana School of Public Health (MAST, FT)		Life Sciences (MAST, FT)		All U of T (MAST, FT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	23	2.4	35	2.1	297	2.5	1112	1.7
2008-09	12	2.0	14	1.9	293	2.4	1320	1.6
2009-10	26	2.3	32	2.1	352	2.4	1299	1.7
2010-11	27	2.7	35	2.3	361	2.4	1257	1.7
2011-12	36	2.7	49	2.6	364	2.4	1227	1.8
2012-13	18	2.6	29	2.1	343	2.3	1169	1.7
2013-14	51	1.8	64	1.7	399	2.3	1289	1.8
2014-15	47	1.5	66	1.4	379	2.3	1319	1.7

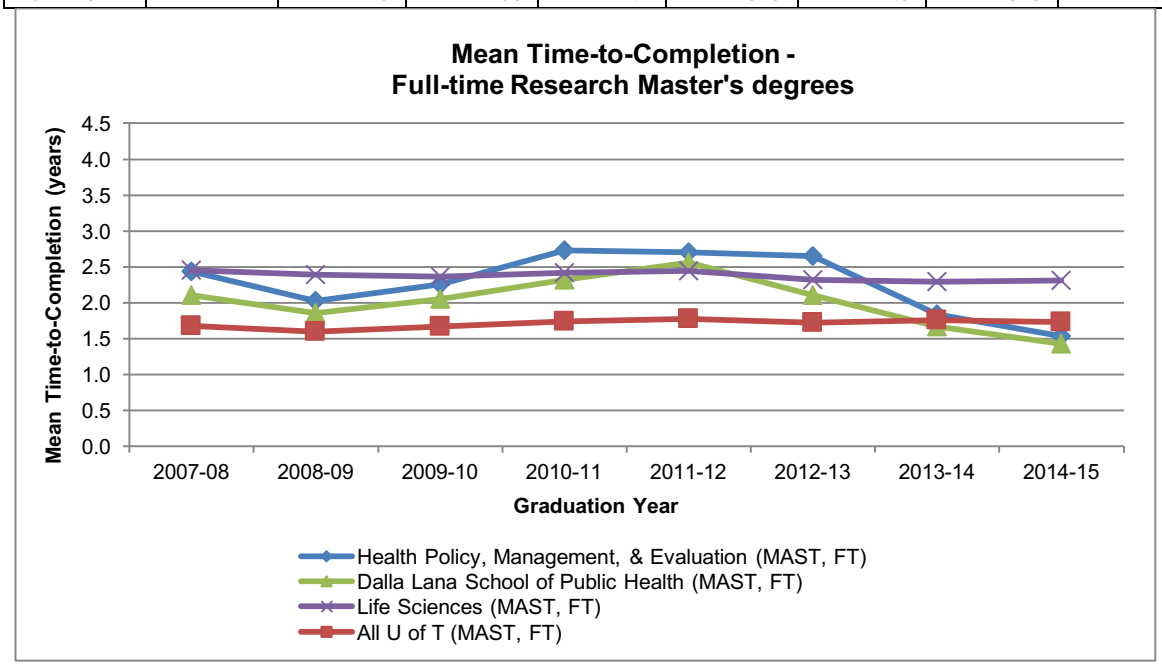
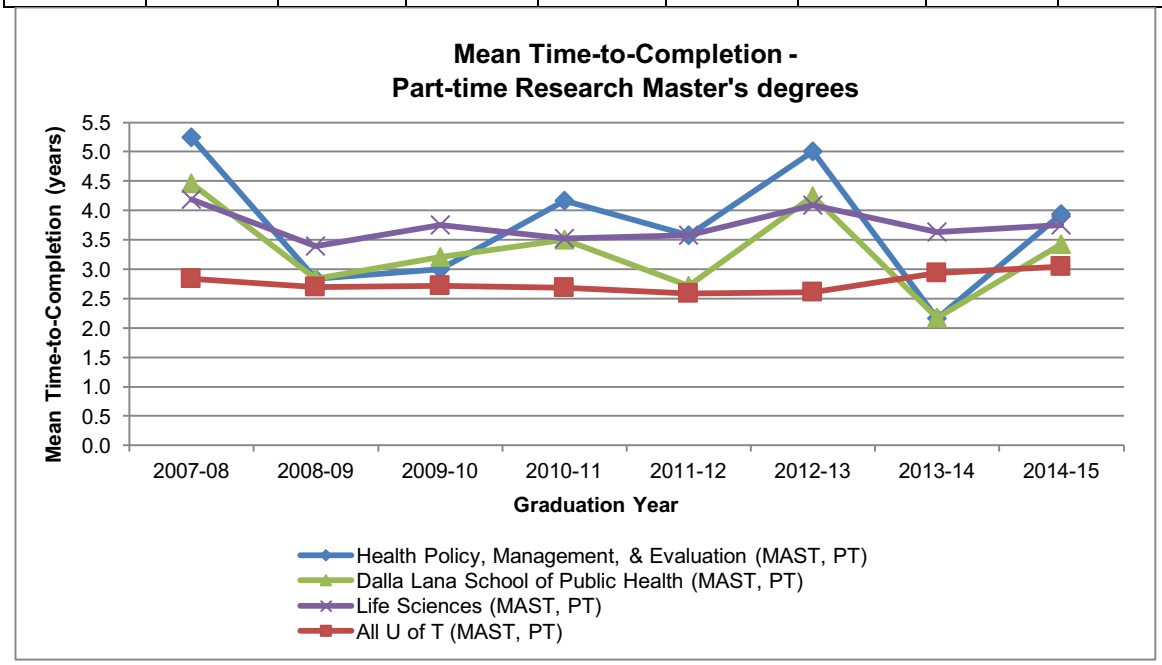


Table 3.7.vi: IHPME – Research Master's degree (part time) Graduates and Time to Graduate

	Health Policy, Management, & Evaluation (MAST, PT)		Dalla Lana School of Public Health (MAST, PT)		Life Sciences (MAST, PT)		All U of T (MAST, PT)	
Graduation Year	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC years
2007-08	4	5.2	5	4.5	19	4.2	97	2.8
2008-09	4	2.8	4	2.8	12	3.4	86	2.7
2009-10	6	3.0	8	3.2	15	3.8	80	2.7
2010-11	4	4.2	6	3.5	12	3.5	82	2.7
2011-12	4	3.6	7	2.7	12	3.6	74	2.6
2012-13	5	5.0	7	4.2	12	4.1	98	2.6
2013-14	2	2.2	4	2.2	9	3.6	80	2.9
2014-15	5	3.9	7	3.4	15	3.8	61	3.0



In terms of **academic achievement**, no IHPME MSc student has "failed" out of the program and withdrawal rates are very low (a handful every year, usually because they have been admitted to medical school after accepting our admission offer). Our students are very successful in federal competitions; as described above, most students in the funded cohort are receiving support through some form of fellowship or scholarship. For the 2015/1016 academic year, four IHPME MSc students received federal CIHR support, with five on the reversion list. For the size of our graduate department, this is quite an achievement.

In terms of **graduate student supervision**, IHPME is rich in talent in terms of potential MSc supervisors. All faculty, including cross appointed, status and some adjunct, are eligible to supervise MSc students – a pool of close to 200 possibilities. Supervisors must start as committee members; once they have successfully had two students graduate, they are eligible

to be the supervisor. As mentioned above, there is a yearly workshop for thesis supervisors/committee members which provides information on a range of topics including the student-supervisor agreement form, ethics review, publishing guidelines as well as procedural issues such as expected time to completion. All this information is also captured in "Tip Sheets" which are available to all faculty on IHPME's website.

In terms of **in course reports on teaching**, all instructors/courses are evaluated by class participants at the end of each term. The course evaluation forms are standardized across all courses and each instructor receives student feedback. Course evaluations are seen as part of a faculty member's personnel file and can be reviewed only by the Director and the relevant Program Director. One component of the Director's role is to work with faculty members who are not performing to expected standards. The University of Toronto offers a range of teaching resources that faculty members can be referred to; in extreme situations, particularly with adjunct or status faculty, the faculty member will be replaced. Overall, our faculty provide high-quality teaching and, in fact, the winners of the "best teacher" award for the last two years have been instructors of MSc courses.

Student Reviews

Information is collected through the Canadian Graduate and Professional Student Survey on a range of topics including overall satisfaction, quality of interaction and coursework.

Table 3.7.vii provides the relevant data related to program quality. In terms of dimensions of their program, 88% of respondents rated the intellectual quality of the faculty as excellent or very good; 82% rated the intellectual quality of their fellow students as excellent or very good and 70% rated the overall quality of graduate level teaching by faculty as excellent or very good. Other than advice on the availability of financial support, no respondent rated any of the various dimensions of their program as "poor".

Table 3.7.vii: Satisfaction with Program and Quality of Instruction

	N		Excellent %		Very good %		Good %		Fair %		Poor %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
1. The intellectual quality of the faculty	50	1,383	52.0	56.6	36.0	33.8	12.0	7.6	0.0	1.6	0.0	0.4
2. The intellectual quality of my fellow students	50	1,381	32.0	36.2	50.0	42.3	16.0	17.1	2.0	3.7	0.0	0.7
3. The relationship between faculty and graduate students	50	1,380	16.0	24.5	38.0	38.4	36.0	24.6	10.0	9.6	0.0	2.8
4. Overall quality of graduate level teaching by faculty	50	1,384	22.0	22.2	48.0	41.0	28.0	25.4	2.0	9.0	0.0	2.4
5. Advice on the availability of financial support	50	1,377	4.0	11.6	14.0	24.3	42.0	32.5	20.0	20.5	20.0	11.0
6. Quality of academic advising and guidance	50	1,375	8.0	17.7	36.0	31.1	34.0	27.1	16.0	16.5	6.0	7.6
7. Helpfulness of staff members in my program	50	1,380	18.0	28.2	32.0	35.1	28.0	23.4	14.0	9.6	8.0	3.7

Table 3.7.viii provides information on a range of course related dimensions. Again, respondents indicated high levels of satisfaction with their programs; 82% rated the relationship of program content to research/professional goals as excellent or very good, 68% rated opportunities for student collaboration or teamwork as excellent or very good and 68% rated the quality of instruction as excellent or very good. Other than the opportunity to take coursework outside their own department, no teaching related dimension received more than 5% poor ratings. The opportunity to take coursework outside their own department was the lowest ranked item, with only 42% of respondents rating this as excellent or very good. With graduate expansion, it has been more difficult for students to be accommodated by other departments (and, similarly, more difficult for IHPME to accommodate students from other departments). As programs have expanded their in-take numbers, the ability to select courses from across the campus has been reduced. IHPME has entered into arrangements with a number of cognate departments to ensure some access, but this remains a University wide issue.

Table 3.7.viii Satisfaction with Course Work

	N		Excellent %		Very good %		Good %		Fair %		Poor %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
1. Relationship of program content to my research/ professional goals	50	1,378	30.0	19.2	52.0	33.0	16.0	29.1	2.0	13.5	0.0	5.2
2. Opportunities for student collaboration or teamwork	50	1,382	16.0	15.5	52.0	32.1	20.0	27.8	8.0	16.9	4.0	7.8
3. Opportunities to take coursework outside my own department	50	1,376	12.0	17.1	30.0	28.2	28.0	29.7	22.0	16.9	8.0	8.2
4. Opportunities to engage in interdisciplinary work	50	1,372	16.0	15.7	32.0	27.2	28.0	31.5	20.0	18.1	4.0	7.5
5. Availability of area courses I need to complete my program	50	1,377	12.0	18.0	42.0	29.5	20.0	29.4	24.0	16.6	2.0	6.5
6. Amount of coursework	49	1,381	8.2	13.0	44.9	31.8	28.6	39.0	16.3	13.4	2.0	2.8
7. Quality of Instruction in my courses	50	1,382	18.0	19.2	50.0	40.8	30.0	26.6	2.0	10.3	0.0	3.0

Table 3.7.ix provides information on a summary set of general satisfaction items. A majority of students reported that they definitely or probably would select the same university if they were to start their graduate or professional career again (80.2%), that they would definitely or probably select the same field of study (84.4%), and that they would recommend this university to somebody considering our program (86.3). Only 2% (1 respondent) said that they probably or definitely would not recommend the university to someone considering our program.

Table 3.7.ix Satisfaction with Research Experience

Participation in the following areas:	N		Yes %		No %		N/A %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT
1. Conducting independent research since starting your graduate program	49	1,349	91.8	91.1	4.1	3.6	4.1	5.3
2. Training in research methods before beginning your own research	49	1,350	95.9	89.3	4.1	4.9	0.0	5.9
3. Faculty guidance in formulating a research topic	49	1,349	98.0	92.2	2.0	2.7	0.0	5.1
4. Research collaboration with one or more faculty members	49	1,346	81.6	73.0	6.1	12.7	12.2	14.3
5. Collaboration with faculty in writing grant proposals	49	1,340	51.0	52.1	20.4	25.5	28.6	22.4

Participation in the following areas: Respondents were asked if this activity occurs in their dept. If so they were asked if they participated.	N		Participated %		Did not participate %		Does not occur in my dept %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT
6. Attended national scholarly meetings	46	1,301	21.7	20.3	8.7	26.4	69.6	53.3
7. Delivered papers or presented a poster at national scholarly meetings*	35	1,024	40.0	27.1	17.1	28.3	42.9	44.5
8. Co-authored in refereed journals with your program faculty*	36	1,014	27.8	19.6	13.9	25.0	58.3	55.3
9. Published as sole or first author in a refereed journal*	36	1,012	27.8	11.4	11.1	26.9	61.1	61.8

*Long Stream Only (Respondents in a mostly research-based program, who already have a research director/advisor.)

Table 13.7.x provides information on a summary set of general satisfaction items. A majority of students reported that they definitely or probably would select the same university if they were to start their graduate or professional career again (80.2%), that they would definitely or probably select the same field of study (84.4%), and that they would recommend this university to somebody considering our program (86.3). Only 2% (1 respondent) said that they probably or definitely would not recommend the university to someone considering our program.

Table 3.7.x General Satisfaction

	N		Definitely %		Probably %		Maybe %		Probably Not %		Definitely Not %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
1. If you were to start your graduate/professional career again, would you select this same university?	51	1,397	51.0	41.7	39.2	39.7	7.8	12.7	2.0	4.5	0.0	1.4
2. If you were to start your graduate/professional career again, would you select the same field of study?	51	1,394	47.1	45.1	37.3	32.7	13.7	14.1	2.0	5.9	0.0	2.2
3. Would you recommend this university to someone considering your program?	51	1,394	56.9	52.7	29.4	30.4	11.8	10.7	0.0	4.5	2.0	1.7
4. Would you recommend this university to someone in another field?	51	1,394	43.1	33.6	35.3	37.2	15.7	25.1	5.9	3.2	0.0	0.9

Overall these indicators suggest very high levels of satisfaction with the MSc program in IHPME; students report that they are very satisfied with their programs, the quality of interaction with faculty, their involvement in research and the courses that they are taking.

Graduates

The MSc program does not consistently conduct surveys of its graduates. The last survey of all MSc graduates was completed as part of the review process tied to the retirement of Dr. Louise Lemieux Charles and the recruitment of the new Director. The results of that survey indicated that most graduates were involved in research careers, had continued on to complete a PhD or were attending medical school. Less than 5% of respondents indicated they were unemployed.

More recently (December 2015/January 2016), the QIPS concentration surveyed their first three cohorts (50 respondents) and reported that 96% felt that their objectives in the degree (gain in knowledge, development of leadership concepts and upgrade of quality skills) had been met. Using a 1 (poor) to 5 (excellent) scale, the respondents rated the quality of faculty at 4.7, interaction and learning among students at 4.6, the quality of the curriculum at 4.4 and the quality of assigned readings at 4.2. Overall, 98% said that they would recommend the program to their colleagues. Most interesting, 53% reported having a different job from the one they had in entering the program, a position with new leadership opportunities and responsibilities.

Appendix 29 provides a listing of publications of recent graduates. As is indicated, IHPME MSc graduates are highly prolific in terms of publications. Virtually all graduates publish their dissertations, in most cases in highly ranked journals. One strong indicator of the success of the MSc program is the number of graduates (particularly CEHCR graduates) who end up teaching and supervising students in our program. Both the current and past CEHCR Program Directors are graduates of the program and many of the teaching faculty have also been students in the program.

Overall Program Assessment

The Canadian Graduate and Professional Student Survey asked respondents about obstacles to their academic progress and an overall assessment of the quality of their experiences in IHPME. Table 3.7.xi provides information on major obstacles and Table 3.7.xii provides information on overall quality.

The most frequent "major obstacle" reported by respondents was work/family commitments, which was mentioned by 33% of respondents. This was followed by course scheduling (17%), family obligations (12.5%) and program structure or requirements (12.5%). Less than 10% of respondents felt that the availability of faculty was a major obstacle to their studies. These results are not surprising; many MSc students are engaged in full or part time employment as they complete their degrees and many are undertaking the degree at a time when they have young families. The MSc program in its various concentrations has been structured to ensure access to these individuals, but there is a recognition that many students are under considerable pressure balancing work and family commitments against program commitments.

Table 13.7.xi General Assessment of Academic Program
Respondents who rate the factors "a major obstacle" to their academic progress

	N HPME	% HPME
Work/financial commitments	48	33.3
Course scheduling	47	17.0
Family obligations	48	12.5
Program structure or requirements	48	12.5
Availability of faculty	48	6.3
Immigration law/regulations	48	4.2

Table 3.7.xii provides information on overall assessments of the quality of student life. The majority of respondents rated their academic experience as excellent or very good (70.9%), their graduate program as excellent or very good (66.7%) and their overall experience at the university as excellent or very good (62.6%). On these three dimensions, no respondents rated their experiences as poor. The one item with less than a majority of excellent or very good responses was the assessment of student life at the university (42.5%). While part of this assessment may be related in part to the nature of the MSc student population, it is a dimension that IHPME needs to review. There is an active IHPME Graduate Student Union, which offers numerous student focused activities (Lunch and Learns, Pub Nights, Research Day), and the University itself offers a wide range of clubs and support services, but we may need to survey this group specifically to determine what is missing in their student life experience.

Table 3.7.xii Overall Rating of the Quality of the Educational Experience

	N		Excellent %		Very good %		Good %		Fair %		Poor %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
1. your academic experience at this university?	48	1,280	29.2	32.5	41.7	41.4	27.1	17.2	2.1	6.6	0.0	2.3
2. your student life experience at this university?	47	1,275	10.6	16.6	31.9	31.2	40.4	30.0	10.6	14.4	6.4	7.8
3. your graduate program at this university?	48	1,275	27.1	28.1	39.6	38.0	25.0	22.0	8.3	8.3	0.0	3.6
4. your overall experience at this university?	48	1,276	22.9	23.0	37.5	39.7	33.3	25.9	6.3	8.8	0.0	2.7

Quality Enhancement

IHPME is committed to an ongoing quality improvement process with all its academic programs. With respect to the MSc, each concentration has an advisory or program committee that is tasked with reviewing current program structure and course offerings and suggesting revisions as needed. Current students and alumni participate in these committees. The program director also has access to course evaluations which they can use to improve program offerings. Examples of program improvements that have stemmed from these committees include:

- HSR concentration faculty and students are increasingly using mixed methods strategies in their data analyses. IHPME did not offer any mixed methods courses; students were reliant on other departments to acquire these skills, but were often unable to access the necessary courses. To address this, IHPME has added a new course in mixed methods, to which IHPME students have first access;
- The majority of students in the QIPS concentration are either working full time or in a full time residency program. Many of their courses are offered on a modular basis and do not fit the traditional university course delivery structure (three terms of 12 weeks). Working with the School of Graduate Studies, this concentration was able to structure its modules, and more importantly, the course deliverables into a framework that works for both the instructors and the students; and
- Concerns about the availability of a coordinated set of biostatistics courses was raised with the CEHCR advisory committee. Working with all the concentrations, a committee was struck to review the nature, and timing of, statistics courses offered in the Institute. The result was a re-organization of courses, including the introduction of new courses and reduction of duplication between courses.

All programs in IHPME report to a Curriculum Committee. This Committee reviews all grades, all requests for new courses, and any significant program changes. This Committee also is the forum for reviewing/implementing University or Faculty wide initiatives (such as grading practices or course drop dates). Curriculum Committee includes representatives from all

programs, students, faculty and staff. This Committee plays a significant role in maintaining program quality; it is a forum that allows program directors from across the Institute to discuss common issues and provide innovative solutions.

In terms of challenges and opportunities facing the MSc program, there have been a number that have been identified:

1. The CEHCR and the QIPS concentrations are heavily reliant on adjunct and status faculty to teach required courses. This is an enormous advantage in that these individuals are the very best practitioners in the field. They bring a richness to the educational experience that cannot be overestimated. The difficulty is that the trainees of these faculty members may not be selected for admission into our program. Concentrations are unable to accommodate all the excellent applicants that apply, and the student selection process is held independently of the wishes of individual program faculty. It can be very challenging when the admission desires of program faculty cannot be accommodated.

2. Many HSR concentration students are ultimately interested in completing a PhD. While the MSc-PhD transfer program is appropriate for some of them, there is a group of students who would prefer to complete an MSc prior to undertaking a PhD. There are strong disincentives for those who do want to complete their MSc and stay at the University of Toronto for their PhD. Courses completed in one program cannot be counted in a second degree which means that students doing an MSc and PhD in IHPME have to complete 16 half courses. This course work burden is a disincentive for many strong students.

3. Other than in the QIPS concentration, students in our MSc program do not proceed through their program with a cohort. A student's course of study may mean that they have a very limited peer network. Evidence of this is reflected in the lower ratings given to "student life experience at the university" (only 10% of MSc respondents rated this as excellent). Given the diverse backgrounds of these students (some directly from an undergraduate program, others with young children, many employed), it is a challenge to develop activities to engage them, compounded by the relatively short time they are in their programs.

3.8 PhD Program, PHS

Program Description

The PhD degree in the Graduate Department of Public Health Sciences (PHS) educates and trains the next generation of scientists who will lead the development of new knowledge to advance public health in Canada and around the globe. The degree is offered in four concentrations: Biostatistics; Epidemiology; Occupational and Environmental Health; and Social and Behavioural Health Sciences.

Program Objectives

The aim of the PhD in PHS is to develop scientists and educators who will assume leadership roles in both the public and private sectors. Graduates of the program work effectively as independent researchers in academia (including universities and colleges); teaching hospitals and publicly-supported research institutes; local, provincial, and national governments; non-governmental organizations and other health agencies; and the medical and pharmaceutical industries.

We achieve this through the development in our students of the skills, knowledge and competencies required for a deep understanding of disease occurrence, causation and prevention; an ability to understand, address and reduce health inequalities and to improve the well-being of individuals, communities and societies; and capacity to develop and apply qualitative methods (through the CQ course) and statistical methods for advanced data analysis as related to the biomedical science, social science and public health fields. With our growing emphasis on global concerns, our students and graduates contribute substantially to an understanding of the global nature of public health, and the global burden of disease and disability; and to the mitigation of adverse health effects in both local and global populations.

These objectives are aligned with the University of Toronto's Statement of Institutional Purpose (University of Toronto governing Council, October 15, 1992: "The University of Toronto is committed to being an internationally significant research university, with undergraduate graduate and profession programs of excellent quality." The goals and objectives are also aligned with the DLSPH's stated goal of "training the next generation of scientists, educators and practitioners who will shape healthier societies in Canada and around the world."

Admission Requirements

The review of applications for admission to the PhD program seeks to identify highly motivated, mature and committed students. Successful applicants hold a master's degree or equivalent in a relevant field (e.g., behavioural science, biostatistics, biology, epidemiology, genetics, law, pharmacology, psychology, sociology, statistics); have strong methodological training in quantitative and/or qualitative research; have research experience; and can demonstrate the ability to conduct independent research and to publish in the peer-reviewed scientific literature. They will have an average grade of A- or greater overall, in their Master's degree program; will have practical experience and expertise in conducting data analysis and in using

standard statistical software packages; and will have research interests that align with at least one member of the PHS faculty with PhD supervisory privileges.

Curriculum and Program Delivery

The PhD in PHS prepares students for varied and diverse careers in many different scientific and public health settings. To that end, the program recognizes the importance of substantial breadth and depth in the chosen concentration, interdisciplinary experience, research exposure beyond a specific dissertation topic, teaching experience both formal (classroom, seminar) and informal (tutorial sessions and journal clubs), and a publication record that makes a graduate highly competitive for employment across the spectrum of public health positions and roles.

Competencies

Graduates from the PhD program gain general competency in:

- Critically evaluating the scientific literature;
- Identifying gaps in the literature and framing new research questions;
- Having theoretical and conceptual understanding to address health problems;
- Implementing methodologically sound research studies;
- Applying appropriate design and analytic methodological tools;
- Developing methods as needed to address specific research questions;
- Understanding the ethical implications of public health research;
- Conducting data analysis and publishing findings in the peer-reviewed literature;
- Having an appreciation of the policy implications of public health research;
- Analyzing quantitative and/or qualitative data;
- Understanding how to link scientific questions with analytic methods;
- Advancing knowledge in the field of public health;
- Knowledge of key historical events and circumstance that led to the emergence of public health study and practice;
- Familiarity with the major concepts approaches, and terminologies of their concentration;
- Explaining the links and interdependencies between public health scholarship, practice, and policy; and
- Communicating and disseminating research findings effectively to specialists and non-specialist audience.

In addition to the general competencies of PhD training, there are specific competencies applicable to each of the four concentrations within the PhD program:

- Biostatistics competencies include development of new statistical methodology and discovery of mathematical statistical properties using cutting-edge mathematical statistical

methods; proficiency in the use of standard and advanced statistical packages; development of new statistical algorithms.

- Epidemiology competencies include a solid grounding in the biological and/or social sciences and in observational and experimental research methods; primary data collection; understanding of the uses and limitations of secondary data; and understanding the public health impact and implications of epidemiological research findings.
- Occupational and Environmental Health (OEH) competencies include a grasp of the unique and overlapping natures of the workplace and the community as determinants of health; an understanding of the breadth of potential workplace hazards, from material agents (i.e., chemical, physical, and biological) to psychological stress, shift-work, and ergonomics.

Social and Behavioural Health Science (SBHS) competencies include proficiency in understanding and applying social theories to explain and study multi-level determinants of health and well- being, illness, injury, and disability, at the individual, community and institutional levels; and competency in both quantitative and qualitative research. Detailed competencies for the Epidemiology concentration can be found in **Appendix 30**. The other three PhD concentrations are in the process of developing the equivalent for those fields.

Courses

Students in the PhD program acquire their skills and learning through a combination of course work and independent research. The program comprises a minimum of 3.5 FCE; most of the courses earn a credit of 0.5 FCE, resulting in a requirement of at least seven courses. These courses include a combination of required and elective courses that provide the student with the necessary disciplinary depth for the specific dissertation research, as well as breadth across the fields of public health.

In their first term, all PhD students take the course Introduction to Public Health. In addition to lectures by DLSPH faculty that span the disciplines of public health, the PhD students work together in a PhD-specific tutorial group, to bring their different perspectives to bear on a public health problem.

Required courses by concentration can be found as follows:

Biostatistics – http://www.dlsph.utoronto.ca/msc-biostatistics-course-only-option/

Epidemiology - http://www.dlsph.utoronto.ca/program/phd-epidemiology/

SBHS - http://www.dlsph.utoronto.ca/program/phd-social-and-behavioural-health-sciences/

OEH - http://www.dlsph.utoronto.ca/program/phd-occupational-and-environmental-health/

Students are best served if their elective courses form part of a coherent package of experience. In this light, students are encouraged to choose elective courses that relate to the theme of their dissertation, or electives that fill identifiable gaps in their overall training and experience. Typical elective courses for each PhD concentration can be found on the website.

A number of new courses have been added recently to the roster of PhD offerings, including statistical analysis of clinical trials, mediation analysis, and mixed methods. In all of these instances, faculty and students have worked together to identify gaps in exposure, and to identify faculty to create and teach these new courses.

There also has been a move within the last year to expand the flexibility of elective course offerings through the development of 0.25 FCE courses. These not only encourage faculty to teach to their particular research interests and expertise, but also provide students with a much broader set of opportunities to explore topics outside their primary areas of training and expertise. Some of the 0.25 FCE courses currently under development are planetary health, injury, and prognosis.

Faculty Research Expertise and Supervision

Faculty research expertise in Biostatistics includes Bayesian methods, bioinformatics, computational biology, clinical trials methodology, cost-effectiveness analysis, health system monitoring and evaluation, hierarchical modeling, longitudinal data analysis, meta-analysis, microarray analysis, optimal experimental design, statistical methods for observational studies, statistical genetics, spatial and temporal models, statistics for neuroimaging data and survival analysis.

In Epidemiology, the faculty research areas include disease and conditions that are communicable (e.g., HIV/AIDS, influenza, Ebola, hepatitis) and/or non-communicable (e.g. cardiovascular, cancer, maternal and child health, mental health and addictions), and both the substantive (e.g., risk factor elucidation, treatment outcomes) and the methodological (e.g., mathematical modeling, geospatial analysis). The emphasis extends from genetic to built-environment characteristics.

Faculty in Occupational and Environmental Health conduct research on the assessment and mitigation of exposures to health-relevant chemical, physical and biological agents arising in the physical environment, ranging from the home to the workplace to the outdoors. Major areas of research investigate the risk factors and prevention of occupational diseases, the evaluation of biological, toxicological and physiochemical mechanisms underlying air pollution health effects, and explore the roles of environmental and human-associated microbes (e.g. the human microbiome) in shaping disease risk.

Finally, faculty in the Social and Behavioural Health Sciences focus on development of innovative quantitative and qualitative research approaches, and application of social science theories to public health scholarship. Emphasis is on the use of historical and critical approaches to understand the context and factors influencing public health and health care policy. Current examples of substantive foci include the social determinants of health, healthy cities, smoke-free policies, gambling, addictions and mental health, HIV and AIDS, environmental health justice, social movements, housing, global health policy, gender and health, youth, and occupational health and safety.

Learning Outside the Classroom

Each of the concentrations runs a seminar series in which PhD students present and discuss various topics, with an emphasis on research in progress. Both faculty and students make the presentations, and all PhD students in a given concentration are encouraged to attend. Master's students also are invited to attend the sessions.

Student-faculty collaborations for developing students' learning and skills outside the classroom have led to the formation of journal clubs and a seminar-type series of sessions in professional development. For instance, the journal club in social epidemiology, organized by two PhD students with substantial support from a faculty member, includes monthly discussions of assigned readings, and regularly draws students from epidemiology, social and behavioural health sciences, and sociology. The series on professional development, also co-led by PhD students and faculty, focused on such topics as interdisciplinary research team formation, networking, authorship, and post-PhD career opportunities. The latter series has identified the need within the DLSPH for a career services professional development office to serve PhD students. A small task force of faculty and students from all four PhD concentrations has formulated a request to the DLSPH administration to fund such an office. Doctoral students also participate in funded research projects as members of the team, as RAs or receive stipends through grants. This provides pedagogical benefits to the learning environment of collegiality, teamwork, research ethics, interdisciplinary, collaboration, community-based research (in some cases), knowledge translation, etc.

In addition to these seminar-style opportunities, PhD students are expected to hold Teaching Assistantships (TAs) and Research Assistantships (RAs). While these TA and RA positions provide the students with supplemental income, they also give the students experience in the classroom and in research settings other than their own dissertation work.

Assessment of Learning

All required and elective courses have stated methods of assessment of a student's work. Rubrics, both quantitative and qualitative, for determining grades are now required for all new courses, and there is an expectation that current courses will include such information in their syllabi. The comprehensive and qualifying examinations assess the student's capacity with respect to knowledge of the concentration and ability to apply course-based learning to new research-based situations. Finally, the student's supervisory committee (PhD supervisor plus at least two other research faculty) must meet at least annually with the student to assess quality of the work and progress in completing the dissertation research. Annual reports from these supervisory committee meetings are submitted to the Graduate Office, and include statements of progress and expectations for work between then and the next supervisory committee meeting. All members of the supervisory committee must sign this report, and the student is encouraged to add her/his own comments on the report's content. In recognition of the differences in approach and scope between Divisions, there are Division-specific committees that review the annual progress reports and provide relevant feedback.

The annual activity report, completed at the end of each summer by all PHS PhD students, extends beyond the reporting of work towards completion of the degree. In this report, the PhD students describe all of their academic activities in the past year, including papers published (and whether these are related to the PhD dissertation), presentations made at conferences (and whether these are related to the PhD dissertation), teaching activities within and outside of the University of Toronto (e.g., TA positions as well as courses taught at other colleges and universities).

Comprehensive/Qualifying Examination

The comprehensive or qualifying examination is generally taken after the student has completed the required courses. It comprises theoretical, methodological and substantive components that vary with the concentrations. Students are expected to have passed the examinations no later than the end of the second year.

Absent formal coursework in research ethics, it is hoped that all PhD students in PHS will complete the CORE-2 Tutorial of the *Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans (TCPS)*; in the ethics of conducting research, as part of their comprehensive/qualifying examination.

In Biostatistics, the examination comprises three segments: Foundation (mostly mathematical statistics), Methodology (applied statistics) and Data Analysis. The first two parts consist of five-hour in-class written examinations, and the third part is a one-week take-home exam that requires a final report.

In Epidemiology, the examination likewise contains three parts: completion of the CORE-2 tutorial; a written in-class examination that assesses competence in concepts, principles, data sources, and content of epidemiology and applied biostatistics, and the ability to apply these concepts and principles critically; and the preparation of a systematic literature review in an area of the student's choosing.

In Occupational and Environmental Health, the examination assesses the student's understanding of the substantive areas of research including critical assessment of the literature, structuring of research questions, application of methods appropriate to the questions, and coherent and concise written and oral communications about the research. The exam consists of the preparation of a document including a critical, in-depth literature review and analysis on the proposed topic and a set of proposed research questions and methodologies. The student presents their work in an oral exam that includes its relevant to Occupational and Environmental Health and to public health.

The Social and Behavioural Sciences Qualifying examination comprises a major theoretical paper and its oral presentation that demonstrates the student's capacity for independent scholarly work and creativity, ability to theorize a topic using a variety of approaches, ability to critically assess related empirical literature, and from these propose theoretically and methodologically sophisticated and consistent research questions that would advance the topic area and may be used for the dissertation. Through this process, the student will demonstrate

capacity to identify, synthesize, and critique the literature within their chosen topic area. The exam consists of: i) a written paper and ii) an oral presentation of the paper. There have been discussions of late to revise the format of the examination, although no changes have yet been decided.

Research Proposal Defense

The defense of the research proposal has two major purposes: to ensure that the student's research plan is adequate for a PhD at the University of Toronto; and to ensure that the work is not too extensive to prevent the student from completing the degree in a reasonable time. Thus, approval protects the student from arriving at the Final Oral Examination with work that does not qualify as being appropriate for the degree; and also protects the student from "dissertation creep", in which the depth and breadth of the research expand over time. The review panel includes the members of the student's supervisory committee, plus two faculty members with PhD supervisory experience who are not involved in the student's research. At present, two of the PhD concentrations have implemented the proposal defense, and the other two are reviewing plans to do likewise.

Departmental Dissertation Defense

After completion of the dissertation research, the student defends the work in a public forum. The examining committee comprises the supervisory committee plus two arm's length reviewers. The departmental defense is the final departmental "sign-off" that the student is ready to defend the research (both oral and written) at the University level. The departmental defense also can be seen as a "dress rehearsal", to ensure that the student is prepared for the Final Oral Examination (both from scientific and psychological perspectives).

Format of the Dissertation

While the classic monograph form of the PhD dissertation is certainly an option, students are encouraged to prepare the dissertation in the paper-based format. This will allow students to expand their pre-PhD publication records, and to be prepared for new opportunities (research positions or post-doctoral fellowships) without causing delay in publishing their research. Thus, they complete the degree with papers written, and often at least submitted for peer review, if not already accepted for publication.

Student Awards

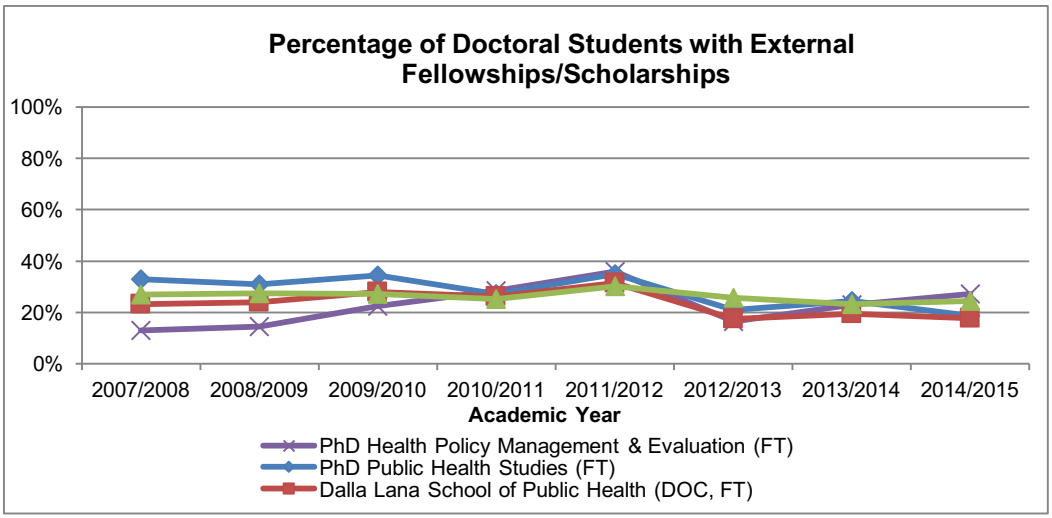
The primary source of student awards is external competitive studentship grants. Table 3.8.i provides a summary of the principal sources of major, external competitive studentship awards for which PHS students apply, as well as their success rate. The funding agencies include, but are not limited to, the Canadian Institutes of Health Research (CIHR), the Social Science and Humanities Research Council (SSHRC), the Natural Sciences Engineering Research Council (NSERC) and the Ontario Graduate Scholarship (OGS). There has been some decline in student awards in the last couple of years, possibly due to increasing competition and paralleling increasing enrolment. There has also been a decline in proportion of applications funded by

the major funding agencies over the past ten years. This has affected students in the social sciences even more significantly given that any topics related to health, including those taking social science approach, can no longer be vetted through SSHRC but must be channeled through CIHR which has fewer experts on the review panels trained to appropriately assess these applications.

Table 3.8.i Awards PhD students apply for, and their success rates.

	PhD Health Policy Management & Evaluation (FT)			PhD Public Health Studies (FT)		
Academic Year	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships/ Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	7	54	13.0%	32	97	33.0%
2008/2009	8	55	14.5%	31	100	31.0%
2009/2010	13	58	22.4%	33	96	34.4%
2010/2011	19	67	28.4%	30	110	27.3%
2011/2012	23	64	35.9%	37	106	34.9%
2012/2013	11	67	16.4%	23	110	20.9%
2013/2014	14	61	23.0%	25	102	24.5%
2014/2015	16	59	27.1%	22	118	18.6%

	Dalla Lana School of Public Health (DOC, FT)			Division IV: Life Sciences (DOC, FT)		
Academic Year	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships	Students with Fellowships / Scholarships	All Students	% with Fellowships/ Scholarships
2007/2008	39	168	23.2%	416	1,543	27.0%
2008/2009	39	163	23.9%	439	1,600	27.4%
2009/2010	46	164	28.0%	450	1,660	27.1%
2010/2011	49	187	26.2%	428	1,691	25.3%
2011/2012	60	191	31.4%	515	1,702	30.3%
2012/2013	34	194	17.5%	442	1,726	25.6%
2013/2014	39	200	19.5%	406	1,742	23.3%
2014/2015	38	215	17.7%	428	1,754	24.4%



Student Funding

As mandated by the University of Toronto, the DLSPH commits to a minimum level of funding ($15,000 plus tuition and fees) for PhD students in the "funded cohort". This cohort is defined to include full-time PhD students, domestic and foreign, in any of the four concentrations who are in years 1 to 5 of their PhD program. The PHS funding policy (http://www.dlsph.utoronto.ca/students/current-students/funding-financial-assistance/funding-policy-for-phd-students/) allows for a funding package to include multiple sources: internal and external awards (scholarships, fellowships, and UT Open funding) and stipends from supervisor's grants (all classified as T4-A income), as well as RA, TA and other funds arising from a student's employment. Major sources of funding for students are many and varied (see **Appendix 31**); the list clearly indicates the efforts students and their supervisors make to obtain external funding for the students.

Note: A recent Faculty of Arts and Science decision to increase the base funding for PhD students to $17,500 has opened discussion within the DLSPH and the School intends to work through issues and concerns with students on sustainable, equitable solutions.

Students specify, in their annual activity report, the funding applications they have submitted; the funds that are to be awarded are indicated on the student's annual funding declaration. The funding declaration and the funding policy, however, are currently under review for a few reasons: the minimum guarantee is often inadequate for a student to manage financially in what has become an expensive city in which to live; supervisors are not contributing to their students' funding to the level anticipated before the funding guarantee went into effect; students have not been required to report all income, making it possible for them to have external funding above the minimum but still to draw on the UT Open funding guarantee; without an undergraduate program, the DLSPH does not have enough TA positions to ensure that all PhD students who want a position can obtain one; and, the UT Open funds are not adequate to fund all students, particularly with the expanded enrollment mandated by the DLSPH.

The School spends approximately $150,000.00 per year to fund TA positions for higher enrolment master's level courses, and for the few undergraduate courses faculty of PHS teach in New College and University College, both at the University of Toronto. The policy and procedures for the assignment of TA positions to courses is currently under review, in order to increase transparency of the assignment of TA hours to courses, and to make it possible for more students to benefit both financially and experientially from holding TA positions.

Quality Indicators

Applications to the PhD program are increasing (Table 3.8.ii), as are the number of applicants offered admission. Although the percent of successful applicants has fluctuated somewhat - from a high of 39% in 2007-08 to a low of 13% in 2011-12, generally 1/4 to 1/3 of applicants are offered admission. The rates of offers in PHS (Table 3.8.iii) are systematically lower than those in the Division IV Life Sciences, but generally on par with those for all U of T PhD programs.

The percent of applicants who enter the program (i.e. new registrants among those offered admission) has been fairly steady at 75%, indicating the continuing desirability of the PHS PhD program (Table 3.8.iv). Two of the major reasons for turning down a PHS PhD offer are family considerations and funding packages. The acceptance rate in PHS compares favourably with that for both the Life Sciences and UT over all.

Table 3.8.v displays time to completion of the PhD degree. PHS students are equivalent to those in the Life Sciences programs, with a mean completion time of 6.0 years. This is higher than the mean completion time for all U of T PhD degree (5.9 years), but not substantially so.

Table 3.8.ii: Doctoral degree - Public Health Sciences

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	70	94	94	140	124	87	115	125
Offers	27	35	34	42	16	16	26	34
New Registrants	20	20	21	31	11	12	18	25

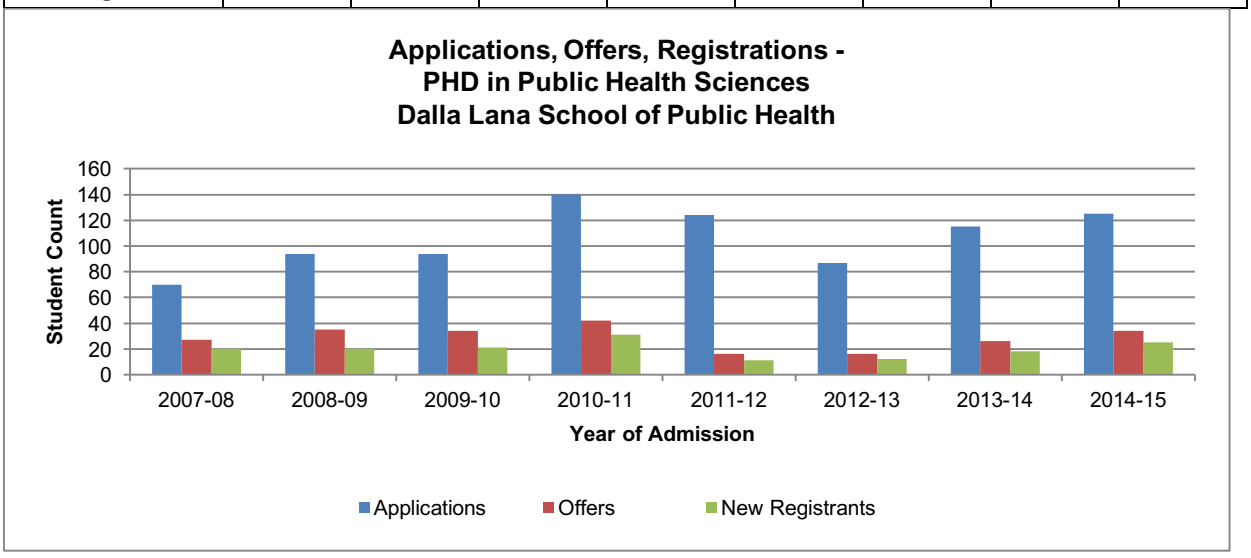


Table 3.8.iii: Offer Rate - Doctoral Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Public Health Sciences	38.6%	37.2%	36.2%	30.0%	12.9%	18.4%	22.6%	27.2%
Dalla Lana School of Public Health	41.5%	33.3%	38.2%	29.3%	17.2%	23.7%	26.2%	26.9%
Division IV Life Sciences	41.7%	40.4%	44.0%	36.9%	36.8%	35.9%	36.9%	35.6%
U of T	30.4%	30.4%	28.3%	25.7%	22.7%	23.6%	25.1%	25.1%

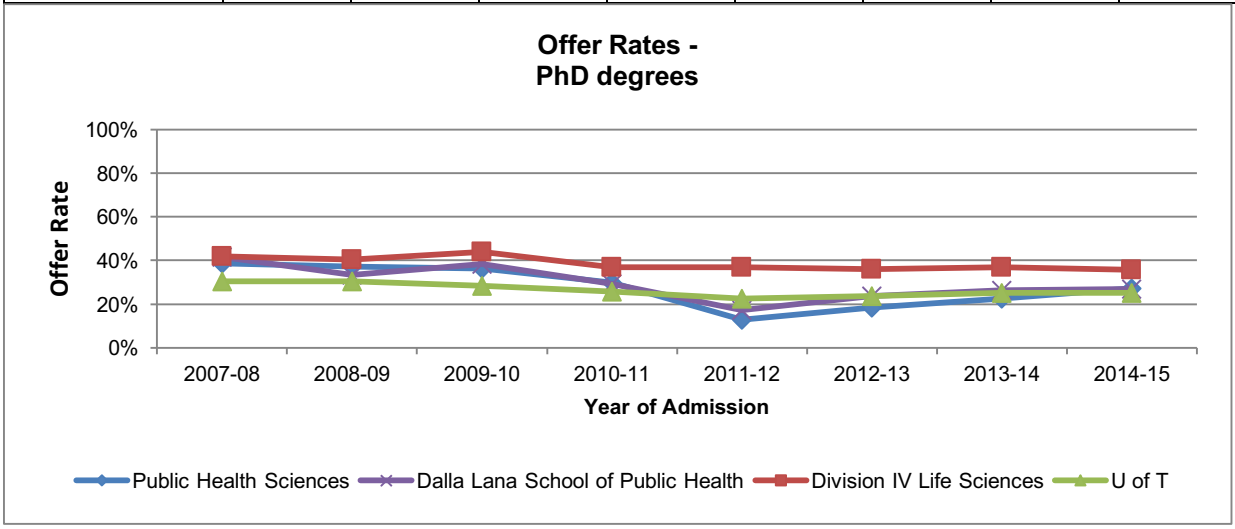


Table 3.8.iv: Acceptance Rate - Doctoral Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Public Health Sciences	74.1%	57.1%	61.8%	73.8%	68.8%	75.0%	69.2%	73.5%
Dalla Lana School of Public Health	67.3%	57.4%	61.5%	73.2%	72.4%	77.4%	75.5%	71.7%
Division IV Life Sciences	70.3%	67.0%	64.4%	70.2%	72.8%	70.7%	64.7%	67.7%
U of T	63.6%	60.7%	62.1%	62.5%	64.8%	63.6%	64.6%	63.4%

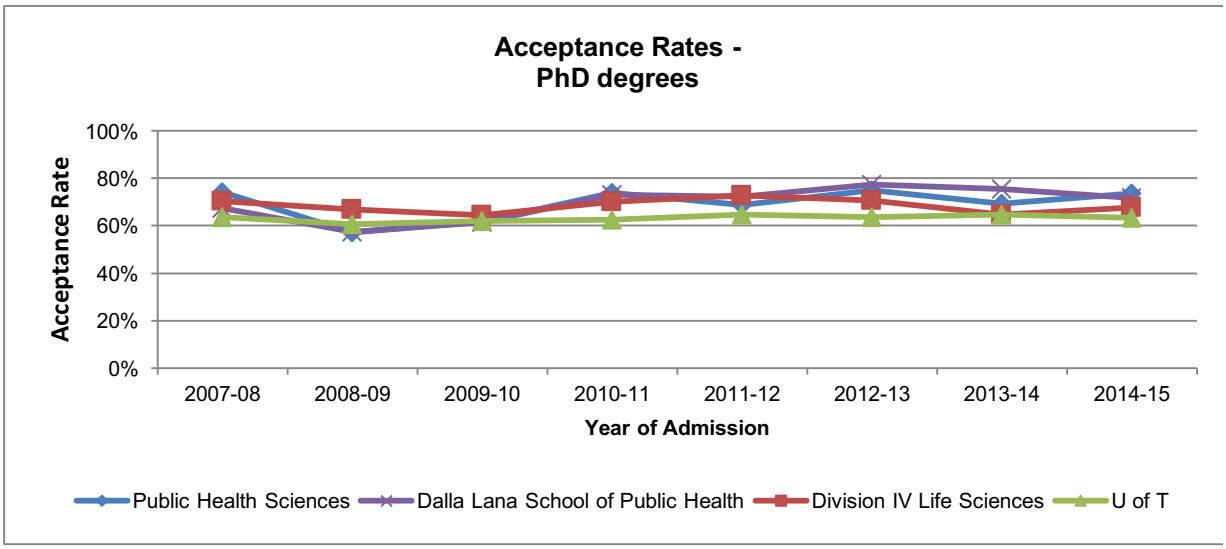
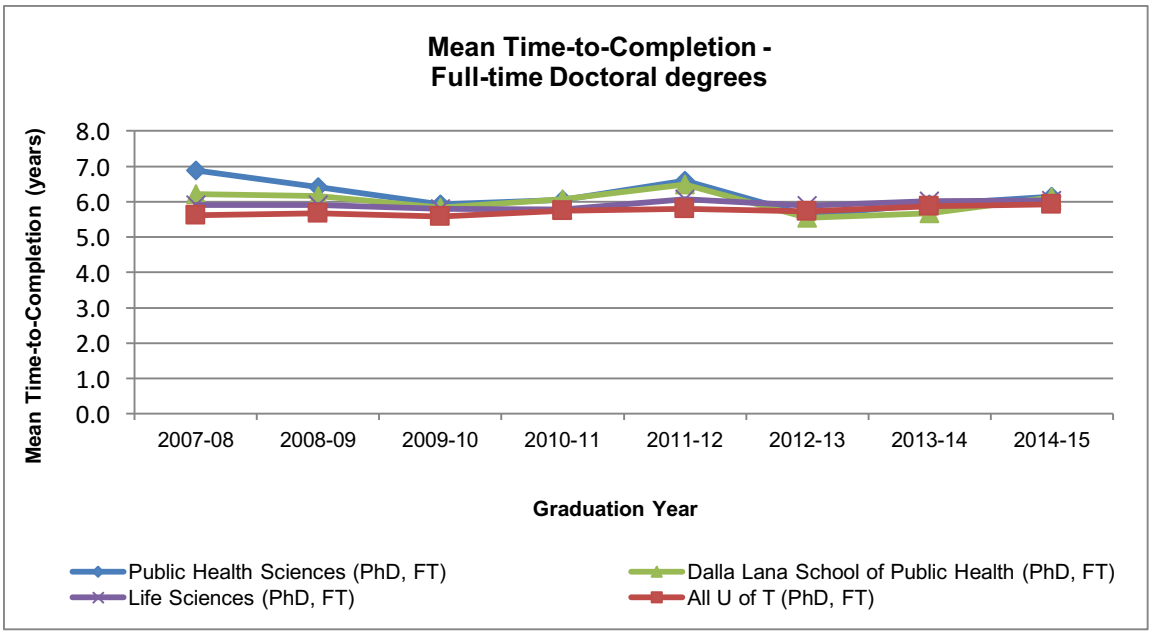


Table 3.8.v: Public Health Sciences -Doctoral degree – Time to Completion

	Public Health Sciences (PhD, FT)		Dalla Lana School of Public Health (PhD, FT)		Life Sciences (PhD, FT)		All U of T (PhD, FT)	
Graduation Year	Number of Graduates	Mean TTC (years)	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC (years)	Number of Graduates	Mean TTC (years)
2007-08	12	6.9	24	6.2	243	5.9	711	5.6
2008-09	4	6.4	14	6.2	240	5.9	697	5.7
2009-10	17	5.9	28	5.8	255	5.8	738	5.6
2010-11	7	6.0	19	6.1	259	5.8	789	5.7
2011-12	15	6.6	26	6.5	300	6.1	806	5.8
2012-13	15	5.6	30	5.5	301	5.9	868	5.7
2013-14	14	5.9	29	5.7	319	6.0	855	5.9
2014-15	17	6.1	36	6.1	308	6.0	910	5.9



In addition to the quantitative data in the table on completion time, it's important to recognize the need to graduate PhD's who have a competitive advantage in the job market. To this end, students are required to complete the annual activity report. A committee of faculty within the student's PhD concentration meets to review both the student's meeting of the program milestones in a timely fashion, and the non-degree-specific activities such as publications and presentations, teaching and leadership activities that will enhance the student's overall professional development and career-readiness. Feedback on a student's progress is provided to the student and the supervisor. Students who are not making suitable progress are asked to meet with the PhD Program Director to receive help in identifying barriers the student might be facing that impede her/his progress.

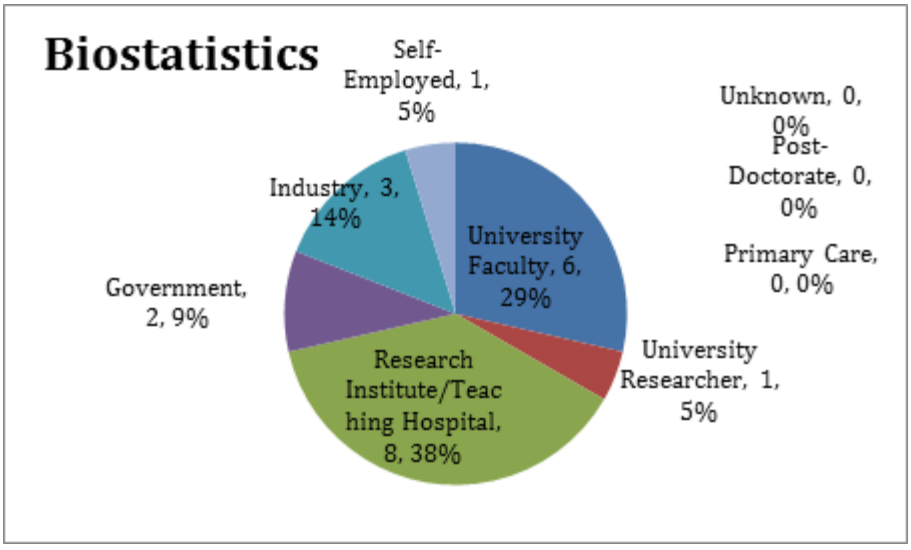
A list of PhD previous graduate publications can be found in **Appendix 32** and a list of current student publications in **Appendix 33**. A comparison of PHS doctoral student satisfaction to overall U of T student satisfaction with their program, quality of interaction and coursework, and their research/department support can be found in **Appendix 34**.

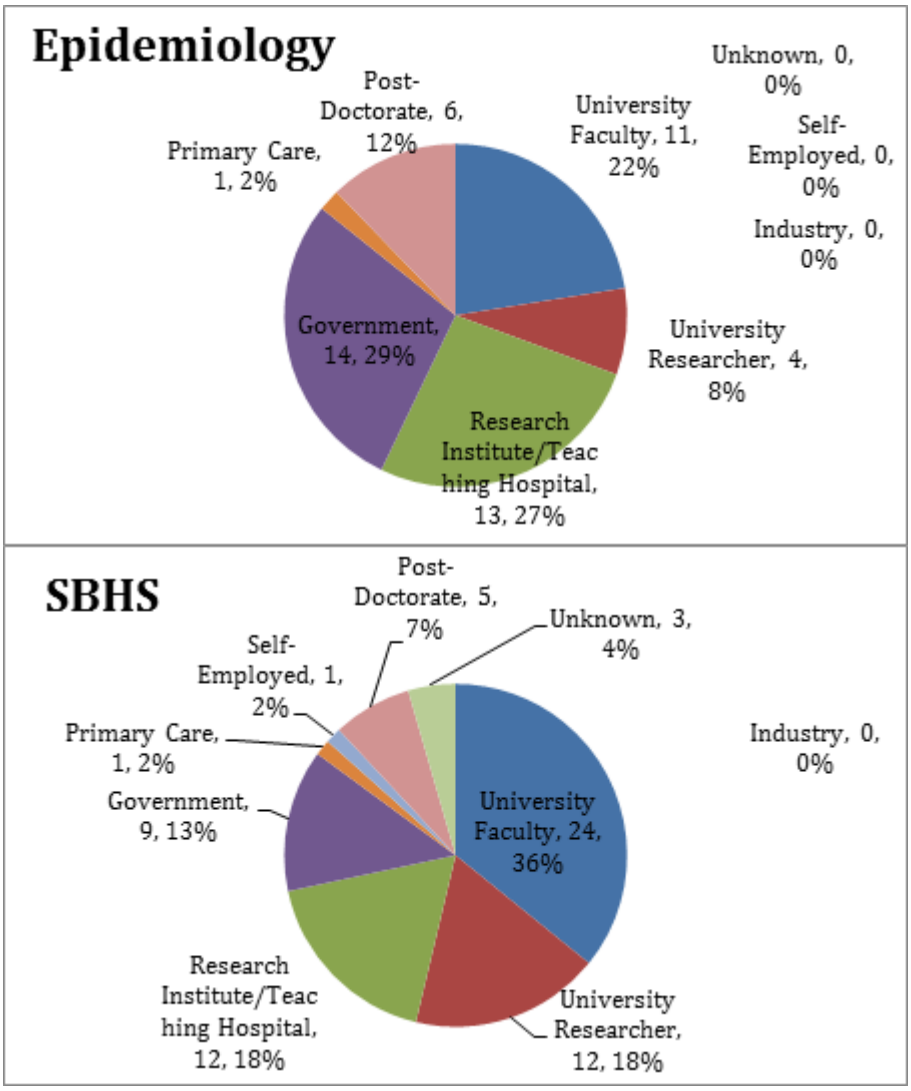
Table 3.8.vi displays the current employment for PhD graduates, by field of study and sector of employment. While many of the graduates enter university and research institute positions, they also work in all levels of government and in non-governmental organizations, and in industry and in other areas of the private sector.

Table 3.8.vi: Current PHS PhD Graduate Employment (graduates over the last 10 years)

	Biostat	Epid	SBHS	Total
University Faculty	6	11	24	41
University Researcher	1	4	12	17
Research Institute/Teaching Hospital	8	13	12	33
Government	2	14	9	25
Industry	3	0	0	3
Primary Care	0	1	1	2
Self-Employed	1	0	1	2
Post-Doctorate	0	6	5	11
Unknown	0	0	3	3
Total Per Stream	21	49	67	137

The pie charts below display these same data more visually. Although there are some differences by field of study, about 70% of all graduates take positions that have a substantial component of research or research/teaching.





Quality Enhancement

Strengths

The PhD program in PHS comprises a breadth of program offerings, embodied in the four concentrations, without sacrificing common public health experience and exposure. Incoming students represent enormous diversity of backgrounds, and have much to teach each other as well as to learn within their concentration. The required Introduction to Public Health course fosters learning across the disciplines that make up public health, and fosters collaboration between the PhD students in different concentrations.

The PhD program could not function without the high level of commitment from the faculty. Although there is a small complement of University-based tenured, tenure-stream, and contract faculty, this group is significantly enhanced by a cadre of faculty whose source of employment is extra-University. Status faculty are based in research institutes, teaching hospitals, and governmental and non-governmental organizations throughout the Greater

Toronto area; these faculty hold research scientist positions, supervise PhD students in all of the concentrations, and provide extensive opportunities for students (their own as well as others) to gain research experience in diverse settings. In addition to Status faculty, the PHS relies to an extent on Adjunct faculty, who may be self-employed (e.g., consultants), or who work in industry and other non-research-intensive settings. Although Adjunct faculty cannot supervise PhD students, they teach courses and provide students with alternative career models.

Challenges

Funding PhD students to a level consistent with their needs continues to be a challenge. The university mandated funding level does not obviate the need for students to supplement their incomes with work related, or even unrelated, to their studies. The data don't support the fact that the minimum funding requirement has altered the completion times for PHS students, as it was intended to do. In addition, there is an almost complete absence of funding available, in the university and in the Province of Ontario, to support highly qualified international students. In fact, the provincial funding actively disadvantages international students, because the province does not provide funding to the university for international students enrolled in the PhD program.

The relatively small paid faculty complement (tenured, tenure-stream, and contract) results in heavy, and increasing, reliance on Status and Adjunct faculty to carry out teaching and supervisory responsibilities. While the Status and Adjunct faculty have risen to this challenge over many years, they are potentially an unstable resource. A change in the leadership of their home organizations could lead to a withdrawal of support for the scientists to participate fully in the intellectual life of the PHS.

A challenge created by the DLSPH relating to Status faculty is the lack of consistent expectations across PHS. Within some of the Divisions of the PHS, there are specific expectations that Status faculty will teach in order to maintain their University appointments; in other Divisions, there is no such expectation. This situation leads to increased instability in the teaching complement from year to year, as Status faculty opt for Divisional affiliations depending on how much effort they will be required to make. While this challenge is not restricted to the PhD program, it does have an impact on PhD course development and assignment of teaching.

Required Program Enhancements

There is both an opportunity and a need to expand the Status faculty base, particularly within the SBHS concentration. This would provide PhD students with a more extensive faculty list from which to identify PhD supervisors and supervisory committee members, and would enhance the intellectual breadth of student training and dissertation topic opportunities.

Expansion of TA positions, particularly with the advent of the DLSPH undergraduate degree programs, would provide PhD students with more possibilities for supplementing their funding as well as gaining teaching experience.

The Task Force of faculty and students met in the winter of 2016 to explore options for increasing professional development of PhD students. The resulting recommendation was for the DLSPH to establish a career services office to serve PhD students. It was determined that, while there is some university-wide support for career development, and the need for some concentration-specific guidance and networking, there is a middle ground of need for career advising and service that could benefit all of the PhD fields within the PHS.

Future Directions

Future activities to enhance the PHS PhD Program include:

- Development of an Office of Career Services to provide profession development opportunities for both students and alumni;
- Availability of TA opportunities for all PhD students;
- Harmonization of PHS and IHPME PhD programs (e.g., course availability);
- Greater collaboration across related disciplines (e.g., clinical epidemiology and epidemiology);
- Mentorship of junior faculty in relation to research, teaching, and supervision;
- Development of seminar series by each concentration; and
- Increase supervisors' contributions to student funding.

3.9 Doctor of Philosophy (PhD) Health Policy, Management and Evaluation

Program Description

The PhD graduate degree in IHPME consists of two concentrations: Clinical Epidemiology and Health Care Research (CEHCR) and Health Services Research (HSR). The HSR concentration encompasses six primary areas of study (PASs): Health Policy, Health Services Outcomes and Evaluation, Health Informatics Research, Health Economics, Health Technology Assessment and Health Services Organization and Management. The program can be completed on a full or flex time basis.

The CEHCR concentration is targeted at health professionals, while the HSR concentration attracts candidates from health services, as well as health care backgrounds. The degree includes the completion of 10 half courses and the preparation and defence of a thesis.

Program Objectives

The overall objective of the PhD program is to develop researchers who have the capacity to influence the health care system through practice, policy and research.

Specific objectives of the PhD program include:

- Advancing methods for critically appraising the literature and developing new techniques for evidence-based decision making,
- Playing a leadership role in knowledge translation practice and research,
- Developing the skills to teach the principles of health care and health services research to future researchers and clinicians,
- Leading research projects that contribute to improvements in Canadians' health and changes in practice and policy, and
- Serving as methodological experts in assisting others to design and conduct clinical and health services research.

These objectives are in line with the University of Toronto's Statement of Institutional Purpose (University of Toronto Governing Council, October 15, 1992): "The University of Toronto is committed to being an internationally significant research university, with undergraduate, graduate and professional programs of excellent quality". The objective is also in line with the Dalla Lana School of Public Health's stated goal of "training the next generation of scientists, educators and practitioners who will shape healthier societies in Canada and around the world".

Admission Requirements

Applicants to the PhD program in IHPME must have an excellent record of scholarship, an aptitude for research and should have graduated from their Master's program with at least a B+ average. PhD applicants to the CEHCR concentration must have a 4-year undergraduate degree

in a health profession from an accredited university (BScN, BScOT, BScPT, DMD, MD, and MScN). They must also provide evidence of protected research time from their clinical duties to allow for the successful completion of the degree.

PhD applicants will ideally have completed a thesis Master's degree or have equivalent research experience. Students without a thesis Master's or equivalent research experience apply to the MSc/PhD Transfer Program. Students in the Transfer Program register as MSc students and, if they complete their first year of studies satisfactorily, are re-registered as PhD students in their second year of study.

These admission requirements ensure students have an appropriate background to succeed in the PhD program. Completing a doctoral program is academically challenging and requires an ability to work independently. Selection of candidates with a demonstrated aptitude for research ensures success in the program.

Curriculum and Program Delivery

The PhD program delivers comprehensive, interdisciplinary curricula based on health policy, health services and health care research. The program is structured to provide substantial breadth and depth in an area of concentration (Clinical Epidemiology and Health Care Research or Health Services Research) with advanced training in topics such as health policy, knowledge translation and research methodology. Students are offered an interdisciplinary focus, exposure to a range of research experiences, formal and informal teaching experiences and support in developing a professional career.

The PhD program involves the completion of 5 FCE (including a comprehensive examination in an area of concentration), oral defence of a dissertation proposal and completion of a dissertation and its oral defence. Students meet annually with their supervisor and the PhD concentration Director to review their progress and to plan course work and other activities for the following year.

Overall responsibility for the PhD degree rests with the Graduate Coordinator, but each concentration has a designated Director whose responsibilities include ensuring the curriculum remains current, attracting and training program faculty and monitoring student welfare. Each Director is an accomplished academic with an active research agenda and extensive contacts within their discipline. Their strengths as individual researchers, and their research networks, ensure that the program content is continually updated.

Coursework within the PhD program is offered largely through a traditional (weekly) format. All courses are evaluated by enrolled students and their comments are incorporated into program planning. The concentration Director has responsibility for reviewing/updating curriculum and working with program faculty to refresh course content. New courses are continually being added to the PhD curriculum as optional courses as new faculty join the University of Toronto.

There are a number of areas of innovation that can be highlighted in the PhD program. IHPME has strong relationships with researchers in the vast network of research institutes, hospital and health care agencies and community organizations available in the Toronto area. Experienced researchers in these settings are able to supervise IHPME PhD students, adding to the range of opportunities available to our students. Our students, themselves, are often talented researchers and bring their expertise to share with their peers and instructors. IHPME has a number of excellent research centers (the Canadian Center for Health Economics, Global Health) which offer training and fellowship opportunities to our students. IHPME also has relationships with a number of agencies (ICES, Statistics Canada) which can facilitate data access.

Degree Level Expectations

Appendix 35 captures the Degree Level Expectations (DLE) of the PhD, **Appendix 36** outlines course requirements (organized by area of concentration and Primary Area of Study (PAS)) and **Appendix 37** provides a list of courses offered in support of the degree (again, organized by area of concentration and PAS).

The PhD aims to develop and refine research skills through five expectations. The first expectation relates to **depth and breadth of knowledge**. All PhD students are expected to be able to apply alternative theoretical and conceptual models from a range of relevant disciplines to issues and topics current in health services and health care research. While the specifics may differ by concentration, students graduating with the PhD degree are expected to have in-depth disciplinary knowledge and skills, with a specific emphasis on research evidence. These skills are developed through a combination of lectures, applied assignments, readings, guest speakers, classroom discussions and comprehensive examinations, all culminating in the preparation of dissertation which adds new disciplinary knowledge to the available body of literature. PhD students are also expected to be able to transfer their disciplinary knowledge and skills to other scholars and the wider body of literature.

The second expectation relates to **research and scholarship**. It is our expectation that all PhD students will develop a conceptual and methodological competence that will enable them to critically review the scientific literature, synthesize findings across studies and make relevant recommendations. Furthermore, we expect graduates to be able to use their knowledge of structures, performance, quality, and context to formulate solutions for health policy and health care questions. PhD students need to be able to pose innovative and important research questions, informed by systematic reviews of the literature, stakeholder needs and relevant theoretical and conceptual models. Finally, PhD students need to be able to conceptualize a research project and complete the necessary research to address the research question and transfer the resultant knowledge. These skills are developed through a range of required methodological courses, some common to all doctoral students and others specific to each area of concentration. Students are required in their programs to cover core methodological competencies which are tested through a comprehensive examination. The PhD degree also requires the preparation and presentation of a research based thesis. The PhD program is

structured to be highly research focused, with multiple and diverse exposure to different research paradigms and programs.

The third expectation relates to **level of application of knowledge**. All IHPME PhD students are expected to be able to apply an existing body of evidence to the critical analysis of a specific problem or issue. This expertise is seen as a core component of a skilled researcher and is reinforced in all PhD students through coursework, comprehensive and thesis work. More importantly, it is the IHPME culture which develops this skill within our students. IHPME is a multi-disciplinary department with a rich culture of lectures, seminars and visiting scholars. It is located in Canada's most dynamic health services and health care research environment. There are many opportunities for students to engage with national and international scholars. This environment embodies the application of research knowledge; through multiple channels students are provided opportunities to learn how to critically analyze a research question through the use of evidence.

The fourth expectation relates to **professional capacity and autonomy**. All IHPME PhD students are expected to graduate with the skills necessary for employment including the ability to work independently, to conduct their research in an ethical manner consistent with academic integrity, to assume responsibility for their own professional development and to appreciate the broader implications of applying knowledge to particular contexts. These skills are implicit in the many course assignments, group projects and class discussions that are completed during the course of completing the PhD degree. Through the pursuit of scholarship funding, students also gain valuable experience in writing grants and become familiar with grant application agencies and processes. To complete their work, students must prepare research protocols and work with the relevant Research Ethics Committees (often multiple committees) to have their research approved. Students are required at a doctoral level to prepare their work in a format that is suitable for publication. As a graduate student, individuals are expected to assume responsibility to manage their own time to ensure all assignments are completed and submitted in a timely manner. IHPME PhD students also have a range of professional development opportunities, offered either through IHPME in consultation with the IHPME Graduate Student Association or through the University of Toronto's Student Life Center to develop their professional skills.

Finally, all PhD students in IHPME are expected to develop strong **communication skills**. Knowledge translation is a cross cutting theme in all doctoral programs. IHPME feels strongly that all graduates of all its programs must be able to communicate their work clearly. This skill is developed through an emphasis on feedback that is built into most of the program's coursework. Students are given multiple opportunities to present, and defend, their work. Doctoral students must also publicly defend their research proposal and final thesis research. Outside of the program specific opportunities to develop communication skills, IHPME holds an annual Research Day where every student has an opportunity to present either an oral presentation or a poster. In addition, there are a wide range of opportunities to present work open to PhD students through the multitude of research days associated with related Research Institutes (Health Care, Technology and Place Program; Health System Performance Research Network; Toronto Health Economics and Technology Assessment Collaborative), as well as

opportunities to present at national and international conferences. All PhD students are strongly encouraged to participate in as many of these opportunities as possible. Not only do they gain experience themselves, but they also learn by watching the experiences of their peers.

Assessment of Learning

All courses completed for the PhD degree include a combination of exercises, projects and essays/term papers that emphasize the development of skills to address complex research problems. Initial courses offer the basics including research skills and program theory, while more senior courses focus on developing concentration or primary area of study (PAS) specific knowledge and skills. The HSR concentration structure allows for more advanced education in each area and, through assignments and classroom procedures, prepares students for specialized practice and research leadership roles. Specific details linking course objectives to course activities to methods of assessment are available in each course outline.

IHPME follows the Graduate Grading and Evaluation Practices Policy of the Governing Council, University of Toronto. Information on the grading practices within IHPME are available to all students and instructors through a series of Tip Sheets available on the IHPME website (and included on all course outlines). In addition, a yearly workshop is offered to all new, and continuing, instructors which reviews the University of Toronto's grading practices, as well as discusses common issues and concerns.

All doctoral students must defend their thesis at an oral final examination before a Thesis Examination Committee consisting of the thesis supervisor, the thesis committee (typically two faculty members), an internal reviewer (external to the supervisory committee but within the University of Toronto), an external reviewer (external to the University of Toronto) and a Departmental representative (external to the supervisory committee but within the Institute). The Chair of the Examination Committee is determined by the School of Graduate Studies and the examination follows the rules and regulations set by the Governing Council, University of Toronto.

Student Awards

All PhD students in IHPME are eligible to apply for external funding through agencies such as CIHR. As indicated in Table 3.9.i, about 25% of our students are supported through such grants. The number of students receiving fellowship support in IHPME is directly affected by the federal government's policies with respect to student funding. As the funding levels increase and/or decrease, so follow the success rates of IHPME students.

It should also be noted that the many of the students in the PhD program are supported through some form of Research Fellowship offered through a training program or through funding from their supervisor's grants. Many of the students in the CEHCR specialization, and a number of students in the HSR specialization, have protected time in a Fellowship program to complete their degree. Many of the HSR students are supported through grant funding. Our

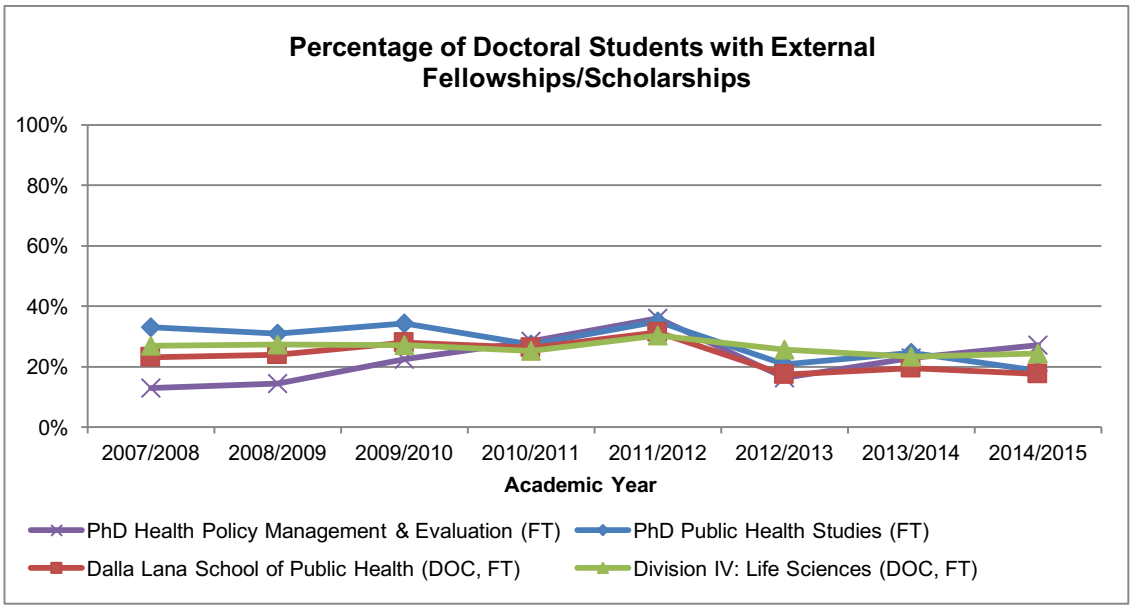
own statistics suggest that it is a minority of students who do not have some external funding and who rely on the Institute for financial support by the third year of their studies.

To assist students in receiving a fellowship, IHPME does offer a yearly seminar on how to apply for external funding. The University of Toronto offers a series of similar sessions targeted at the large federal funding agencies to which we direct our students. Throughout the academic year, the students organize a "Lunch and Learn". The topics covered in the Lunch and Learn vary month to month, but do include a number of sessions on professional and presentation skills. The Dalla Lana also offers a monthly series of lectures/workshops on the development/refinement of teaching skills to which all students are invited.

Table 3.9.i Doctoral Degree (FT)

	PhD Health Policy Management & Evaluation (FT)			PhD Public Health Studies (FT)		
Academic Year	**Students with Fellowships/ Scholarships**	**All Students**	**% with Fellowships/ Scholarships**	**Students with Fellowships/ Scholarships**	**All Students**	**% with Fellowships/ Scholarships**
2007/2008	7	54	13.0%	32	97	33.0%
2008/2009	8	55	14.5%	31	100	31.0%
2009/2010	13	58	22.4%	33	96	34.4%
2010/2011	19	67	28.4%	30	110	27.3%
2011/2012	23	64	35.9%	37	106	34.9%
2012/2013	11	67	16.4%	23	110	20.9%
2013/2014	14	61	23.0%	25	102	24.5%
2014/2015	16	59	27.1%	22	118	18.6%

	Dalla Lana School of Public Health (DOC, FT)			Division IV: Life Sciences (DOC, FT)		
Academic Year	**Students with Fellowships / Scholarships**	**All Students**	**% with Fellowships/ Scholarships**	**Students with Fellowships / Scholarships**	**All Students**	**% with Fellowships/ Scholarships**
2007/2008	39	168	23.2%	416	1,543	27.0%
2008/2009	39	163	23.9%	439	1,600	27.4%
2009/2010	46	164	28.0%	450	1,660	27.1%
2010/2011	49	187	26.2%	428	1,691	25.3%
2011/2012	60	191	31.4%	515	1,702	30.3%
2012/2013	34	194	17.5%	442	1,726	25.6%
2013/2014	39	200	19.5%	406	1,742	23.3%
2014/2015	38	215	17.7%	428	1,754	24.4%



Student Funding

The University of Toronto has recommended that all graduate units "work towards providing a guaranteed minimum level of financial support to all its full time doctoral stream students equivalent to $15,000 per year (indexed according to cost of living) plus tuition (domestic or visa) for the first 5 years of study, including, where necessary, 1 year at the master's level". "Doctoral students" refers to students in doctoral stream graduate studies, i.e. MSc and PhD students.

The policy also recommends that "units should establish a policy for funding that is well advertised, transparent, and which is monitored" and that "students should be made aware of these policies prior to their admission".

In support of this policy, IHPME has implemented (and posted on its website) the following funding policy:

- Students who receive income of $15,000 plus tuition per annum or more are not considered part of the funded cohort.
- Students who hold fellowships or scholarships with a value over $23,000 are not considered part of the funded cohort.
- Licensed MDs who are involved in a clinical training program or clinical duties are not considered part of the funded cohort.
- The minimum stipend for all new and continuing full-time graduate students, who are part of the IHPME funded cohort, is $15,000 plus tuition per annum, effective September 1, 2009.

- Students in the funded cohort who receive an external award (or multiple awards) valued at less than $15,000/annum are provided with “top up” funds to meet the minimum guaranteed stipend.
- Students in the funded cohort who receive an external, competitively reviewed award (or multiple awards) valued at $15,000 to $23,000/annum are provided with “top up” funds to meet the minimum guaranteed stipend and awarded a bonus of $3,000 per year.
- Students in the funded cohort who receive an external, competitively reviewed award (or multiple awards) valued at $24,000 to $29,000/annum are not eligible for the minimum stipend, but are awarded a bonus of $3,000 per year.
- Students in the funded cohort who receive an external, competitively reviewed award (or multiple awards) valued at or over $30,000/annum are not eligible for the minimum stipend or bonus.
- Full funding is guaranteed for the first year of study for full-time MSc students.
- Full funding will be guaranteed for the first 4 years for full-time PhD students. For full-time MSc/PhD transfer program students, full funding is guaranteed for 1 year of Master’s study and 3 years of PhD study.

In addition to this guaranteed funding package (recognizing that $15,000 for living expenses in Toronto is not overly generous), there are often opportunities for students to acquire additional funds through research and teaching assistantships.

Quality Indicators

Student Registration Data

Table 3.9.ii provides information on applications, offers and registrations to IHPME’s PhD program during the period under review. Table 3.9.iii provides information on the offer rate and Table 3.9.iv provides information on the acceptance rate. Comparative information from the Dalla Lana School of Public Health (DLSPH) and the University of Toronto is provided in Tables 3.9.iii and 3.9.vi.

In recent years, the offer rate to the PhD program has been about 25%. This is in line with the DLSPH and the University of Toronto. The acceptance rate is about 70%, again in line with the DLSPH and slightly higher than the University of Toronto rate. The University of Toronto is often the first choice for applicants and anecdotal information suggests that primary reason that students do not accept our offer is because of changing personal situations.

Table 3.9.ii Doctoral degree - Health Policy Management and Evaluation (HPME)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Applications	48	47	42	51	45	44	72	46
Offers	22	12	18	14	13	15	23	12
New Registrants	13	7	11	10	10	12	19	8

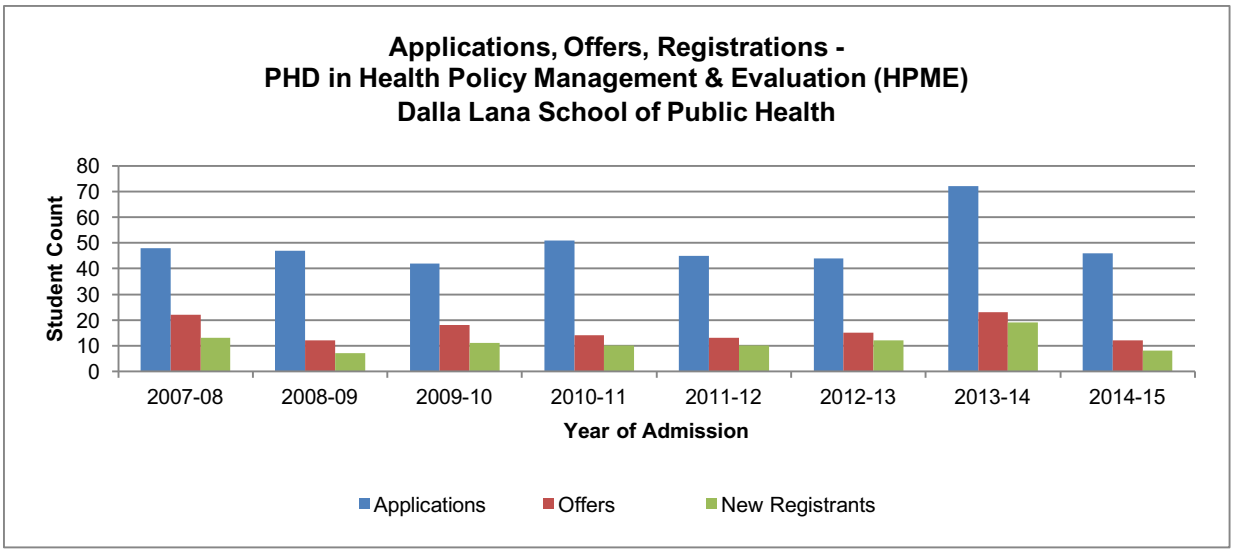


Table 3.9.iii Offer Rate - Doctoral Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HPME	45.8%	25.5%	42.9%	27.5%	28.9%	34.1%	31.9%	26.1%
Dalla Lana School of Public Health	41.5%	33.3%	38.2%	29.3%	17.2%	23.7%	26.2%	26.9%
Division IV Life Sciences	41.7%	40.4%	44.0%	36.9%	36.8%	35.9%	36.9%	35.6%
U of T	30.4%	30.4%	28.3%	25.7%	22.7%	23.6%	25.1%	25.1%

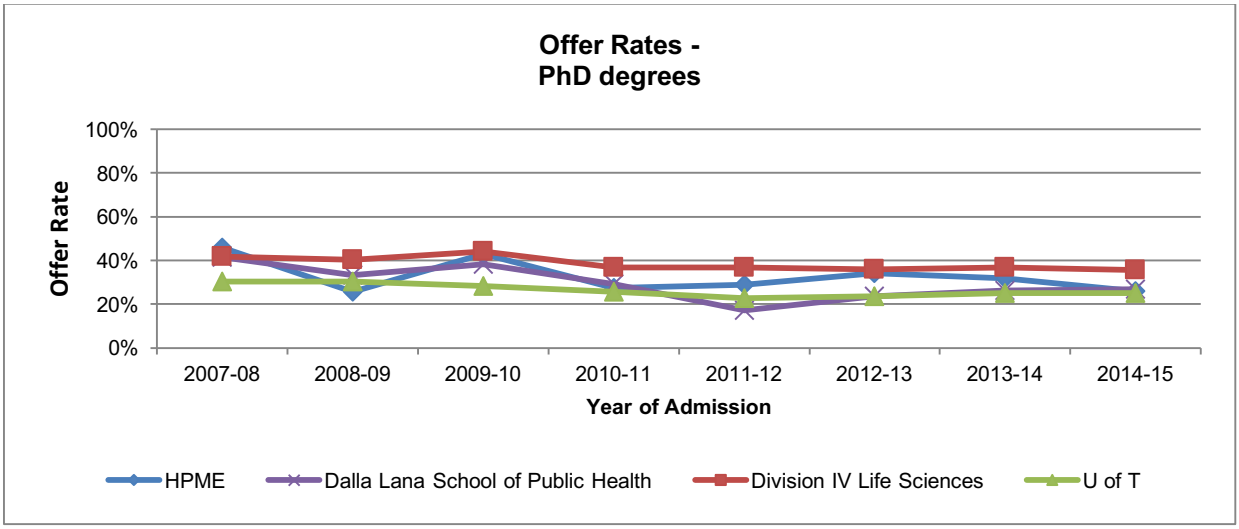
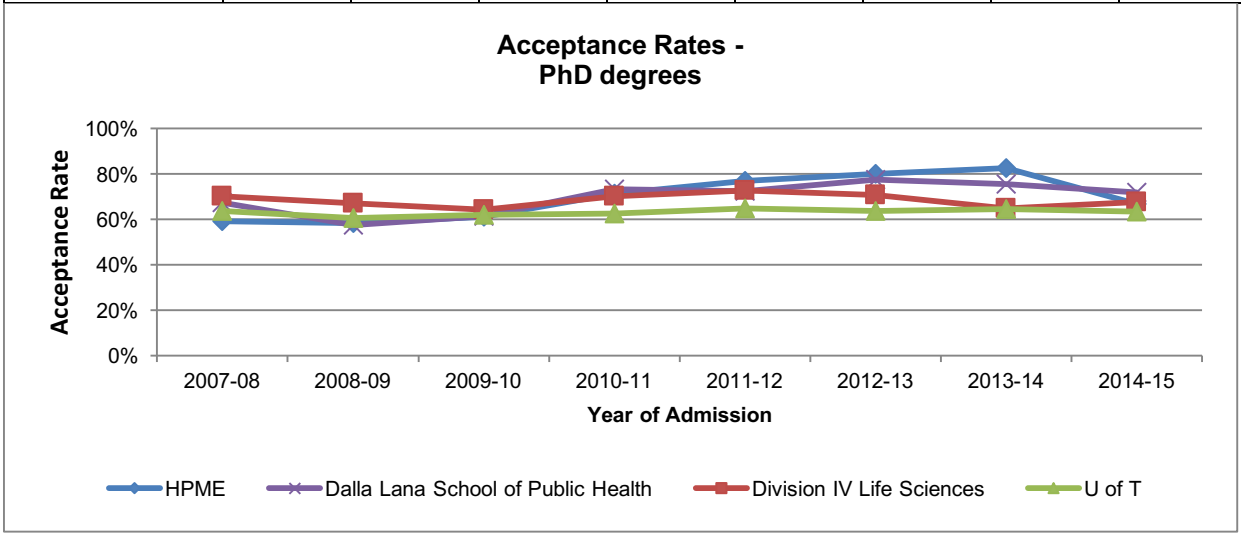


Table 3.9.iv Acceptance Rate - Doctoral Programs

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HPME	59.1%	58.3%	61.1%	71.4%	76.9%	80.0%	82.6%	66.7%
Dalla Lana School of Public Health	67.3%	57.4%	61.5%	73.2%	72.4%	77.4%	75.5%	71.7%
Division IV Life Sciences	70.3%	67.0%	64.4%	70.2%	72.8%	70.7%	64.7%	67.7%
U of T	63.6%	60.7%	62.1%	62.5%	64.8%	63.6%	64.6%	63.4%



As indicated in Table 3.9.v, there are currently approximately 100 students enrolled in our full time, and approximately 13 students in our flex time, PhD program. The switch in lead faculty in 2014 reflects the transfer from Medicine to the DLSPH. The number of doctoral students has increased steadily since 2008, reflecting a conscious decision by IHPME faculty to focus on doctoral training.

There are currently approximately 20 PhD graduates per year, as indicated in Table 3.9.vi. The mean time to graduation is about 6 years, which is in line with the DLSPH and University of Toronto rates. While this rate includes a small number of students who have taken an extremely long time to complete (10+ years), the time to completion is still higher than ideal. Students in the PhD program are funded for four years and they should be completing within that time frame. A project to review time to completion, with a goal of bringing it closer to the funding levels provided, is planned.

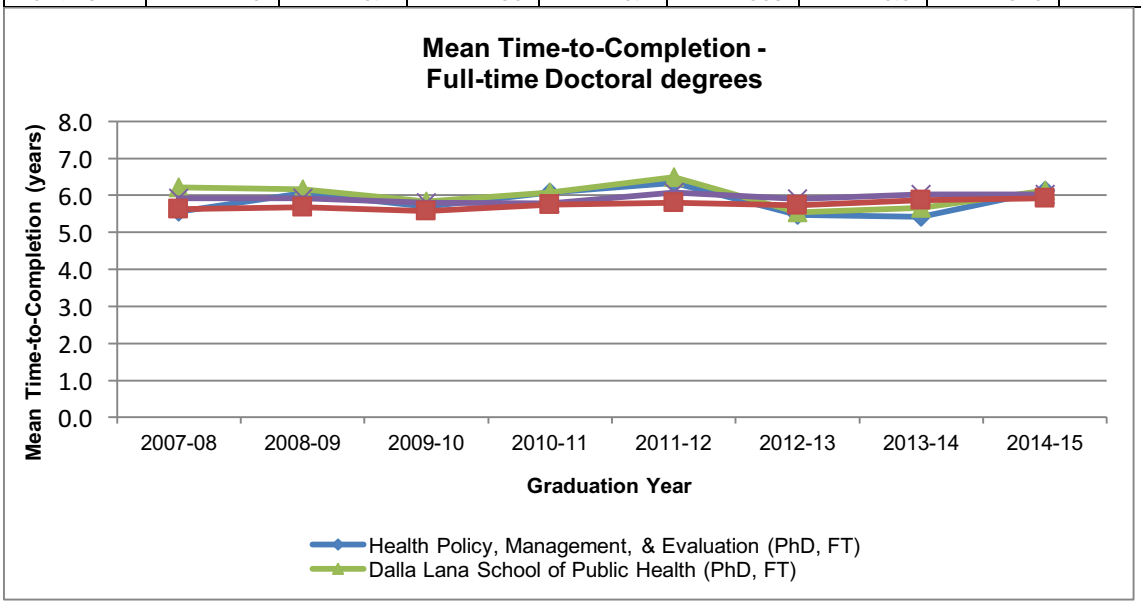
Table 3.9.v Enrolment Health, Policy Management and Evaluation

Faculty	Degree	FT/PT	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015
Medicine	PHD	FT	63	68	77	85	84	98	0	0
		PT	9	6	10	8	16	15	0	0
DLSPH	PHD	FT	0	0	0	0	0	0	97	103
		PT	0	0	0	0	0	0	14	13
Total	PHD	FT	63	68	77	85	84	98	97	103
		PT	9	6	10	8	16	15	14	13

Note: Programs were transferred from the Faculty of Medicine to The Dalla Lana School of Public Health in stages. The table above shows enrolment by program and by Faculty, and shows the change of ownership from Faculty of Medicine to Dalla Lana by the light blue shading.

Table 3.9.vi Health Policy, Management & Evaluation - Doctoral degree

	Health Policy, Management, & Evaluation (PhD, FT)		Dalla Lana School of Public Health (PhD, FT)		Life Sciences (PhD, FT)		All U of T (PhD, FT)	
Graduation Year	Number of Graduates	Mean TTC (years)	Number of Graduates	Mean TTC years	Number of Graduates	Mean TTC (years)	Number of Graduates	Mean TTC (years)
2007-08	12	5.6	24	6.2	243	5.9	711	5.6
2008-09	10	6.1	14	6.2	240	5.9	697	5.7
2009-10	11	5.7	28	5.8	255	5.8	738	5.6
2010-11	12	6.1	19	6.1	259	5.8	789	5.7
2011-12	11	6.3	26	6.5	300	6.1	806	5.8
2012-13	15	5.5	30	5.5	301	5.9	868	5.7
2013-14	15	5.4	29	5.7	319	6.0	855	5.9
2014-15	19	6.1	36	6.1	308	6.0	910	5.9



In terms of **academic achievement**, very few PhD students are asked to leave their programs of study. In the last 5 years, only one student has been counselled to withdraw; however, a number of students have been in the program for a number of years, do not appear to be actively working on their dissertations, and may well have abandoned their degree. This is usually because they have found employment and their priorities have changed, but they are unwilling to formally withdraw from their doctoral program. New SGS policies which require students to pay fees from the date of registration to the date of graduation (that is, "lapses" other than approved leaves of absence are no longer allowed) should address this issue.

IHPME doctoral students are very successful in federal and provincial competitions; as described above, a majority of students in the funded cohort are receiving support through some form of fellowship or scholarship. IHPME also has four current students holding Vanier fellowships; for a relatively small graduate unit, this is an amazing accomplishment.

In terms of **graduate student supervision**, IHPME is rich in talent in terms of potential PhD supervisors. All faculty, including cross appointed, status and some adjunct, who have full SGS status, are eligible to supervise PhD students. Doctoral supervisors must have graduated at least one MSc student, and have been a committee member on at least two successful doctoral committees, prior to being eligible to be a supervisor, to ensure they have the expertise to be a successful mentor. To support supervisors, there is a yearly workshop which provides information on a range of topics including the student-supervisor agreement form, ethics review, publishing guidelines as well as procedural issues such as expected time to completion. All this information is also captured in "Tip Sheets" which are available to all faculty on IHPME's website.

In terms of **in course reports on teaching**, all instructors/courses are evaluated by class participants at the end of each term. The course evaluation forms are standardized across all courses and each instructor receives student feedback. Course evaluations are seen as part of a faculty member's personnel file and can be reviewed only by the Director and the relevant Program Director. One component of the Director's role is to work with faculty members who are not performing to expected standards. The University of Toronto offers a range of teaching resources that faculty members can be referred to; in extreme situations, particularly with adjunct or status faculty, the faculty member will be replaced. Overall, we receive very few complaints about our teaching faculty.

Student Reviews

The Canadian Graduate and Professional Student Survey collects information on a range of topics including overall satisfaction, quality of interaction and coursework. Table 3.9.vii provides the relevant information related to program quality. In terms of dimensions of their program, 88% of respondents rated the intellectual quality of the faculty as excellent or very good; 71% rated the intellectual quality of their fellow students as excellent or very good and 69% rated the overall quality of graduate level teaching by faculty as excellent or very good. The only item that had more than 10% of poor ratings was advice on the availability of financial support. This is clearly an item that needs to be further explored; while information

on IHPME's funding policy is available on the website, and sessions on how to apply for federal funding are offered, clearly additional activity is needed in this area.

Table 3.9.vii Satisfaction with Program and Quality of Instruction

	N		Excellent %		Very good %		Good %		Fair %		Poor %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
The intellectual quality of the faculty	42	2,653	59.5	52.2	28.6	35.4	11.9	9.7	0.0	2.3	0.0	0.5
The intellectual quality of my fellow students	42	2,641	31.0	30.2	40.5	44.7	26.2	18.4	2.4	5.9	0.0	0.9
The relationship between faculty and graduate students	42	2,647	19.0	17.9	38.1	35.5	38.1	28.6	4.8	12.8	0.0	5.1
Overall quality of graduate level teaching by faculty	42	2,646	28.6	17.1	40.5	38.1	23.8	28.9	4.8	12.0	2.4	3.9
Advice on the availability of financial support	42	2,633	0.0	9.5	26.2	23.4	28.6	31.4	23.8	22.7	21.4	13.0
Quality of academic advising and guidance	42	2,640	26.2	18.2	16.7	29.0	33.3	27.9	16.7	17.4	7.1	7.5
Helpfulness of staff members in my program	42	2,644	14.3	30.0	33.3	33.2	21.4	22.3	21.4	10.6	9.5	3.9

Table 3.9.viii provides information on a range of course related dimensions. Similar to the overall satisfaction ratings, 73% of respondents rated the overall quality of instruction in their courses as excellent or very good. While less than 10% of respondents rated any of the dimensions as poor, there were areas that indicated a number of fair responses. Opportunities to take course work outside their own department was rated as fair by 22%, opportunities to engage in interdisciplinary work was rated as fair by 20% and the availability of area courses needed to complete a program was rated as fair by 24% of respondents. The issues surrounding the availability of area courses has been addressed somewhat by the Institute by instituting yearly meetings with the student, the student's supervisor and the program director where course selections are discussed and can be used for planning purposes. The need to build in interdisciplinary work, and to coordinate extra-departmental course offerings, are activities that IHPME needs to investigate. One item, amount of course work, was rated as very good or excellent by 53% of respondents; IHPME has a very heavy course work component for a doctoral program (10 half courses) and this feedback will be incorporated into a review of the program's requirements.

Table 3.9.viii Satisfaction with Coursework

	N		Excellent %		Very good %		Good %		Fair %		Poor %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
Relationship of program content to my research / professional goals	42	2,644	33.3	15.5	23.8	32.4	23.8	29.4	14.3	16.7	4.8	5.9
Opportunities for student collaboration or teamwork	40	2,635	12.5	13.9	37.5	26.4	30.0	28.8	12.5	19.6	7.5	11.3
Opportunities to take coursework outside my own department	40	2,635	22.5	19.7	27.5	30.0	25.0	28.0	17.5	15.5	7.5	6.8
Opportunities to engage in interdisciplinary work	39	2,619	20.5	17.6	28.2	26.2	28.2	28.9	15.4	18.3	7.7	9.0
Availability of area courses I need to complete my program	42	2,633	16.7	9.5	40.5	23.4	26.2	31.4	14.3	22.7	2.4	13.0
Amount of coursework	42	2,650	4.8	10.3	28.6	31.1	35.7	41.4	23.8	13.8	7.1	3.4
Quality of instruction in my courses	41	2,648	17.1	15.7	56.1	38.2	22.0	30.9	2.4	12.2	2.4	3.0

Table 3.9.ix provides information about the research components of IHPME's doctoral program. Perhaps not surprising given the nature of a doctoral degree, a large majority of respondents reported that they were conducting independent research, that they had received faculty guidance in formulating a research topic and that they had received training in research methods prior to starting their own research. In terms of involvement in research related activities, about 50% reported attending scholarly meetings, delivering paper or posters and co-authoring with program faculty. Over 50% reported that they had published as a sole or first author in a refereed journal as a graduate student.

Table 3.9.ix Satisfaction with Research Experience

Participation in the following areas:	N		Yes %		No %		N/A %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT
Conducting independent research since starting your graduate program	40	2,588	90.0	95.2	2.5	2.3	7.5	2.5
Training in research methods before beginning your own research	41	2,588	97.6	93.1	0.0	3.1	2.4	3.7
Faculty guidance in formulating a research topic	41	2,589	97.6	97.5	0.0	1.1	2.4	1.4
Research collaboration with one or more faculty members	41	2,595	95.1	83.2	2.4	8.9	2.4	7.9
Collaboration with faculty in writing grant proposals	40	2,593	72.5	62.3	22.5	22.6	5.0	15.1

Participation in the following areas:	N		Participated %		Did not participate %		Does not occur in my department %	
Respondents were asked if this activity occurs in their dept. If so, they were asked if they participated.	HPME	UT	HPME	UT	HPME	UT	HPME	UT
Attended national scholarly meetings	41	2,509	51.2	51.4	17.1	17.4	31.7	31.2
Delivered papers or presented a poster at national scholarly meetings*	39	2,384	59.0	63.0	15.4	15.9	25.6	21.1
Co-authored in refereed journals with your program faculty*	40	2,376	47.5	37.6	12.5	16.6	40.0	45.8
Published as sole or first author in a refereed journal*	39	2,361	53.8	36.5	12.8	18.8	33.3	44.6

*Long Stream Only (Respondents in a mostly research-based program, who already have a research director/advisor.

Table 3.9.x provides information about respondents' experiences with their dissertation advisor. The results show a significant degree of satisfaction with their supervisory experience. Well over two-thirds of respondents agreed or strongly agreed that their dissertation advisor served as their advocate when necessary (82.1%), gave constructive feedback on their work (87.2) and returned their work promptly (89.4%). Respondents also reported that their supervisors were very helpful in selecting a dissertation topic (83.7%), writing their dissertation proposal (82.9%) and writing their dissertation (86.7%). Overall, 76.9% agreed or strongly agreed that their dissertation advisor had performed their role well.

Table 3.9.x Satisfaction with Dissertation Advisor

My dissertation advisor:	N		Strongly agree %		Agree %		Disagree %		Strongly disagree %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
Was knowledgeable about formal degree requirements	39	2,389	30.8	43.0	56.4	45.5	2.6	9.5	10.3	2.0
Served as my advocate when necessary	39	2,369	46.2	52.5	35.9	38.9	12.8	6.6	5.1	2.0
Gave me constructive feedback on my work	39	2,381	51.3	54.3	35.9	36.7	5.1	7.0	7.7	1.9
Returned my work promptly	38	2,379	36.8	47.9	52.6	37.2	2.6	10.8	7.9	4.2
Promoted my professional development	38	2,367	55.3	46.7	18.4	37.4	21.1	12.3	5.3	3.5
Overall, performed the role well	39	2,370	48.7	51.8	28.2	36.4	15.4	9.1	7.7	2.8

	N		Strongly agree %		Agree %		Disagree %		Strongly disagree %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
Was very helpful to me in preparing for written qualifying exams	35	2,231	34.3	36.8	40.0	44.1	17.1	15.1	8.6	3.9
Was very helpful to me in preparing for the oral qualifying exam	35	2,199	40.0	37.7	42.9	43.2	8.6	15.4	8.6	3.6
Was very helpful to me in selecting a dissertation topic	37	2,318	45.9	44.4	37.8	40.5	10.8	12.9	5.4	2.2
Was very helpful to me in writing a dissertation prospectus or proposal	35	2,249	54.3	43.2	28.6	41.0	11.4	13.0	5.7	2.8
Was very helpful to me in writing the dissertation	30	2,111	36.7	40.0	50.0	43.5	6.7	13.4	6.7	3.1

In addition to satisfaction questions, the Canadian Graduate and Professional Student Survey asked about "major obstacles" to academic progress. Table 3.9.xi provides the information for IHPME respondents. The most significant obstacle reported was work and financial commitments, mentioned by 43.6% of respondents. Many doctoral students in IHPME have families and mortgages and, while there is a student funding policy in place, the support provided is often not sufficient to cover all financial needs. Completing a PhD is a major undertaking, with significant implications for all areas of a student's life.

Table 3.9.xi Major obstacles to your academic progress.

	N	%
	HPME	HPME
Work/financial commitments	39	43.6
Family obligations	39	28.2
Availability of faculty	38	18.4
Course scheduling	39	12.8
Program structure or requirements	38	7.9
Immigration law/regulations	39	0.0

The final set of questions asked respondents about their overall experience at the University of Toronto. Table 3.9.xii reports on whether the respondent would recommend the program and/or University and Table 3.9.xiii reports on the overall quality of school experiences. Close to 80% of respondents to the survey reported that they would recommend the same University (81.4%), the same field (79.1%) and the same program in the same University (83.7%). For the overall rating of experiences, no item was rated as fair or poor by more than 10%. The academic experience was rated as excellent or very good by 74.1% and the graduate program by 64.1%. The item with the lowest percent of excellent and very good responses was "student life experience" at 31.6%. This overall ranking was also seen with the MSc respondents and is a dimension of our students' experiences that needs more attention.

Table 3.9.xii General Satisfaction with Graduate Experience

	N		Definitely %		Probably %		Maybe %		Probably not %		Definitely not %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
If you were to start your graduate / professional career again, would you select the same university?	43	2,680	37.2	37.0	44.2	40.0	16.3	15.3	2.3	5.7	0.0	2.0
If you were to start your graduate / professional career again, would you select the same field of study?	43	2,670	46.5	47.2	32.6	30.1	16.3	14.3	4.7	6.6	0.0	1.8
Would you recommend this university to someone considering your program?	43	2,672	53.5	45.3	30.2	30.7	9.3	15.9	7.0	5.7	0.0	2.4

Would you recommend this university to someone in another field?	43	2,673	30.2	28.9	32.6	36.7	37.2	30.0	0.0	3.6	0.0	0.8

Table 3.9.xiii Overall Rating of the quality of experiences:

	N		Excellent %		Very good %		Good %		Fair %		Poor %	
	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT	HPME	UT
Your academic experience at this university?	39	2,484	33.3	31.4	41.0	40.5	17.9	18.6	7.7	7.2	0.0	2.3
Your student life experience at this university?	38	2,476	10.5	13.1	21.1	31.9	44.7	31.0	13.2	17.3	10.5	6.7
Your graduate program at this university?	39	2,482	25.6	25.1	38.5	37.2	25.6	23.7	5.1	10.0	5.1	4.0
Your overall experience at this university?	39	2,483	23.1	21.6	35.9	39.0	33.3	26.4	7.7	10.1	0.0	2.9

Quality Enhancement

IHPME is committed to ongoing quality improvement with all its academic programs. With respect to the PhD, each concentration has a dedicated Program Director who is responsible for the success of their concentration. The CEHCR concentration has an advisory committee that is tasked with reviewing current program structure and course offerings and suggesting revisions as needed. Within the HSR concentration, each primary area of study (PAS) has a PAS Lead who is responsible for monitoring the progress of students within their area as well as reviewing the structure and delivery of courses.

Recent examples of program improvements related to the PhD include:

a. Currently IIHPME offers courses in introductory, intermediate and advanced statistics. Students have requested additional advanced statistics courses which are currently being planned.
b. Expertise in meta-analysis has been identified as increasingly relevant for IHPME students. While we currently offer 2 courses in meta-analysis, an advanced course is being organized.
c. Skills in Knowledge Translation are important for all IHPME students. A current project involves reviewing our course offerings in this area with the possibility of introducing new options.

More generally, to date, IHPME has focused almost exclusively on developing the academic, content expertise of its students. A recent CIHR task force has suggested that doctoral students would benefit from additional training in professional skills. Given that many PhD graduates accept employment in settings that are not solely research focused, the opportunity to

complete practicums in applied settings and to develop professional skills would enhance doctoral programs. IHPME is committed to exploring how the development of professional skills can be incorporated into its programs.

All programs in IHPME report to a Curriculum Committee. This committee reviews all grades, all requests for new courses, and any significant program changes. This committee also is the forum for reviewing/implementing university or Faculty wide initiatives (such as grading practices or course drop dates). Curriculum Committee includes representatives from all programs, students, faculty and staff. This committee plays a significant role in IHPME in maintaining program quality; it is a forum that allows program directors from across the Institute to discuss common issues and provide innovative solutions.

In terms of challenges and opportunities facing the PhD program, there have been a number that have been identified:

- Both concentrations, but particularly the CEHCR concentration, are heavily reliant on adjunct and status faculty to teach required courses. This is an enormous advantage in that these individuals are the very best practitioners in the field. They bring richness to the educational experience that cannot be overestimated. The difficulty is that these are unfunded positions and faculty often have conflicting obligations.
- Students in doctoral programs do not proceed through their program with a cohort. A student's course of study may mean that they have a very limited peer network and may feel isolated in their studies. IHPME has attempted to address this issue by re-organizing its work space. The Institute is also committed to encouraging faculty to include their doctoral trainees into their research projects, but the issue of addressing isolation remains a challenge.

The range of employment options for doctoral graduates is increasingly diverse. While our programs are very strong academically (**Appendix 38** provides a listing of publications of our doctoral graduates over the last five years), IHPME is exploring adding opportunities that would address these changes. Offering opportunities such as practicums, or partnering with agencies through funding mechanisms such as MITACS, are currently being investigated.

4 Research

Scope, Quality and Relevance of Faculty Research Activities

The DLSPH community is committed to research excellence through sustained success in securing external funding for research in a shifting funding landscape, graduation of MScs and PhDs, and more than a dozen endowed or independently funded chairs. DLSPH researchers are key contributors to the University of Toronto's top ranking in Canada – and very high rankings globally – for the total number of peer-reviewed publications and scholarly citations in the areas of health-care sciences and services, health policy and services, and public, environmental and occupational health.

DLSPH researchers are addressing the health impact of a wide range of critical issues such as social inequities on chronic disease. For example, Dr. Onye Nnorom, Associate Program Director of the Public Health and Preventive Medicine Residency Program, created Ko-Pamoja, a first-of-its-kind peer education project to improve breast and cervical cancer awareness and screening for black women living in Toronto's Malvern community. Provincially, research on high cost users of health-care by Professor Walter Wodchis has been a catalyst for whole-system change in the delivery of health services for patients with complex care needs. Globally, DLSPH researchers are responding to infectious diseases, including the Ebola and Zika viruses. Professors David Fisman, Ross Upshur and Robert Fowler, among others, have contributed to disease surveillance and modelling, on-the-ground support, and assisting international agencies, such as the World Health Organization, on policy guidelines and strategy development. Many other highly respected scholars across the School are generating further opportunities to continue and increase collaborations and contributions in interdisciplinary research. See **Appendix 39** for a full list of Faculty Research Interests grouped by theme.

Research administration capacity building

In late 2014 the School appointed an inaugural Associate Dean, Research (ADR) to lead integration, coordination and capacity-building of research support services. The ADR commits 0.5 FTE to guide and lead on the proposed structure and implementation of all research-related administrative processes. In 2015-16 the ADR facilitated and coordinated with the Dean's Office and multiple units across the School and university on the development of numerous research-related initiatives, including new seed grant mechanisms in healthy cities and communities, global health and indigenous health, large scale applications to CFREF, CFI and CIHR, and managed and streamlined ethics research funding procedures and approvals across DLSPH units.

The ADR and the Director of the Research Services Unit have together developed a detailed Concept Note for a planned Office of Research Development & Support Services (ORDSS) at the DLSPH. ORDSS will provide a core suite of support services to enhance faculty and student productivity across the research project life cycle and in all topical and methodological areas. ORDSS aims to be a one-stop shop for a specific and clearly

communicated family of pre-award, post-award and research activity tracking, reporting and strategic planning services available to all researchers formally affiliated with DLSPH[21].

Scholarly Productivity: Research publication and funding indicators

The DLSPH continues a successful research record with increasing opportunities for faculty, students and community partners to engage in internationally renowned research. Table 4.1 shows that in 2015-2016, the average number of peer reviewed publications by paid faculty members was 6.5, with a total of 448 papers published. Paid faculty had 266 peer reviewed presentations, 175 invited academic presentations, 118 invited non-academic presentations, 9 books and 35 book chapters. In addition, there is an average 3.3 peer reviewed publications submitted or in press, 226 in total.

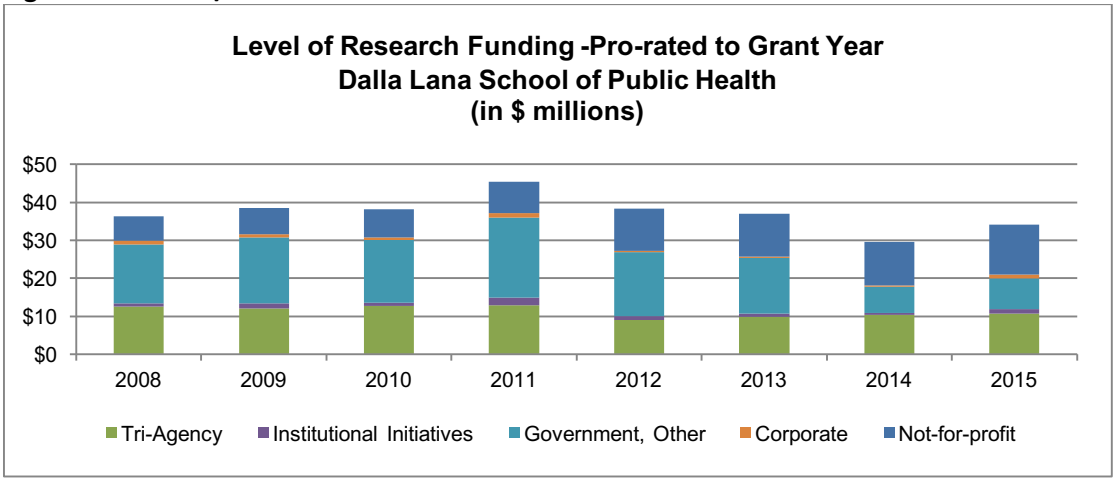
Table 4.1: Publications by paid faculty, 2015-2016, PHS and IHPME

	N	Mean	Median	Minimum	Maximum	Total
Total # of Peer Reviewed Articles Published or In Press	69	6.5	5	0	22	448
Total # of Peer Reviewed Articles Submitted	69	3.3	2	0	24	226
Total # of Peer Reviewed Presentations	69	3.9	3	0	22	266
Total # of Invited Presentations - Academic	69	2.5	2	0	16	175
Total # of Invited Presentations - Non-Academic	67	1.8	0	0	15	118
Total # of Books Published	69	0.1	0	0	2	9
Total # of Book Chapters Published	68	0.5	0	0	7	35
Total # of Non-Peer Reviewed Presentations	69	1.3	0	0	17	88

Figure 4.2 shows the annual funds received in each fiscal year for single and multi-year grants and contracts. In the 2014-2015 fiscal year, total annual research funding was **$34,133,000**, a little below the range in most previous years but an increase on the previous fiscal year despite a tightening funding climate. These funds supported, in part, 56 casual and 33 appointed Research Staff, and 15 Post-Doctoral Fellows, 235 PhD Program Students, 7 Canada Research Chairs and a Chair in Applied Public Health Research (as well as many Masters level and even undergraduate students).

[21] Core, cross-appointed and status-only faculty, registered students and post-doctoral fellows.

Figure 4.2: DLSPH/IHPME Annual Research Funds from 2007-2008 to 2014-2015 Grant Year



A breakdown of the total value of awards by funding source in Table 4.3 shows that most of the reduction in the previous 3 years (i.e. since 2012) was attributable to reduced research funds from government sources. This was largely, though not completely, offset by similar increases in research funding from other sources, particularly the not-for-profit sector, which exceeded total Tri-Council funding in each of the years 2012 to 2015. Table 4.4 shows a breakdown of number of awards by funding source from 2008 to 2015. A high proportion of budgetary faculty held a Canada Research Chair for some or all of the last 5 years. Table 4.14 shows the Canada Research Chairs appointed at DLSPH in Grant Year 2014/2015. A selection of DLSPH Faculty Awards & Honours during the period 2007 to 2015 is attached in **Appendix 40**.

Table 4.3: Annual Research Funds from 2007-2008 to 2014-2015 Grant Year (April 1, 2014 to March 31, 2015)

Funding Source	$ millions							
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Tri-Council	$12.502	$12.093	$12.627	$12.808	$8.990	$9.793	$10.270	$10.760
Institutional Initiatives	$0.853	$1.302	$0.944	$2.100	$1.010	$0.842	$0.530	$1.155
Government, Other	$15.607	$17.390	$16.433	$21.020	$16.908	$14.738	$6.915	$8.083
Corporate	$0.916	$0.890	$0.819	$1.288	$0.391	$0.252	$0.387	$0.988
Not-for-profit	$6.375	$6.763	$7.395	$8.290	$10.998	$11.458	$11.483	$13.146
Total	**$36.253**	**$38.439**	**$38.218**	**$45.507**	**$38.297**	**$37.082**	**$29.584**	**$34.133**

Note: The annual research funding decrease between the years 2012/2013 to 2013/2014 was largely attributable to the end of funding of two large, provincially funded operating grants. Additionally, one large operating grant changed primary affiliations to another U of T Faculty.

Table 4.4: Annual Active Award Count – Pro-rated to Grant Year (April to March): Dalla Lana School of Public Health

Funding Source	Number of Active Awards							
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Tri-Council	135	142	152	162	154	154	143	140
Institutional Initiatives	12	16	15	21	17	12	9	12
Government, Other	108	119	123	126	107	75	54	44
Corporate	12	10	12	13	11	9	8	9
Not-for-profit	133	138	158	165	198	194	189	179
Total	**400**	**425**	**460**	**487**	**487**	**444**	**403**	**384**

Grant and Contract Submissions

In 2014-15, a total of 384 grants and contracts were funded through DLSPH; of which 157 were administered at DLSPH and 257 at affiliated institutions. The funding breakdown was as follows:

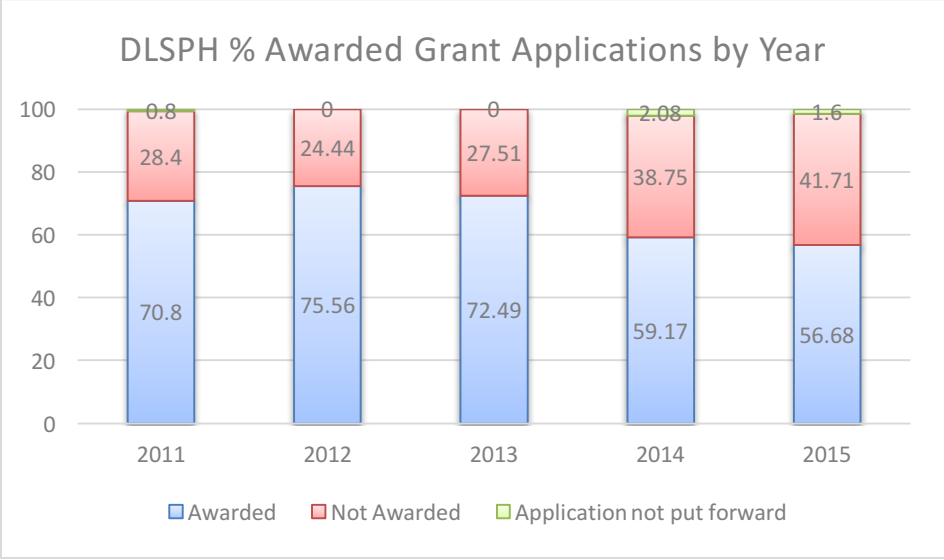
- 36.5% of the research projects were funded by Tri-Council (140 grants);
- 46.6% were not-for-profit funding (179);
- 11.5% were other government grants (44);
- 3.1% were other Institutional Initiatives (12); and
- 2.3% were corporate funds (9).

Table 4.5 shows the number of awards, and proportions among funding applications submitted, over the past 5 years. Overall, the DLSPH achieved 68% success rate (a yield of 761 out of 1131 applications submitted) during the grant years 2011-2015 inclusive. Figure 4.6 shows that the yield rate decreased in the last 3 years of this period. In 2014-2015, 187 grant applications/proposals were submitted for funding. One hundred and six were awarded, 78 were not awarded and 3 were not forwarded to the agency. Currently the overall success rate is 56.68%.

Table 4.5: Application Yield by Grant Year

Table of grant year by status				
Grant year	**Status of Application**			
	application not submitted to agency	**awarded**	**not awarded**	**Total**
2011	2	177	71	250
2012	0	170	55	225
2013	0	166	63	229
2014	5	142	93	240
2015	3	106	78	187
Total	10	761	360	1131

Figure 4.6: DLSPH Research Funding Applications Submitted/Awarded by Grant Year



The research active faculty includes a high proportion of 87 core faculty (including 5 budgetary cross), 44 non-budgetary cross appointed faculty, and 663 community and partner-based faculty. Table 4.7 shows that, among these, the absolute number of DLSPH faculty eligible for Tri-Council grants was relatively small in recent years in comparison to other Life Sciences and

all other UT Departments. Figure 4.8 shows that 58% of eligible DLSPH faculty members held a Council Grant as principal investigator in 2013-2014, similar to each of the previous 5 years. Figure 4.9 shows that this proportion is discipline-specific and stable across time; many individual public health researchers as a group target and attract a diversity of research support beyond the Tri-Councils. Figure 4.10 shows the number of active external funding awards for research in grant year 2014-15, and that not-for-profit sources predominate in the portfolio. Figure 4.11 shows that the number of external research awards from not-for-profit sources has exceeded others for the past 5 years.

Table 4.7: DLSPH Faculty Eligibility for Tri-Council Grants

	Eligible							
Department	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Dalla Lana School of Public Health	36	36	35	37	34	35	37	40
All Division IV Life Sciences	414	430	441	439	446	453	469	455
All UT Departments	1,777	1,849	1,903	1,922	1,948	1,959	1,981	1,935

Figure 4.8: Participation in Tri-Council Funding

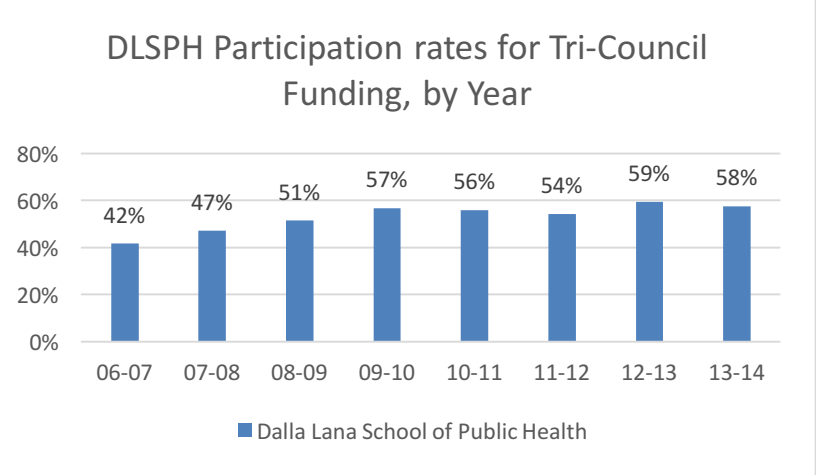


Figure 4.9: Relative participation in Tri-Council Funding

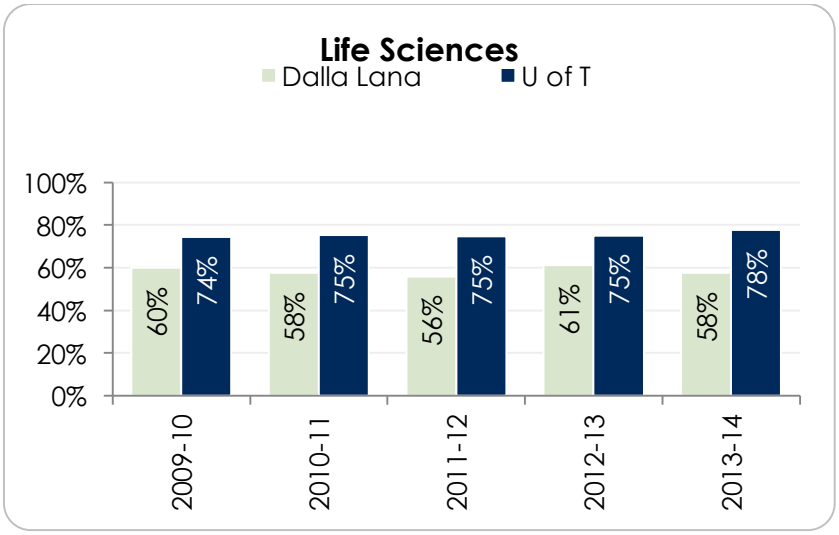


Figure 4.10: External Funding Awards by Funding Source 2014-2015

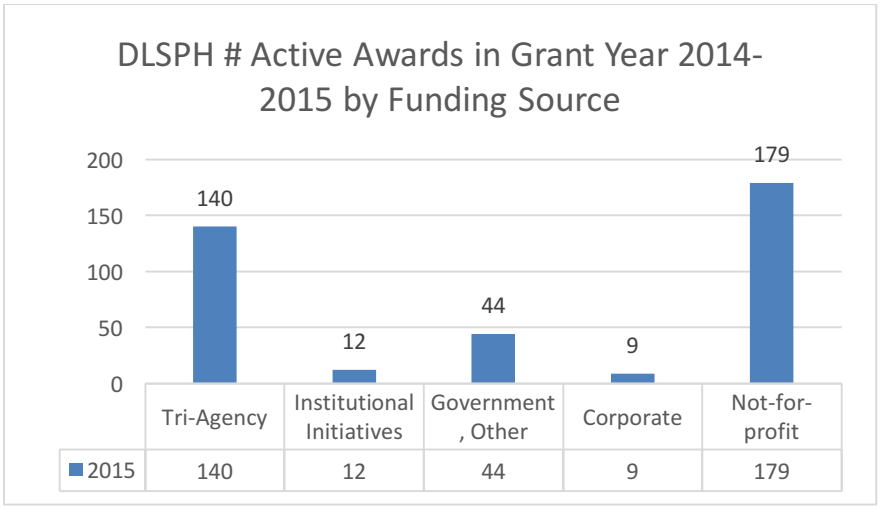
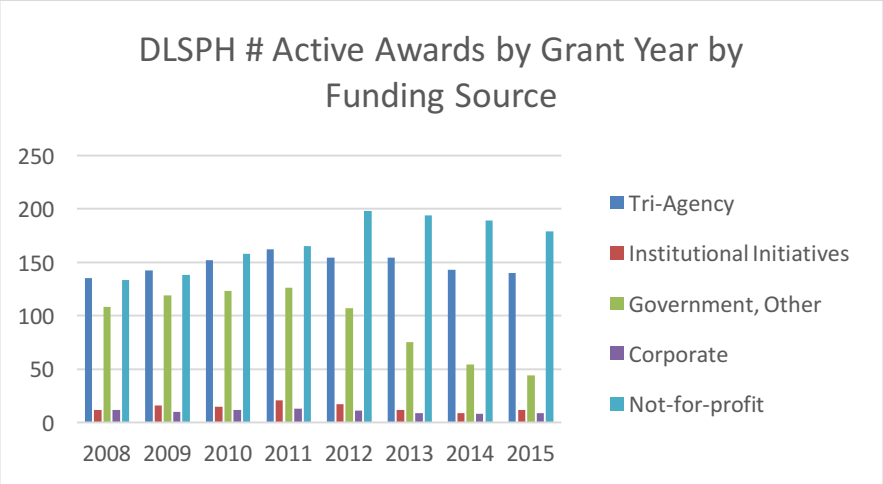


Figure 4.11: External Funding Awards by Funding Source 2008-2015



Figures 4.12 and 4.13 show the total number of grant/contract submissions for the last eight years. The patterns reflect increasing effort in applications to non-profit organizations and the Tri-Council over the past 5 years, and a climate of diminishing opportunities for public health research funding at all levels of government in Canada over the same period. Figure 4.14 provides the names of the DLSPH faculty holding Canada Research Chairs during the period 2010-15.

Figure 4.12: DLSPH Total # of Applications/Year

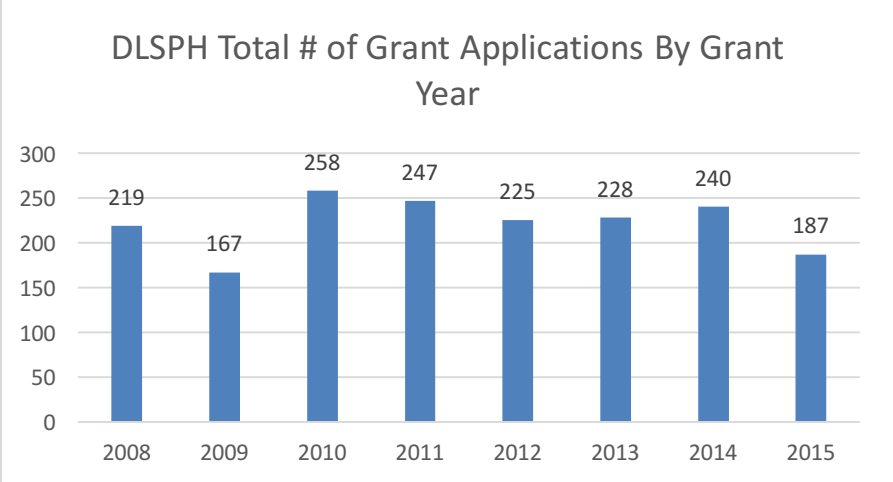


Figure 4.13: DLSPH Total # of Submissions/Year by Funding Source

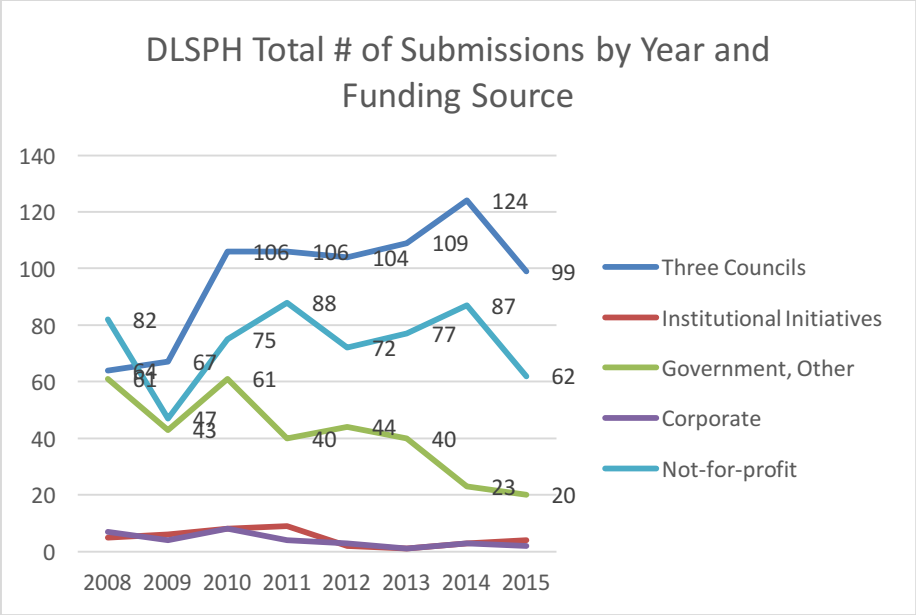


Table 4.14: Canada Research Chairs, primary appointment at DLSPH from 2010-15

FORMAN, LISA	CRC - CIHR	Canada Research Chair in Human Rights and Global Health	CRC-Scholarship-Tier 2	Term started Oct 2014
LOU, WENDY	CRC - CIHR	Canada Research Chair in Statistical Methods for Health Care	CRC-Scholarship-Tier 2	Term ended Feb 2013
GAGNON, FRANCE	CRC - CIHR	Canada Research Chair in Genetic Epidemiology	CRC-Scholarship-Tier 2	Term ends Sept 2017
ROSELLA, LAURA CHRISTINA ANTONIA	CRC - CIHR	Canada Research Chair in Population Health Analytics	CRC-Scholarship-Tier 2	Term started April 2015
SIDDIQI, ARJUMAND	CRC - CIHR	Canada Research Chair in Population Health Equity	CRC-Scholarship-Tier 2	Term started Oct 2015
UPSHUR, ROSS EDWARD	CRC - CIHR	Canada Research Chair in Primary Care Research	CRC-Scholarship-Tier 2	Term ended Sept 2015
JHA, PRABHAT	CRC - CIHR	CRC in Global Health	CRC-Scientist-Tier 1	Term ends March 2021
NAROD, STEVEN	CRC - CIHR	Dr. S. Narod - CRC Scientist - Tier 1	CRC-Scientist-Tier 1	Terms ends Feb 2017 – renewal pending

Comparison to Other Universities

Publication and Citation rankings

Appendix 41 shows the results of publications and citation counts using InCitesTM, Thomson Reuters (2013) covered journals.

Three "Fields of Study" defined in InCitesTM were identified as indicating the main areas of research to DLSPH/IHPME and allow comparison of U of T to other institutions:

- Field of Study: Health Care Sciences & Services
  - 2nd (All Peers) in Publication Rankings (1st U15 Peers)
  - 2nd (All Peers) in Citation Rankings (1st U15 Peers)

- Field of Study: Health Policy & Services
  - 2nd (All Peers) in Publication Rankings (1st U15 Peers)
  - 3rd (All Peers) in Citation Rankings (1st U15 Peers)

- Public Environmental & Occupational Health
  - 4th (All Peers) in Publication Rankings (1st U15 Peers)
  - 6th (All Peers) in Citation Rankings (1st U15 Peers)

Aggregating all publications in these areas by affiliated faculty, U of T as an institution ranked easily within the top ten in Canada in these areas of research. These are excellent ranks reflective of DLSPH's strong research footprint.

As for all other institutions in the database, it is not currently possible to disaggregate the proportional contribution of DLSPH faculty and students to these aggregate indicators for the University of Toronto as a whole. Since comparators are also benchmarked according to the same criteria, with similar effects vis-à-vis capturing more publications than any single school of public health faculty generates alone, these are interpreted as valid indicators for assessment of the relative research productivity of the Dalla Lana School of Public Health. Although undoubtedly publications from other units at U of T contribute to these indicators, e.g. research on health services published by colleagues at the Rotman School, since a large majority of faculty doing work in these areas are appointed within DLSPH, the ranking likely reflects well our "footprint".

5 Organization and Financial Structure

Governance Structure

The **School Council** of the Dalla Lana School of Public Health is the governing structure that brings together teaching staff (with an appointment of 50% or greater), students (doctoral, doctoral-stream masters, masters and professional stream masters), post-graduate trainees, administrative staff, alumni and other academic appointees, and the university. The Council exercises its powers and duties, delegated from the overall university Governing Council, under the provisions of the University of Toronto Act, 1971, as amended. The Constitution of the School Council may only be amended with the approval of the School Council and the appropriate body of the Governing Council of the University of Toronto. The By-Laws and Constitution of the School Council were last amended and approved by the School Council on June 11, 2014 and June 14, 2014, respectively, and approved by the Executive Committee of the Governing Council on June 16, 2014 (see **Appendix 42**).

School Council and its Standing Committees makes decisions about academic policies that can have a major impact on student learning and on student, faculty and staff working experiences. Academic policy sets out the principles for, general directions of, and/or priorities for the teaching and research activities of the Faculty. The School Council also acts in an advisory capacity, tendering advice to the Faculty administration.

School Council's specific responsibilities include approving new courses, new degree programs and new program requirements (the latter two subject to approval by the University's Governing Council). School Council does not have authority over administrative or financial matters, which are the jurisdiction of the Dean, who is the chief executive officer of the Faculty. The Dean reports directly to the Vice-President and Provost. The School Council's Organization Chart shows the full membership and the reporting and communication relationships of the School Council with its Standing Committees. See **Appendix 43** for a detailed layout of this structure/composition.

Each year all committees are responsible to elect and recommend to Council enough members from various constituencies for each standing committee to achieve a good balance and representation. The Council elects biennially, at its final meeting of the year and from among its members, a Chair or Vice-Chair (alternating) for the succeeding two years. Faculty and staff positions on the School Council and Standing Committees are filled each spring for the coming academic year, according to periods of office, while those for student positions take place each year in the early fall. Each constituency appoints (or elects if more nominees than positions) their representatives each year, except for faculty members, who are all members of School Council.

There are normally three regular meetings of the council each academic year. Notice of a meeting including a proposed agenda shall be given to members at least 1 week in advance of the meeting. A schedule of the meetings can be obtained from the Secretary of the

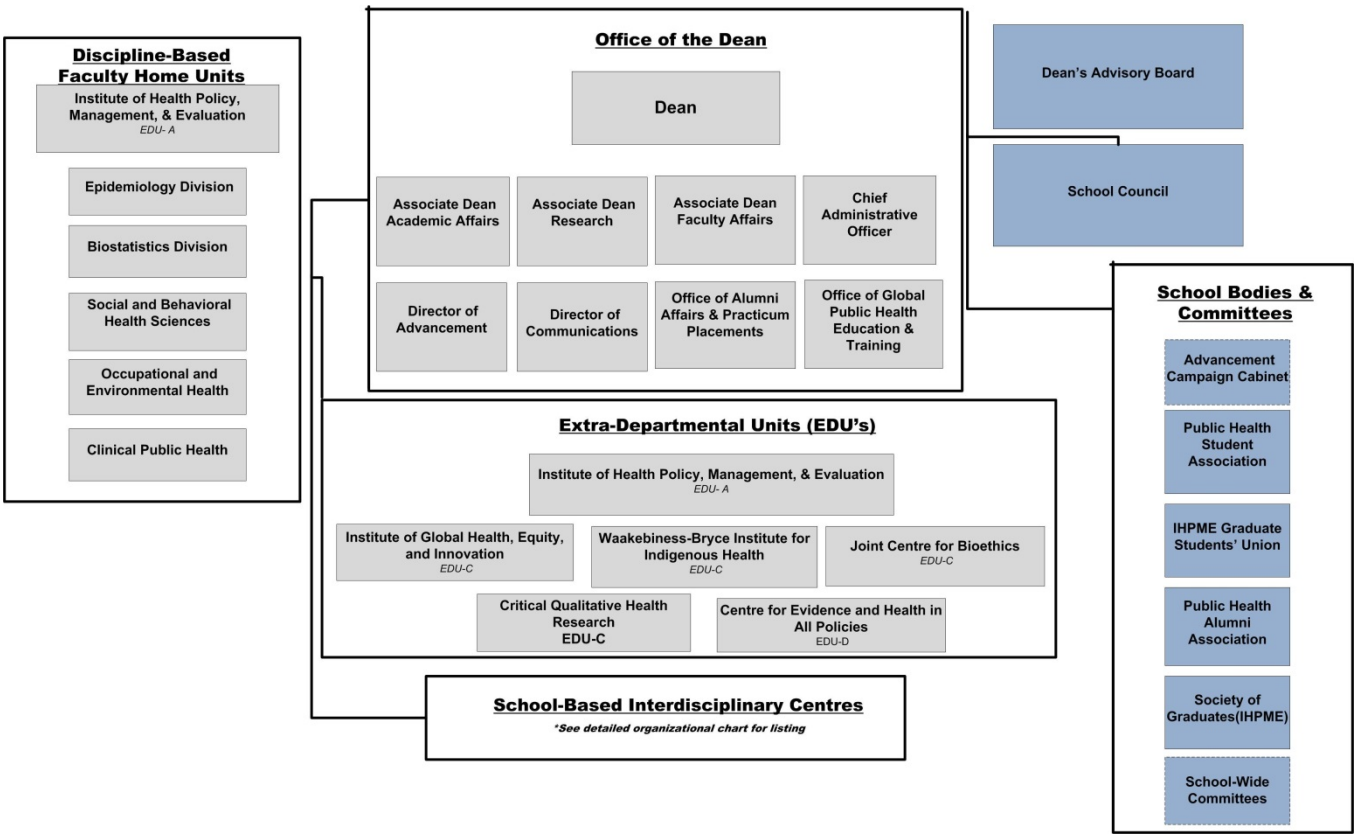
Faculty Council. The records of School Council meetings are maintained by the Secretary of School Council and are publicly available.

Organizational Structure

The Dalla Lana School of Public Health (DLSPH) is a designated as a "single department Faculty" at the University of Toronto. The **Dean** is a full-time academic member of the Faculty and has ultimate responsibility for the overall academic direction of the Faculty and for the allocation and management of its resources, in particular, for authority over the budget, appointments and promotions. The current Dean, Dr. Howard Hu, started his tenure as the Director of DLSPH on July 1, 2012 and subsequently became Dean July 1, 2013 with the transition of the School to Faculty status.

Of special note with regards to organizational structure is the presence within DLSPH of the Institute for Health Policy, Management & Evaluation (IHPME). As described in Section 1, IHPME successfully transitioned into DLSPH in July of 2014. In addition to increasing DLSPH's student enrolments, faculty complement size and budget by roughly a third or more, the transition conferred on the DLSPH a relatively unique configuration. Given that IHPME preserved its status as an EDU-A (i.e. it continues to serve as the primary home for a large group of faculty members and has its own graduate unit), it effectively made DLSPH a multi-departmental Faculty, even though its official status remains as a "single department Faculty". In addition, as an accommodation of the transition, IHPME preserved a semi-independent "budget envelope" that is administered by the IHPME Director, so that DLSPH continues to internally account for IHPME revenue and expenses while partially merging administrations and creating efficiencies.

The current organizational structure for DLSPH is outlined below, in simplified form, with a full expanded version in **Appendix 44**.



The Dean's Office contains the senior school-wide management team for the DLSPH. In addition to the Dean, it includes the **Associate Dean for Academic Affairs**, the **Associate Dean for Faculty Affairs**, the **Associate Dean for Research**, and each of their associated offices. It also contains the **Director of Communications**, the **Director of Advancement**, the **Chief Administrative Officer (CAO)**, and their associated offices. The aforementioned leaders, as well as the **Director and Deputy Director of IHPME** (given IHPME's EDU-A status), comprise the "**Dean's Team**", which meets every 1-2 weeks to discuss school-wide managerial and strategic issues.

Each of the home Academic Units within DLSPH, which includes the PHS Divisions (each led by a **Division Head**) and IHPME, hold regular monthly meetings in which faculty appointment, re-appointments, and similar matters are discussed that relate to maintaining and enhancing Faculty disciplinary strengths in areas fundamental to public health and health systems; the provision of faculty required to teach degree and other training programs based in their units; the progress of Masters and Doctoral students based in their units towards completion of their programs; etc. The other Institutes and Centres within DLSPH (each led by a **Director**) also hold their own regular meetings.

School-wide managerial issues are discussed in the monthly meetings of the **DLSPH Executive Committee**, which includes the Dean's Team, the leaders of each of the DLSPH's home Academic units (the PHS Divisions and IHPME), the Directors of the university-wide Institutes and Centres

that are based in DLSPH and the Director of the Office of Global Public Health Education & Training. The DLSPH Executive Committee is the senior management team for all affairs related to the DLSPH. It has the mandate to examine and make recommendations on all issues related to the strategy and management of the DLSPH and provides advice directly to the Dean.

Some recent leadership transitions are important to note. As of December 31, 2015, the former Associate Dean, Academic Affairs (ADAA) stepped down after serving 4 ½ years initially as Associate Director, AA and then ADAA, once we became a Faculty. For the period of January 1, 2016 – June 30, 2016, we had an Interim ADAA, Professor Jan Barnsley, a faculty member from IHPME while a search was conducted for a new ADAA. The new ADAA, Dr. Nancy Baxter assumed the role as of July 1, 2016 for an initial three year term, which can then be extended for a further two years and following a successful review, a further five year term. The current Associate Dean, Faculty Affairs (ADFA), Professor Ted Myers retired August 31, 2016 and a search was conducted. Our new ADFA commenced his official role as of September 1, 2016 and is a faculty member within DLSPH, Professor Michael Escobar. His appointment is for an initial three year term, which can then be extended for a further two years and following a successful review, a further five year term. Following a search, the Associate Dean, Research, Professor Daniel Sellen commenced his appointment October 1, 2014 for an initial three year term, which can be extended for a further two years and following a successful review, a further five year term.

School Bodies & Committees

The School's Boundless Campaign (started in 2014-2015 with a goal of $50 million) will continue with the University of Toronto's overall plan of an extended campaign, Boundless Expansion until 2018. This expansion will capitalize on the new strategic plan, *Towards 2021 and Beyond*, and build upon its new qualified pool of prospective donors. The **Advancement Campaign Cabinet** for DLSPH will continue to increase the Campaign Cabinet from three members to approximately 6-9. The emphasis will be on selecting key individuals (alumni and non-alumni) who can lend influence and affluence in addition to a commitment to public health's ability to provide impact on local and global health issues. Currently, the Cabinet consists of non-alumni, Paul Dalla Lana (Chair) and Michael Dan (Vice-Chair), in addition to alumnus John Murphy. In addition to a newly enhanced Cabinet Terms of Reference, the School's new Case for Support (https://issuu.com/dlsph/docs/dlsph_case_for_support?e=25479276/37961701) will provide the tools for recruitment excellence. The School is working closely with the university's Division of University Advancement on continued identification of non-alumni and alumni for both the Cabinet and as major gift donors. Of key note, the School will want to further identify alumni from other university programs, who are committed to U of T but have a particular interest in the impact of public health, such as Michael Dan.

The **Public Health Student Association (PHSA)** represents all students in Public Health Sciences. It has a key role in recruiting and coordinating, with DLSPH senior management, the selection of student volunteers (from the PHS graduate unit) for a variety of committees and task forces at the Faculty and institutional level, and it also serves as an information conduit regarding

student-related issues. In addition, the PHSA liaises with the Public Health Alumni Association (PHAA; see below) to promote events and help foster connections between alumni and current students. The PHSA represents the members on all matters in which representation may be in the interest of the students; promotes and maintains communication between the members of PHSA, the personnel of DLSPH and the university; initiates, sponsors, coordinates and promotes social, academic, cultural and athletic events in which the members of PHSA may be interested; and in general, promotes the welfare and interests of the individuals registered in DLSPH.

Similarly, the **IHPME Graduate Student's Union (IHPME-GSU)** represents all students in the Institute for Health Policy, Management, and Evaluation (IHPME), in both the research and professional streams, undertaking actions in the students' common interest. Like the PHSA, the IHPME-GSU has a key role in recruiting and coordinating the selection of student volunteers (from the IHPME graduate unit) for a variety of committees and task forces at the Faculty and institutional level. The IHPME-GSU is also responsible for the planning of educational events such as the annual IHPME Student Research Conference, social events such as the Fall and Winter Socials, orientation sessions for new students, liaising with the University of Toronto Graduate Students' Union on school-wide graduate student policies and administration of the graduate students' health plan, and attending institute meetings to provide the student perspective. In addition to its advocacy role for students, the IHPME-GSU considers networking and innovation, the provision of educational resources and career development support to be important elements of its mandate.

The **Public Health Alumni Association (PHAA)** represents graduates of the PHS Division. Its vision is to foster growth and advancement in public health, by advancing the values and supporting the academic mission of the DLSPH and the University of Toronto. PHAA's mission is to promote fellowship among the alumni community and to foster relationships among its members and the DLSPH. The PHAA performs a number of important functions, which include: promoting and facilitating alumni networking through events and activities, operating an Alumni-Student Mentorship Program in partnership with the DLSPH, supporting students by providing funding for student-led initiatives and student conference travel awards, and acting as an important voice to represent public health alumni. The PHAA also provides advice to the Dean on an ongoing basis to improve the engagement of Alumni and help set strategic directions for DLSPH or PHS.

Similarly, the **IHPME Society of Graduates** is IHPME's alumni body that is committed to informing, influencing and inspiring change in healthcare. The SOG fosters meaningful connections between alumni, faculty and students of IHPME and promotes knowledge exchange and lifelong learning. The SOG provides advice to the Director on an ongoing basis to improve the engagement of alumni and help set strategic directions for IHPME. The society has 1,900 alumni members representing a cross-section of the Institute and includes graduates of programs in health administration, health informatics, health technology assessment, clinical epidemiology, health services research, and quality and patient safety. The SOG recently completed a governance review that has resulted in organizational and strategic changes that will both increase the efficiency of the SOG as well as provide greater opportunities for SOG

members to participate in IHPME activities, engage with students, and provide advice and consultation to the IHPME Director and the DLSPH Dean.

The **Dean's Advisory Board (DAB)** is an esteemed group of talented individuals who possess diverse backgrounds and stellar experience. The board's mission is to provide high-level advice and an external perspective to the Dean as he guides the DLSPH into the future. The DAB reports directly to the Dean. The DAB aims to advise the Dean on matters of major strategic interest such as: feedback on updates on the vision for the DLSPH and progress made in addressing the current DLSPH Strategic Plan; advice on major trends in public health, health systems and other local or global developments that directly or indirectly impact on the DLSPH's mission; advice on current and suggested partnerships (local and global) that can enhance DLSPH's mission; provide an overview of DLSPH peer institutions/competition, trends, DLSPH's brand; and offer additional advice on opportunities, areas of strength and weakness, external threats.

The **School Council** is the DLSPH's main governance body and has been described at the outset of this section above.

Administrative Staff

The Administrative staff for the PHS side of DLSPH comprises 3.0 FTE non-unionized staff members (Chief Administrative Officer, Director of Advancement, Dean's Office Manager/Executive Assistant) and 18.80 FTE appointed unionized administrative members, represented by the United Steelworkers (USW) Local 1998. For IHPME, their administrative complement is comprised of 1.0 FTE non-unionized staff member (Administrative & Financial Manager) and 10.80 FTE appointed unionized administrative members, represented by the United Steelworkers (USW) Local 1998. For JCB, their administrative complement is comprised of 2.0 FTE appointed unionized administrative members, represented by the United Steelworkers (USW) Local 1998. DLSPH has increased the administrative staff complement over the past two years, establishing an Advancement Office and a Communications Office and more recently is growing the Office of Research Development and Support Services (ORDSS) by establishing a Research Grant Development Officer to assist faculty with all aspects of research grant proposal development. In addition, given the expectation to maintain the enrolment growth trajectory for the Faculty as a whole, the administration is committed to reviewing and ensuring we have the administrative staff complement, to meet the enrolment growth and expectations that coincide with this growth.

Advancement Office

Philanthropy is integral to advancing the School's mission, vision and programs. Since its inception as a stand-alone Faculty, the School invested in creating an Office of Advancement to build upon the early successes of the donor financial support in public health. This will lead to short and long-term revenues for scholarships and bursaries, chairs and professors, programs and research and capital investments to the School.

During fiscal 2014-2015, the Office of Advancement commenced the DLSPH's Campaign with a goal of $50 million anchored in the University of Toronto's overall Boundless Campaign's goal of $2 billion.

The Campaign had a vigorous start with over $30 million committed including the visionary $10 million gift from Michael and Amira Dan in addition to Paul Dalla Lana's announcement in November 2014 to double his $20 million commitment. Long-term Advancement success depends on an integrated approach to annual giving, major giving and deferred gifts in gift planning for all units of the School. Over the next few years, the DLSPH Boundless Campaign will raise $3-5 million annually. The primary focus has been in major giving of $25,000 or more in donations. During 2015-2016 over 200 face-to-face calls were realized with individuals, corporations and foundations. 2016-2017 will see the start of an annual fund program to build long-term relationships with alumni and renewal donors.

Advancement also created a fundraising Cabinet to support the Campaign with influential leadership volunteers lending their support, connections and time. New Terms of Reference were created as a tool for recruitment which allowed Paul Dalla Lana, Chair of the Cabinet to recruit alumnus John Murphy; and Dean Howard Hu asked Michael Dan to join as Vice-Chair. The School also initiated select cultivation events to build a stronger engagement for our major gift prospecting activities. Included in these are the Dean's Leadership Series, which in addition to fostering a dialogue on issues of critical importance, also provides a platform to help educate the larger public and potential new donors who are passionate about the issues being addressed by DLSPH.

Completing its third year of operation, the DLSPH Office of Advancement has successfully set in place the infrastructure necessary to run annual programs including the following: updated alumni contacts and coding; audited historical donor funds; developed and implemented annual stewardship and renewal programs. This has resulted in a 100% increase in annual giving contributions and the creation of a robust engagement with the School's alumni and donors on a regular basis.

With IHPME and JCB joining the Dalla Lana School as its home Faculty, the Advancement initiatives continue to grow with new funding priorities, opportunities, alumni (over 7,000 combined) and donor pools. To achieve the harmonization and synergy of the trifecta units, there will be major opportunities and/or needs for collaboration with government, health systems, and hospitals in addition to individual, corporate, and foundation financial support. The DLSPH Office of Advancement received approval from the Provost's office for an expanded list of funding priorities.

Financial Structure

The financial structure of the University of Toronto is known as the New Budget Model (NBM). The NBM came into effect in 2007-2008 and emphasizes a new approach to the budget

allocation process. The fundamental guiding principle in the development of the NBM was that the budget allocation process be a primary tool for the implementation of the university's academic plan and academic priorities. To best support the university's academic priorities, the new model has three basic objectives:

- To provide a high degree of transparency, enabling all levels of university administration and governance to have a clear understanding of university revenues and expenses.
- To introduce broadly-based incentives to strengthen the financial health of the university by increasing revenues and reducing expenses.
- To encourage a higher level of engagement of all senior levels of administration in budget planning for academic divisions and in recommending priorities and budgetary allocations for shared services.

The NBM introduced a simple methodology for attributing revenues and the costs of shared services to all divisions. According to this model, a major portion of the budgetary allocation to an academic division is its Net Revenue, which is equal to its share of the university's gross revenue less its share of expenses and its contribution to student aid and to a university-wide fund called the University Fund. A division's net revenue reflects its programs, student enrolments, fundraising activities, research, etc., hence, divisions benefit as these activities bring more revenue. Divisions can benefit when, in co-operation with central service units, they are able to make more efficient use of the shared resources.

Operating Budget: Government Grant Revenue

DLSPH's Target Operating Budget (see Table 5.1) has increased since becoming a Faculty in 2013. To compare previous years where the NBM was not downloaded to departments within the Faculty of Medicine, which was the School's lead Faculty up to June 30, 2013, adds no comparative value. As such, the target budget table below reflects 2014-15 and onward. The largest revenue source for DLSPH is driven by student enrolment, that is, a combination of the Ontario provincial government grant funding and student tuition. Only ***domestic*** students (Canadian citizens or permanent residents) are eligible for provincial government BIU funding. The funding is distributed to the university, using a complex formula. It is based on a value, known as the Basic Income unit or BIU, which is worth just over $5,000. Full-time graduate students generate BIUs, based on their program level (Master's = 1.33 BIUs per term; PhD = 2.0 BIUs per term), with part-time students generating 0.4 BIU's per term. The lifetime maximum BIUs generated per student in a Master's program is 8 BIUs and a student can only generate a maximum of 27 BIUs, as a total of their Master's and PhD programs combined. For determining the government grant revenue, the relevant student count is the Eligible Full Time Equivalent count (eFTE). International students are not eligible for the Ontario government grant funding, though recently the Ontario government announced the allocation of a very limited number of BIUs for international students. This will provide funding for approximately 40 international students across the university and will not have a significant impact on the DLSPH operating budget.

Table 5.1: DLSPH Target Operating Budget

	2014-15	2015-16	2016-17
Provincial Grant Revenue	$6,218,769	$12,991,504	$13,852,869
Tuition Revenue	$3,477,338	$6,755,261	$7,367,900
Investment & Other Income	$444,087	$704,177	$613,085
Provincial Scholarship Grant	$327,384	$420,992	$317,346
Endowment Revenue	$337,145	$218,559	$159,124
Canada Research Chairs	$100,000	$400,000	$400,000
Overhead on Research	$990,433	$1,324,888	$1,371,264
Subtotal: Attributed Revenue (A)	**$11,895,156**	**$22,815,381**	**$24,081,588**
University Wide Costs	$5,498,374	$8,338,464	$9,359,032
University Fund Contribution	$1,011,878	$2,040,099	$2,178,038
Student Aid Set-Aside	$982,017	$1,354,703	$1,490,572
Subtotal: University Shared Expenses (B)	**$7,492,269**	**$11,733,266**	**$13,027,642**
Net Revenue (A) - (B)	**$4,402,887**	**$11,082,115**	**$11,053,946**
Adjustments to Net Revenue	-$272,117	-$571,789	-$400,000
Transfers In/Out	$833,885	$54,135	$247,460
Total University Fund Allocation	$6,337,406	$7,366,266	$7,742,439
Net Budget	**$11,302,061**	**$17,930,727**	**$18,643,845**
Divisional Revenue/Recoveries	$2,602,350	$6,878,366	$4,831,232
Gross Expense Budget	**$13,904,411**	**$24,809,093**	**$23,475,077**

Operating Budget: Impact of Enrolment

DLSPH became a single department Faculty as of July 1, 2013. There was a transition period, given the budget model used when DLSPH was a department-like structure within the Faculty of Medicine which was entirely different than the model used for an independent Faculty. As a result, 2013-14 was a transition year and therefore, for comparative purposes, we can only present data as of 2014-15 on. In joining DLSPH July 1, 2014, IHPME followed a similar transition period and the significant increase in the 2015-16 DLSPH budget reflects this.

As noted above, graduate enrolment is the single most important driver of the operating budget. Therefore, incremental enrolment growth of our graduate programs is essential. Over the past several years growth has been quite variable, with some programs achieving targets and others not, for a variety of reasons. This has had a negative impact on the operating budget, which has been accommodated by the accumulated reserve from previous years. However, this is clearly not sustainable. Given the size and quality of the applicant pool over the last several years, as described throughout Section 3 (see tables describing # applicants, offers, registrations), an expanded complement of faculty, and more aggressive admission practices; we believe the modest domestic increases that were projected last year for 2016-17 and

onward, are achievable. In addition, some new programming has recently been added - a new offering of the MHI and a new concentration in the MSc (System Leadership and Innovation), both in IHPME and other initiatives are being planned. The plan is to add 41 master's spaces and 17 doctoral spaces, above fall 2015, bringing DLSPH total enrolment to 552 master's and 178 doctoral spaces for fall 2016. Although the final numbers will not be available until mid-fall, DLSPH appears to be on target to achieve this.

Operating Budget: Tuition Revenue

Tuition revenue is driven by student enrolment and generated throughout their entire program by all students (domestic, international, full time, part time) at varying fee levels, depending on their status and program. Revenue from tuition fees continue to be attributed to each division based on divisional student FTEs and tuition fee levels. Tuition fees are set annually by the university, under a Tuition Fee Framework, established by the Ontario government. Essentially, the current Framework (for 2013-2014 to 2016-2017) permits an ***overall U of T average*** tuition fee increase of 3%, with a maximum of 5% increase for professional and graduate programs (see Tables 5.2 and 5.3). Therefore, DLSPH has a limited ability to increase revenue by increasing fees. The University of Toronto chose not to increase tuition fees for all SGS doctoral stream graduate students (MSc/PhD) in 2013-14 and in 2014-15, and then decreased the tuition slightly (-0.8% and -0.4%) for the following two years, to allow room for tuition increases in other resource-intensive professional programs, so as not to exceed the overall average cap of 3%. The tuition fees for the professional Masters programs in PHS and IHPME (MPH, MScCH, MHSc (Bioethics), MHSc (HAdmin), MHI) were slightly different, but, since we are now one Faculty, they have been adjusted so that for 2016-17 they will be the same.

Table 5.2: Domestic Tuition Fees, by program

PROGRAM	2013-14	2014-15	2015-16	2016-17
PhD (all graduate units)	$7,160	$7,160	$7,060	$7,030
MSc (all graduate units)	$7,160	$7,160	$7,060	$7,030
MPH (PHS)	$9,217	$9,585	$9,960	$10,350
MScCH (PHS)	$9,217	$9,585	$9,960	$10,350
MHSc Bioethics (PHS)		$9,670	$10,150	$10,350
MHSc Health Admin (IHPME)		$9,670	$10,150	$10,350
MHI Health Admin (IHPME)		$9,670	$10,150	$10,350

Table 5.3: International Tuition Fees, by program

PROGRAM	2013-14	2014-15	2015-16	2016-17
PhD (all graduate units)	$17,730	$18,617	$19,550	$20,530
MSc (all graduate units)	$17,730	$18,617	$19,550	$20,530
MPH (PHS)	$24,464	$25,687	$26,970	$28,320
MScCH (PHS)	$24,464	$25,687	$26,970	$28,320
MHSc Bioethics (PHS)		$25,687	$26,970	$28,320
MHSc Health Admin (IHPME)		$25,687	$26,970	$28,320
MHI Health Admin (IHPME)		$25,687	$26,970	$28,320

Operating Budget: Divisional Income

Divisional income consists of revenues collected by the academic divisions. The next highest contributor to divisional revenue is endowment income. This comprises three components: endowment income for student aid, endowment income for Chairs, and OGSST Grants (graduate scholarships in science and technology). In addition to the returns from the long-term investments of the endowment capital, divisions receive interest on short and medium-term investments of the Expendable Funds Investment Pool (EFIP). This tends to be rather small as a percentage of total operating revenue and fluctuates with market conditions. Canada Research Chairs (CRC) also constitute divisional income and the CRC Program provides $100,000 in salary and research support for outstanding university researchers on a competitive basis, awarded to each university based on its share of research funding by the federal granting councils.

Operating Budget: University-Wide Costs

Academic divisions all have a share of university-wide costs and DLSPH's contribution in 2014-15 was $5,498,374 and this increased to $8,338,464 in 2015-16 with the addition of IHPME. The long range projection is that costs will increase such that by 2020-21, it is projected that our university-wide costs are estimated at $11,460,230.

Operating Budget: University Fund Contribution

Becoming a Faculty July 1, 2013, shifted our budget to that of the NBM and with that methodology, set the University Fund (UF) Reference Level for DLSPH as a division at the university. The Reference Level guarantees that future UF allocations will not drop below the initial allocation for each division, further strengthening the objective of historical integrity. In 2013-14, DLSPH was a net beneficiary of the University Fund with a net allocation of $5,562,521 as our reference level. Since then, this has grown to support various initiatives (faculty positions, senior academic leadership positions, CUSP initiative, etc.) which are approved by the Provost such that our University Fund allocation in 2016-17 is $7,742,439.

Operating Budget: Student Aid Set-Aside

This is operating-funded aid that is a pooled resource. DLSPH contributes based on its share of total tuition revenue, and the funds are distributed to students based on need.

Opportunities for New Revenue Generation

- Developing new Masters programs that meet high demand, such as the joint MD-MPH degree and Master of Science program in Clinical Public Health (both in progress, described elsewhere in this report).
- Developing an undergraduate program (in progress, described elsewhere in this report)
- Developing a Continuing Professional Development initiative that offers on-campus modular courses and training programs; on-line education; and other educational products that are already appreciated as of high demand by DLSPH alumni, preceptors, and other learners.
- Developing a DrPH program, already appreciated as a high-demand product by early and mid-career professionals in Canada and beyond.

6 Resources and Infrastructure

The Dalla Lana School of Public Health (DLSPH) is located at 155 College Street and occupies space on the 4th, 5th, 6th and 7th floors. DLSPH also occupies space in the Gage Building, 223 College Street, where the Division of Occupational and Environmental Health is located as well as DLSPH's wet-labs (see Gage Building later in this section). The building at 155 College Street, known as the Health Sciences Building (HSB), was purchased by the university in 2003 from the Toronto Board of Education. Renovations commenced in 2004 and occupants moved into the building September 2005. The other current occupant is the Lawrence S. Bloomberg Faculty of Nursing (LSBFN), which occupies space on the 1st, 2nd and 3rd floors. The building is wheelchair accessible and the location is easily accessible by public transit.

The HSB building is approximately 9,136 net assignable square meters (nasms). Under the New Budget Model, divisions incur occupancy costs, which take into account cost of utilities, maintenance (regular and deferred), caretaking, facilities and service costs. The cost driver assigned to academic divisions for occupancy costs is on a per nasm basis, using the data maintained in the space inventory database.

DLSPH (including IHPME and JCB) occupies a total of 4,689 nasms, which are allocated for faculty and some staff offices, staff and research cubicle space, a student computing lab, video-conferencing rooms, meeting rooms, a teaching computer lab and student space.

The Academic and Campus Events Office (ACE), accounts for a total of 877 nasms on the 1st, 6th and 7th floors in the form of 9 classrooms, which are booked centrally and for the university as a whole. Some of these classrooms are equipped with Teaching Station Juniors (TSJrs) and are supported by the ACE office. In August 2016, the 6th floor auditorium, which accommodates 250, was fully renovated with new seating and tablets.

HSB has a server room for which the LSBFN and DLSPH share 50% of the space while the remaining 50% is occupied by the Information and Technology Services, a central unit of the university.

Office Space

All full-time professors have private offices, while other part-time faculty may share offices. DLSPH has dedicated hoteling space for status-only faculty so they have access to space while teaching and to meet with students. In addition, DLSPH has dedicated hoteling space for our Professor Emeritus faculty. Research staff, appointed or casual, have access to shared office space/cubicle space as do post-doctoral fellows.

Instructional Facilities

Aside from the 9 classrooms that that are centrally booked and available through ACE to the

university as a whole for instructional learning, HSB has a teaching computer lab (HSB 790) that is only available to DLSPH. This currently accommodates seating for 42 and shared access to 21 computers.

DLSPH in currently undertaking a space analysis via the Campus & Facilities Planning Office so we can review the following key elements:

- Classroom and meeting space utilization, which includes modelling for additional classroom space within the current DLSPH floor print, given the anticipated and planned enrolment growth for DLSPH.
- Existing space by location and category.
- Define and make recommendations to improve classroom use and meeting space for DLSPH.
- Define the anticipated growth and future needs for DLSPH as a whole, which includes IHPME and JCB.

Innovative Research Space

The Canadian Foundation for Innovation (CFI) recently approved two DLSPH applications for funding of infrastructure: 1) for Professor Lisa Forman, pertaining to space and equipment that will form a research and training hub on global health and human rights at DLSPH which, in turn, will train future researchers and carry out the international research collaborations central to global health research; and 2) for Professor Laura Rosella, pertaining to a population health laboratory that includes computing infrastructure and training facilities for population health analytic work. This space will include work stations that can handle large population databases as well as offer a space conducive for collaborating and problem solving among trainees, experts and international collaborators. Currently the DLSPH administration is moving forward with the planned and approved renovations on these two CFI initiatives.

Suite 400

This space has been recently reviewed and re-designed to double the three faculty offices to six, increase the research cubicle space to accommodate nine and create a meeting room to accommodate 14. Occupancy for this space is anticipated for the spring 2017.

Student Areas

DLSPH has student space assigned to the Master's and PhD Students in Biostatistics which is located on the 6th floor of HSB, rooms 679 and 679A. Over the 2015-16 academic year, the DLSPH Administration has worked with a group of students representing both Master's and PhD students in Biostatistics to revise the floor print and requirements of this space. The revisions and upgrades to this space occurred in September 2016.

HSB 548 has unassignable work spaces available for all Master's and PhD students in the graduate department of Public Health Sciences (GDPHS) on a first-come, first-serve basis. There are 12 computer workstations available and both the computer stations and computers

were recently upgraded in September 2016 to include the following software: Microsoft Office 2013, Adobe Acrobat X1, R, SPSS 24, STATA 11, SAS 9.3, EpiInfo 7.2 and EpiData Entry to accommodate the students' needs.

DLSPH has dedicated space for PhD students in the early stage (prior to completing comprehensive/qualifying exam) which has hoteling workstations and is located in HSB 569. This space has recently shifted to HSB 569 to accommodate space for the CFI space for Professor Forman. In addition, DLSPH has dedicated space for PhD students who have completed their comprehensive/qualifying exam located on the 7th floor in HSB 744. The workstations in this area are assigned on a term by term basis based on three specific operational needs: 1) students requiring a workstation 4-5 days per week, which we would allot as a permanent work station, 2) students requiring a workstation 2-3 days per week, which we would allot as shared space with another student and 3) students requiring access to a desk space occasionally (day by day), which we would allot as hoteling space. Over the course of the 2015-16 academic year, DLSPH administration worked on this space plan with a PhD representative, who, in turn, has consulted with fellow students. We have now finalized a plan for revisions to this space that will accommodate more workstations, a more open space and to meet the current needs of our students. The timeline for the revisions to this space is planned for early December 2016 (which is likely to best accommodate student schedules).

All GDPHS students have access to a student kitchen that is located in HSB 549. The room provides the use of a microwave and refrigerator as well as eating space. All student mailboxes are located in this space as well.

IHPME

IHPME student space was redesigned and renovated in January 2016, upon consultation with IHPME Graduate Student Union representatives.

HSB 498 has unassignable work spaces available for all Master's and PhD students in the graduate department of IHPME on a first-come, first-serve basis. There are 15 computer workstations and a printing station with the following software installed to accommodate student's needs: Microsoft Office 2013, SPSS (3 computers), STATA (3 computers), TreeAge (2 computers) and SAS-U.

IHPME has assignable hoteling workstations for PhD students in the later stages of their studies who need to interact closer with their supervisors who have faculty appointments in IHPME. The 24 assignable hoteling workstations (14 located in suite 480 and 10 in suite 460A. The workstations in these areas are assigned on a term by term basis based on the specific student needs.

Access to U of T wireless network is available throughout all student work areas.

All IHPME students have access to a small meeting room in HSB 498 as well as a student kitchen that is located in HSB 497K. The kitchen provides the use of a microwave and refrigerator as well as eating space. All student mailboxes are located outside HSB 498. The students have access to 68 assignable lockers located in HSB 498.

Gage Building

Laboratory facilities

The Gage Building houses the wet laboratories of the Dalla Lana School of Public Health. Research in the Gage Building centres on exposure science linking human health to workplace and environmental exposures, with an emphasis on the effects of air quality and climate. Research programs range from toxicological studies on air contaminants involving human volunteers, animal models and animal cell lines to *in vitro* investigations of microbes and microbial communities including viruses, bacteria and microfungi. Six laboratories in the building currently support individual faculty research programs.

1) **Animal models laboratory** (PI: Jeremy Scott) – Professor Jeremy Scott's laboratory investigates the epigenetic, molecular, biochemical and physiological mechanisms underlying cardiopulmonary health and therapeutics; specifically: a) to understand the mechanisms responsible for the development of acute and chronic respiratory diseases such as asthma; b) to explore the potential for occupational and environmental air pollutants to contribute to the development and exacerbation of respiratory and cardiovascular symptoms, from in vitro to in vivo using animal models and human exposures; and, c) to assess the importance of routes of exposure in the development of food allergy/anaphylaxis. His laboratory contains core molecular genetics platforms as well as specialized equipment to support pulmonary function testing in research animals.

2) **Biotox laboratory** (Southern Ontario Centre for Atmospheric Aerosol Research, pro parte - SOCAAR) (PI: Chung-Wai Chow) – Professor Chow's laboratory explores the mechanisms responsible for chronic lung injury in the context of airway inflammation and remodeling as a consequence of inhaled toxins such as respiratory viruses and air pollutants. Research in her group spans fundamental studies using in vitro cell culture models, ex vivo lung explant investigations of airway function, animal models of chronic airway diseases and clinical studies of lung transplant recipients. Her laboratory operates at Biosafety Containment Level 2 and includes facilities for cell and tissue culture manipulation, microdissection, upright fluorescence microscopy, Luminex / xMAP flow cytometry and long-term, liquid nitrogen tissue biobanking.

3) **Concentrated ambient particle exposure facility** (SOCAAR, pro parte) (PI: Greg Evans) – The Concentrated Ambient Particle Exposure Facility is used to study the health effects of ambient particulate matter on animals and humans. This facility uses three Concentrated Ambient Particle Systems (CAPS) developed and built by the Harvard School of Public Health. Each CAPS is responsible for isolating and concentrating ambient particulate matter

in the coarse (2.5–10 µm), fine (0.15–2.5 µm), or ultrafine (< 0.1 µm) size ranges. The resulting particulate matter is concentrated up to a factor of 10 times and delivered to a 3.6 m^3 chamber for use in exposure studies under well controlled and characterized conditions. Research in this facility considers the pathophysiological processes responsible for cardiovascular and respiratory effects of aerosol inhalation. Following exposures, markers of autonomic dysfunction, systemic inflammation and endothelial activation can then be examined using both in vivo and in vitro methods. The facility is the only one in Canada of its kind and one of only two others world-wide.

4) **Field instrument laboratory** (PIs: Paul Bozek / Tracy Kirkham) – In support of both the professional Occupational Hygiene MPH program as well as some applied field research projects, the field instrument laboratory maintains an assortment of field hygiene air sampling pumps and calibrators in addition to a range of direct reading instruments for the measurement of indoor air quality parameters, ventilation, noise, radiation, gases and vapours, etc. An ultrabalance and humidity conditioning chamber are available for gravimetric analysis of filters.

5) **Human measures laboratory** (PI: Frances Silverman) – Professor Silverman's laboratory contains facilities for the collection , processing and manipulation of non-infectious human clinical samples including blood and sputum for the measurement of inflammatory cell types, numbers and mediators as well as the preparation and purification of nucleic acids for epigenetic studies. The laboratory is also equipped with an examination suite to support clinical subject assessments including ultrasonography, echocardiography, blood pressure, phlebotomy and pulmonary function testing. Pulmonary testing covers a broad range of measures including lung volumes and flows, diffusion capacity, airway hyperreactivity, upper airway and nasal resistance, as well as induced sputum and nasal lavage. The laboratory is able to perform human inhalation challenge testing for air pollution and occupational research studies.

6) **Microbiome laboratory and biobank** (PI: James Scott) – Professor Scott's laboratory uses conventional microbiological methods and molecular diagnostics including high throughput next-generation DNA sequencing to investigate the composition and dynamics of environmental and human microbial communities and to explore how these factors influence human health. The laboratory operates at Biosafety Containment Level 2 and is additionally certified for storage of Risk Group 3 pathogens. In addition to core molecular genetics equipment, the laboratory is equipped with a robotic platform for nucleic acid manipulation, a physically isolated PCR room, dedicated microbial culture facilities, an enhanced biocontainment area, controlled access storage for higher containment microbial pathogens, and multiplatform long-term preservation of microbial germplasm including liquid nitrogen biobanking and lyophilization. The laboratory houses the UAMH Centre for Global Microfungal Biodiversity which is the second largest biobank of living strains of public health microfungi in the world.

In addition to the laboratory spaces allocated to ongoing faculty research programs, several common facilities are available for shared use including a facility for processing and archiving of environmental dusts and a walk-in refrigerator. Plans are underway to develop a seventh laboratory focusing on molecular epidemiology laboratory under the leadership of Professor Howard Hu.

A recently successful application to the Post-Secondary Institutions Strategic Investment Fund (SIF) has provided an opportunity to upgrade physical elements of the Gage Building including the unrenovated laboratories on the second and third floors of the building. We are presently working with colleagues in University Operations to determine the scope and timeframe for this work. Notionally this opportunity will provide for the renewal of critical deferred maintenance on the Gage Building (e.g., roof replacement, HVAC retrofit) in addition to upgrading 8 existing laboratory rooms and renovating two new shared laboratory rooms currently being used as storage space.

Office and administrative space

Faculty offices are located on the recently renovated first floor of the Gage Building. There are 5 dedicated faculty offices, one shared office with hoteling space used by off-campus and retired faculty, and an administrative work station. Faculty administrative offices are currently at capacity. A staff kitchen/ meeting room with video conferencing capability is available with seating for 8 people. Currently there is no additional space available to provide laboratory workers (staff and graduate students) with administrative work space located outside of regulated laboratory areas.

Classroom and student space

Teaching activities in the Gage Building involve professional Master's in Public Health (MPH) students in Occupational Hygiene (one of only 3 in Canada) that is strongly partnered with industry (petrochemical, aerospace, manufacturing, pharma, healthcare ,etc.). As well, a doctoral program launched in 2015 accepted its first students in September 2016. A recently renovated classroom on the first floor of the building that seats 20 people serves the OEH teaching programs. A student lounge / study room with unreserved seating for 8-10 people adjacent to the classroom is available for OEH graduate students.

A planned expansion of the OEH MPH program to encompass an Environmental Public Health Option is expected to be launched in 2017. This initiative is expected to increase enrolment in the OEH MPH from the present annual intake of 12-15 students to 25-30. We foresee the need for additional teaching laboratory space to support this expansion. Some options will be explored in the coming year.

7 Academic Services

Library Services

The University of Toronto Library (UTL) system is the largest academic library in Canada and is currently ranked third among academic research libraries in North America, behind Harvard and Yale.[22] The research and special collections, together with the campus and college libraries comprise over 12 million print volumes, 5.6 million microform volumes, more than 17,000 journal subscriptions, in addition to a rich collection of manuscripts, films, and cartographic materials. The system provides access to more than 1.9 million electronic books, journals, and primary source materials and increasingly supports access via personal handheld devices.[23] There are numerous collection strengths in a wide range of disciplines reflecting the breadth of research and instructional programs at the University. The University of Toronto Library system has an annual acquisition budget of $31 million. The strong collections, facilities and staff expertise attract unique donations of books and manuscripts from around the world, which in turn draw scholars for research and graduate work.

Major North American Research Libraries[24]					
	2009-10	**2010-11**	**2011-12**	**2012-2013**	**2013-2014**
ARL RANK	**UNIVERSITY**	**UNIVERSITY**	**UNIVERSITY**	**UNIVERSITY**	**UNIVERSITY**
1	Harvard	Harvard	Harvard	Harvard	Harvard
2	Yale	Yale	Yale	Yale	Yale
3	**Toronto (3rd)**	**Toronto (3rd)**	**Toronto (3rd)**	**Toronto (3rd)**	**Toronto (3rd)**
4	Columbia	Michigan	Columbia	Columbia	Columbia
5	Michigan	Columbia	Michigan	Michigan	Michigan

[22] Chronicle of Higher Education, "Library Investment Index at University Research Libraries, 2013 – 2014." In the Almanac of Higher Education, 2015. http://chronicle.com/article/Spending-by-University/232279

[23] Figures as of 2014 taken from UTL's 2015 Annual Report and 2013-2014 annual statistics. https://onesearch.library.utoronto.ca/sites/default/files/annual_reports/annualreport-2015.pdf and https://onesearch.library.utoronto.ca/annual-statistics/2013-2014

[24] Association of Research Libraries Statistics, 2013-14 http://www.arlstatistics.org/analytics

Top 5 Canadian Universities in the ARL Ranking of Major North American Research Libraries					
	2009-10	**2010-11**	**2011-12**	**2012-2013**	**2013-2014**
	RANK/ UNIVERSITY	**RANK/ UNIVERSITY**	**RANK/UNIVERSITY**	**RANK/UNIVERSITY**	**RANK/UNIVERSITY**
	3/Toronto	**3/Toronto**	**3/Toronto**	**3/Toronto**	**3/Toronto**
	11/Alberta	11/Alberta	10/UBC	18/Alberta	22/UBC
	24/British Columbia	16/British Columbia	15/Alberta	24/UBC	26/Alberta
	31/Montreal	32/Montreal	18/McGill	30/McGill	35/McGill
	37/McGill	38/McGill	32/Montreal	35/Montreal	36/Montreal

Space and Access Services: The Library system provides a variety of individual and group study spaces for both undergraduates and graduates in the 10 central and 23 divisional libraries on the St. George, Mississauga, Scarborough and Downsview campuses. Study space and computer facilities are available twenty four hours, five days per week at one location, Robarts Library. Web-based services and electronic materials are accessible at all times from campus or remote locations, through the U of T based Scholars Portal and other leading-edge digital services.

Instruction & Research Support: The Library plays an important role in the linking of teaching and research in the University. To this end, information literacy instruction is offered to assist in meeting Dalla Lana School of Public Health degree level expectations in the ability to gather, evaluate and interpret information. These services are aligned with the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education.[25]

Program Specific Instruction: Instruction occurs at a variety of levels for Dalla Lana students and is provided by the faculty liaison librarians for Bioethics; Biomedical Communications; Health Policy, Management, Evaluation, and Economics; and Public Health. The Library facilitates formal instruction integrated into the class schedule related to course assignments. For example, the Library offers sessions on literature searching and citation management in core databases for the recently established MSc Quality Improvement & Patient Safety Orientation concentration (IHPME). Also, longstanding 2-part sessions continue to support CHL5418 Scientific Overviews in Epidemiology. Librarians provide individual consultations to students who are conducting literature, scoping or systematic reviews. The Library, through its liaison librarians, customizes feeds of library resources. These appear prominently in Portal/Blackboard course pages. For example: Health Policy Management and Evaluation at

[25] Association of College & Research Libraries. Framework for Information Literacy for Higher Education. ACRL, 2016. http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/infolit/Framework_ILHE.pdf

http://guides.library.utoronto.ca/HPME and Public Health at http://guides.library.utoronto.ca/publichealth.

Collections: Many college and campus libraries collect materials in support of Dalla Lana programs; the largest collection of materials is centrally located in the Gerstein Science Information Centre. Collections are purchased in all formats to meet the variety of preferences and styles of our current students and faculty. The University of Toronto Library is committed to collecting both print and electronic materials in support of Dalla Lana programs at the University of Toronto.

Journals: Journals for the degree programs in the Dalla Lana School of Public Health are listed in Journal Citation Reports (JCR)[26] in the subject areas of Public, Environmental and Occupational Health; Demography; Health Policy and Services; Social Sciences, Biomedical; and Statistics and Probability. The table below summarizes Library subscriptions to the top 25 journals.

Subject Area	e-Journal subscriptions	Open Access	Total
Public, Environmental and Occupational Health	21	4	25
Demography	21	4	25
Health Policy and Services	22	3	25
Social Sciences, Biomedical	22	2	24
Statistics and Probability	23	1	24

Monographs: The University of Toronto Library maintains comprehensive book approval plans with 53 book dealers and vendors worldwide. These plans ensure that the Library receives academic monographs from publishers all over the world in an efficient manner. For the Dalla Lana School of Public Health, monographs are purchased in electronic form where possible. The Library currently receives all current e-books directly from the following publishers: Springer, Elsevier, Taylor and Francis, and Wiley-Blackwell.

Preservation, Digitization, and Open Access: The University of Toronto Library supports open access to scholarly communication through its institutional research repository (known as T-Space), its open journal and open conference services, and subscriptions to open access publications. In addition to acquiring materials in support of the Dalla Lana School of Public Health, the Library has, in cooperation with the Internet Archive, digitized its monograph holdings published before 1923. These books are available without charge to anyone with access to the Internet through the Scholar's Portal e-Book platform.

[26] 2014 Journal Citation Reports® (Thomson Reuters, 2015)

Key Databases: Medline, Embase, HealthStar, Canadian Research Index, PAIS International, PolicyFile and PsycINFO.

Special Collection Highlight: To support program commitments in the Dalla Lana School of Public Health, the Library has acquired a collection of Health Policy streaming videos from Alexander Street Press; Henry Stewart Talks, which include various presentations on health policy.

Current Gaps: This program would benefit from access to the database, Global Health from CAB International (CABI).

Student Support Services

All University of Toronto undergraduate and graduate students have access to student services on all three campuses, Mississauga, St. George (downtown Toronto), and Scarborough, regardless of their 'home campus'. The services and co-curricular educational opportunities provide a complement to the formal curriculum by engaging and challenging students to reach their full potential as learners, leaders and citizens. At the University of Toronto (St. George Campus) these services are organized by Student Life Programs and Services, the academic division registrar offices, and the School of Graduate Studies, and support the success of our students from the time they are admitted through degree completion and beyond.

Students have access to comprehensive **physical and mental health care** on campus including a medical clinic, travel medicine services, immunization, contraception and sexual health education. Counselling and treatment options for psychological and emotional concerns include psychotherapy, group therapy and pharmacotherapy, as well as specialized assault counseling services.

Housing needs, including off-campus housing listings and resources for students living independently, are met through the Student Housing Service.

Coaching and education in the development of key **learning skills** – from time management to overcoming exam anxiety – is provided through the Academic Success Centre. The ASC also partners with faculty to integrate success strategies and support into the curriculum.

Students' career exploration and employment services are provided through a **Career Centre** offering resume and interview coaching, workshops, career resources, on and off-campus employment and volunteer listings, job shadowing, and career counseling.

Specialized services are provided for **international students** (orientation, advising, cross-cultural counselling), students with **disabilities** (academic accommodations, advising), students with **children or other family responsibilities** (advising, resources, subsidized child care), **aboriginal students** (academic support, financial counselling) and **lesbian, gay, bisexual and transgender** students (counselling, referrals, equity outreach and engagement).

Participation in **campus life** and **experiential learning** are facilitated through Hart House (clubs, committees, events), the Centre for Community Partnerships (service learning), the Multifaith

Centre (interfaith dialogue, events), and the Office of Student Life (leadership development, orientation, recognition and support for student groups, activities.) **Sport and recreational facilities and programs** are provided to all students through both Hart House and the Faculty of Kinesiology and Physical Education.

School of Graduate Studies, Student Services [all campuses]

All graduate students at the University of Toronto have access to registrarial services and co-curricular programs at the School of Graduate Studies that assist students in meeting their academic goals.

Administrative staff at the School of Graduate Studies (SGS) provide **registrarial** services to graduate students including but not limited to recruitment, admission, orientation, registration, fees, program progress, awards/financial assistance and graduation.

The **Grad Room** is an accessible space on the St. George campus which provides University of Toronto graduate students with a lounge area and a multi-purpose space for academic, social and professional graduate student programming.

The Grad Room is home to the **Graduate Professional Skills Program** (GPS). GPS is a non-academic program presented by SGS consisting of a variety of offerings that provide doctoral stream students a range of opportunities for professional skills development. The program focuses on skills beyond those conventionally learned within a disciplinary program, skills that may be critical to success in the wide range of careers that graduates enter, both within and outside academe. GPS aims to help students communicate effectively, plan and manage their time, be entrepreneurial, understand and apply ethical practices, and work effectively in teams and as leaders.

The Office of **English Language and Writing Support** (ELWS) provides graduate students with advanced training in academic writing and speaking. By emphasizing professional development rather than remediation, ELWS helps students cultivate the ability to diagnose and address the weaknesses in their oral and written work. ELWS offers four types of instruction designed to target the needs of both native and non-native speakers of English: non-credit courses, single-session workshops, individual writing consultations, and website resources.

DLSPH

Administrative staff within the Graduate Office of PHS and IHPME provide registrarial services to graduate students, including but not limited to, recruitment, admission, orientation, registration, fees, program progress, awards/financial assistance and graduation. The Graduate Office receives and responds to, or forwards, student issues and concerns. As well, each Division has administrative support to assist students. Annual Town Halls are held for students to meet with the Associate Dean for Academic Affairs, faculty and senior administration to discuss issues and concerns. There is a Master's and a PhD student representative on the Graduate Curriculum Committee, where there is opportunity to discuss course/program matters. In addition, student events are supported, such as the Student-led Conference.

Graduate PHS students have access to storage lockers, desk space, work stations and printers within HSB (5th, 6th, 7th floors). The computer lab located in HS 548 has 12 computers with the following software set: Microsoft Office 2013; Adobe Acrobat X1; R; SPSS 24; STATA 11; SAS 9.3; EpiInfo 7.2; and EpiData Entry.[27]

Meeting rooms are available for academic and/or social group gatherings. Audio visual equipment is also available to students for meetings and events. There is a student kitchen on the 5th floor. Student mailboxes are also located in the kitchen for any incoming mail addressed to current students. The 7th floor lounge is an open study area.

SAS license and workshop: Senior PhD students in the Division of Biostatistics host a series of student run workshops in the Fall term. This peer-based learning seminar covers several topics. Common topics over the years include: graphing in R, using macros for efficiency in SAS, creating pdf documents in LaTeX, using Sweave to create reports In LaTeX from R automatically, writing functions in R, and SAS intro part 2. Attendees are encouraged to suggest other topics.

Public Health Students' Association (PHSA)

The Dalla Lana Public Health Students' Association is the representative body of the students enrolled in the Dalla Lana School of Public Health at the University of Toronto. PHSA liaises with the Public Health Sciences Alumni Association (PHAA) to promote events, such as the Public Health Sciences Research Day, and to foster connections between departmental alumni and current students. All students are encouraged to get involved in the PHSA. Meeting are held on a monthly basis.

Public Health Alumni Association (PHAA)

The Public Health Alumni Association promotes and sustains fellowship among the alumni community and fosters relationships and networking opportunities between public health alumni and the Dalla Lana School of Public Health. The PHAA provides some student funding, a Student Conference Travel Award and a Mentoring program.[28]

[27] http://www.dlsph.utoronto.ca/wp-content/uploads/2016/09/Student-Handbook_F_6Sep2016.pdf
[28] http://www.dlsph.utoronto.ca/alumni/

8 Internal and External Relationships

Relationships within the University of Toronto

The DLSPH and its academic and extra departmental units have very strong relationships within the University of Toronto. Based on the long history of its major academic and extra departmental units (the Department of Public Health Sciences, the Institute of Health Policy, Management, and Evaluation, and the Joint Centre for Bioethics) within the Faculty of Medicine, the closest relationships between the DLSPH and other faculties are with the Faculty of Medicine. This close working relationship is reflected in many different ways including:

1. Strong tradition of faculty appointed in both the Faculty of Medicine and the DLSPH – the overwhelming majority of clinical faculty who supervise graduate students and supervise graduate students in the DLSPH hold their home academic appointment within one of the clinical departments of the Faculty of Medicine including:
    i. Appointment of DLSPH leadership in Faculty of Medicine Clinical Departments – the majority of DLSPH leadership holds appointments – typically as a status-appointment – in clinical departments in the Faculty of Medicine such as the Departments of Medicine, Surgery, or Obstetrics and Gynecology.
    ii. Strong teaching roles in the Faculty of Medicine – DLSPH faculty members are responsible for leadership, quality improvement, health services management, and population health teaching requirements for undergraduate medical students and virtually all faculty teaching within these areas at the post-graduate level are faculty members of DLSPH.
    iii. Growing numbers of degree programs for undergraduate and post-graduate medical learners – the DLSPH offers several degrees that are taken almost exclusively by undergraduate or post-graduate medical learners including the MSc and PhD in Clinical Epidemiology and Healthcare Research and the MSc in System Leadership and Integration, with many other degrees having high numbers of medical learners enrolled on full or part-time bases. The DLSPH is also the home of the postgraduate medical residency program in Public Health and Preventive Medicine and partners with the Department of Medicine on the residency program in Occupational and Environmental Health. The Faculty of Medicine and DLSPH are also exploring joint MD-PhD and MD-MPH programs.
    iv. Strong governance relationships – the Faculty of Medicine is a member of governance (executive committee) of DLSPH's most prominent extra-departmental units including the Institute of Health Policy, Management, and Evaluation (EDU-A), the Joint Centre for Bioethics (EDU-C), the Institute for Global Health Equity and Innovation (EDU-C), and the Waakebiness-Bryce Institute for Indigenous Health (EDU-C). DLSPH faculty members are also the chair or members of executive committees of extra-departmental units based in the Faculty of Medicine such as the Centre for Quality Improvement and Patient Safety (C-QUIPS).

2. The DLSPH also has strong relationships with other faculties around the University of Toronto. These relationships include collaboration on degree programs, teaching, and governance roles including:
    i. The Master of Health Informatics degree – the Institute of Health Policy, Management and Evaluation (IHPME) offers the Master of Health Informatics degree with strong support from the Faculty of Information. Members of the Faculty of Information teach in the degree program and serve on the advisory and admissions committees for the degree. Several Faculty of Information students also take IHPME courses and at the end of each year, IHPME and the Faculty of Information (FI) share resources based on student numbers. One IHPME faculty member holds a budgetary cross-appointment in the FI where he teaches a half course.
    ii. MPH in Nutritional and Dietetics degree – the DLSPH collaborates with the Department of Nutritional Sciences (Faculty of Medicine), University Health Network and Toronto Public Health to offer the MPH with a focus in nutritional science.
    iii. Undergraduate teaching – DLSPH faculty from all of its graduate units lead 11 undergraduate courses at the St. George and Scarborough Campuses including courses on health policy, global health, health informatics, bioethics, and other public health topics. The DLSPH is exploring a joint undergraduate major in public health with the Faculty of Arts and Sciences and IHPME is exploring a blended undergraduate and MHI degree with the Scarborough Campus.
    iv. Joint degrees – the DLSPH offers a small number of joint degrees in collaboration with other faculties such as a MSW-MHSc (Health Administration). One other program, a joint MN-MHSc (Health Administration) is being phased out as revisions to the MN degree this year (a shift to an online platform) make it difficult to maintain a blended curriculum.
    v. Governance relationships – the DLSPH's extra-departmental units and research centres reflect a strong pan-university engagement of other faculties. For example, the governance (executive) committee for IHPME includes the Deans of Medicine, Pharmacy, Information, Nursing and Public Health (Chair) and the executive committee for Joint Centre for Bioethics includes the Deans of Medicine, Law, Arts and Science, the School of Graduate Studies, and Public Health (Chair).
    vi. Other collaborative research and teaching – the DLSPH engages with a wide range of other faculties in graduate teaching (e.g. engineering, anthropology, and psychology faculty members teach courses in the DLSPH), continuing education (the Faculty of Medicine organizes the introductory courses for the IDEAS program on Quality Improvement and Leadership that is run out of IHPME), and collaborative research programming in a wide range of areas. DLSPH also leads the Strategic Training Program in Advanced Genetic Epidemiology (STAGE) that provides advanced training to post-doctoral fellows across four hospital research institutes and the University of Toronto.
    vii. Participation in Collaborative Programs – the DLSPH currently leads eight collaborative programs that provide additional skills, knowledge and competencies to graduate students and participates in another collaborative eight programs. All of these programs include faculties from across the University of Toronto.

Relationships within DLSPH: the "Speaking Up" Survey

DLSPH faculty and staff attitudes and perceptions are assessed regularly through the university's "Speaking Up" Survey. In 2010 and 2014, the University of Toronto invited all full-time and part-time appointed faculty and staff at the three campuses to participate. The survey included questions on topics like leadership and management, work design, performance and recognition, safety, tools and resources, communications, diversity and equity, growth and development, cooperation and collegiality, and workload and balance. The purpose of the survey was to identify strengths and gaps in employee experience and chart progress against peer institutions as well as internal and external benchmarks set by the University of Toronto.

Table 8.i: Speaking Up Survey Results by Category: Percentage (%) of Staff and Faculty Respondents who selected "Satisfied" or "Very Satisfied" to Questions in each Survey Category

Survey Category	DLSPH 2010 (%)	DLSPH 2014 (%)	U of T 2014 (%)
My Work	69	65	73
My Workload	56	61	62
My Department	65	73	73
My Manager	66	67	70
Communication	51	51	53
Recognition	54	62	66
Environment		53	57
Likelihood to Stay	51	52	60

n (2010) = 31 faculty (of 58) and 23 staff (of 40) = 56% response rate
n (2014) = 35 (of 65) faculty and 37 staff (of 64) = 56% response rate

In 2010 and 2014, the DLPSH was slightly below or at the U of T average in all survey categories, but there were improvements in satisfaction within the DLSPH around workload and departmental culture in 2014 compared to the 2010 results. The DLSPH was also given an "engagement score" based on overall satisfaction with being an employee at the University of Toronto and job motivation. This score was of 4.3 out of 5 – the same as the U of T average.

Overall in 2014, DLSPH faculty and staff were particularly satisfied with department/division-level communication and respect, overall staff and faculty engagement, and workload reasonableness. Faculty and staff indicated room for improvement around understanding job responsibilities, orientation to the workplace, and opportunities for job-related training and professional development. See **Appendix 45** for additional Speaking Up survey results.

Climate within DLSPH: the Population Health (PHS) COACHE Results

In 2012, the University of Toronto participated in the Collaborative on Academic Careers in Higher Education (COACHE) based at Harvard University. The online survey was developed to assess faculty perceptions of career satisfaction. The survey themes were: nature of work (research, teaching and service); collaboration and interdisciplinary work; departmental

culture; tenure, promotion and mentoring; policies and benefits; and leadership (see Table 8.ii). The results were compared against the cohort and peer institutions.

Although we discuss the results below, they must be interpreted with caution. First, the survey was not administered treating the School of Public Health as a separate entity, and by focusing on the results pertaining to faculty who were identified as "Population Health", the data from these respondents may include faculty who are not currently in the DLSPH, while the data may be missing from other faculty who are now part of DLSPH. Second, the DLSPH has gone through a dramatic series of changes since 2012, making this data quite dated and likely of limited value in interpreting current trends.

Overall, Population Health scored lower on overall satisfaction than U of T as a whole – 65.5% versus the U of T average of 78.60%. Population Health faculty were near the U of T average for the percentage of faculty who "would choose to work here, if they could do it again". U of T faculty averaged 78.9% while the Population Health score was 75.9%. Population Health scored lower on overall satisfaction – 65.5% versus the U of T average of 78.60%.

Population Health was above the U of T average around satisfaction with the communication of priorities, the Dean's pace of decision-making, and with the Dean ensuring opportunities for input into policy decisions. Population Health was weakest around satisfaction with mentorship and the culture of promotion and tenure. For instance, 65.5% of Population Health faculty members were satisfied with the Faculty as a place to work, compared to 77.9% for U of T; 48% were satisfied with the Faculty culture encouraging promotion compared to 66.8% for U of T; and 29.1% were satisfied with the effectiveness of mentoring compared to 54.2% for all of U of T.

Table 8.ii: COACHE Results: University of Toronto Compared to Health Sciences Average

Question	U of T	Population Health Score
Percentage of faculty that would choose to work here, if they could do it again.	78.90%	75.9%
Percentage of faculty that are satisfied with their place of work	78.60%	65.5%
Percentage of faculty satisfied with the communication of priorities	42.90%	60.7%
Percentage of faculty satisfied with communication of stated priorities.	41.90%	59.2%
Percentage of faculty satisfied with the Dean's pace of decision making.	46%	58.4%
Percentage of faculty satisfied with the Dean ensuring opportunities for input into local policy decisions.	36%	59.2%

Percentage of faculty satisfied with their Faculty as a place to work.	77.90%	65.5%
Percentage of faculty satisfied with the Faculty culture encouraging promotion.	66.80%	48%
Percentage of faculty satisfied with the clarity of the time frame for promotion	53.70%	44%
Percentage of faculty satisfied with the sense provided of whether or not they will be promoted	40.50%	27.3%
Percentage of faculty satisfied with the importance of mentoring within the Faculty	83.10%	81.2%
Percentage of faculty satisfied with the effectiveness of mentoring of pre-tenure faculty	54.20%	29.1%
Percentage of faculty satisfied with the effectiveness of mentoring within the Faculty	62.10%	28.6%

Question	**U of T**	**Health Sciences**
Percentage of faculty who said they were satisfied with the influence they have over the focus of their research and scholarship	94.5%	91.6%
Percentage of faculty who said they were satisfied with their discretion over course content	91.9%	89%
Percentage of faculty who indicated that one of the best things about working at U of T was the quality of their colleagues	48%	46.6%

Relationships with Other Universities

The DLSPH maintains strong relationships with a number of other universities in Canada and abroad. These relationships include extensive collaborations by individual faculty members, but they also include more significant institutional level collaborations. Examples include the following:

i. Moi University (Eldoret, Kenya) – Paula Bratstein (Associate Professor, DLPSH; CIHR Applied Public Health Chair [2015-2020]; and Visiting Professor, Moi University) is based in Kenya where she works on issues around the HIV prevention-care continuum. Her role at Moi provides a platform for engagement of other faculty in work in Kenya.
ii. Scuola Superiore St. Anna (Pisa, Italy) – IHPME has a cooperation agreement with the Scuola Superiore St. Anna in Pisa around performance measurement and management research in healthcare that has resulted in multiple faculty and student exchanges on this topic, as well as a limited number of joint publications and invited presentations in both countries.

iii. Jerusalem College of Technology (Jerusalem, Israel) – IHPME has a cooperation agreement with the Jerusalem College of Technology to help the College develop a version of the MHI degree.
iv. Mahidol University (Bangkok, Thailand) – DLSPH faculty in occupational and environmental health, clinical public health, health economics, and health policy have extensive interactions with Mahidol University, including supervision of graduate students, arranging placements for DLSPH students in Thailand and organizing doctoral and post-doctoral fellowships for Mahidol students in Toronto. Mahidol and DLSPH are currently in discussions about opportunities for joint programming and deeper collaborations.
v. Ontario's six Faculties of Medicine – IHPME (in collaboration with Health Quality Ontario and the Institute for Clinical Evaluative Sciences in Ontario) coordinates and provides overall academic leadership for the IDEAS program that is designed to train hundreds of practicing clinicians and healthcare administrators in Ontario on quality improvement and leadership. Ontario's six Faculties of Medicine participate in the IDEAS program and provide the introductory component of the program in their communities to more than 1000 participants each year.
vi. CHARI – The Critical HIV/AIDS Research Initiative (CHARI) was initiated in the late 1990s. The Initiative involves faculty and staff from the HIV Social, Behavioural and Epidemiological Studies Unit, DLSPH, University of Toronto; the Centre for the Study of AIDS, University of Pretoria, South Africa; the National Centre in HIV Social Research (NCHSR), Faculty of Arts and Social Sciences, University of New South Wales; and the Nucleus for the Study of AIDS, University of São Paulo, Brazil. Through joint projects and activities CHARI brings together a variety of perspectives to make sense of the social dimensions of HIV and AIDS; analyzes local, national and international responses to HIV and AIDS; identifies new ways of consulting and working with diverse communities and groups; develops accounts of the nature, causes and consequences of the epidemic which are complimentary to those offered by behavioural and epidemiological approaches to public health; and identifies and evaluates new approaches to programme development and intervention.
vii. The Consortium for the Canadian Community of Practice in Ecosystem Approaches to Health involves the Dalla Lana School, the University of Montreal, York University, the University of Moncton, the University of Northern British Columbia and Simon Fraser University in a formal collaboration to facilitate and strengthen existing exchange among member organizations in order to consolidate and develop research, education and practice in ecosystem approaches to health including: (a) Development of collaborative research projects; b) Organization of joint academic and scientific activities, such as courses, conferences, seminars, symposia or lectures; c) Opportunities for student internships, exchanges and supervision; d) Production of joint publications; e) Exchange of experiences in relation to collaborative projects with partners from other organizations, sectors or countries. The Consortium has been active since 2008 and a formal MOU was signed by all parties in 2016.

Collaborations with Other Institutions

One of the defining characteristics of the DLSPH is its strong connection to ministries, agencies, and providers in Toronto, across Ontario, and even at a global level. This tight connection to these groups was identified as a key strength of the school as part of the independent environmental scan conducted for the most recent DLSPH strategic planning exercise (*Towards 2021 and Beyond*). These tight relationships are with many groups:

i. Affiliated hospitals – the DLSPH has tight connections with virtually all of the Greater Toronto Area (GTA) hospitals, particularly with the hospitals that are members of the Toronto Academic Health Sciences Network (the university-affiliated hospitals in the GTA). DLSPH's partnerships with these institutes include Extra-Departmental Units like the Joint Centre for Bioethics (in partnership with several GTA hospitals and agencies) or the Centre for Quality Improvement and Patient Safety (with the Sunnybrook Health Sciences Centre, the Hospital for Sick Children, St. Michael's Hospital and the Faculty of Medicine), formal collaborative programs like the STAGE program noted above, and research projects and programs. The most important partnership between the DLPSH and affiliated hospitals is through our faculty who are appointed at the university but employed through the hospitals or their research institutes. There are many faculty members and most of them are actively engaged in teaching, student supervision or other forms of service to the DLSPH.
ii. Provincial government agencies – the DLSPH has tight connections with all of the major provincial health agencies located in the GTA through faculty memberships, major collaborative programs (like the IDEAS program), student placements and practicums, and shared research projects including Public Health Ontario, Toronto Public Health, Health Quality Ontario, Cancer Care Ontario, the Toronto Central Local Health Integration Network, and the Toronto Central Community Care Access Centre.
iii. Federal and international agencies – the DLSPH has strong formal relationships with federal agencies, most notably the Public Health Agency of Canada, and with international agencies such as the World Health Organization, Dignitas, and the World Bank where DLSPH faculty are appointed and who actively engage with the School through student supervision, lecturing, and organizing student placements.
iv. ICES – the Institute for Clinical Evaluative Sciences (ICES) is the provincial repository and analytic institute working on applied health research topics. ICES' core funding comes from the provincial government but it is an independent non-profit corporation. DLSPH has very strong relationships with ICES through its faculty members (a large proportion of DLSPH faculty working on quantitative topics are DLSPH faculty and vice versa), as the home for ICES U of T (a node of ICES with access to linked ICES data on site at DLSPH), and through grants and large collaborative programs like the IDEAS program.
v. INSP, Mexico - this collaboration led to a bilateral exchange of faculty between the DLSPH and INSP and the expansion of the Million Death Study (primarily focused in India) to the 10 Million Death Study (now involves Mexico and other countries).
vi. ICDDR, Bangladesh - this collaboration led to a bilateral exchange of faculty between the DLSPH and ICDDR. The DLSPH was able to access a significant amount of data from

Bangladesh and a post-doctoral fellow who came to St. Michael's Hospital to work with Prabhat Jha.

vii. Simon Bolivar University, Ecuador - A short-term undertaking to host a conference in Quito.

Maintaining and Improving Relationships

The DLSPH has a long tradition of strong partnerships that are central to its research and education missions, particularly with local organizations. These relationships require attention and respect to build and sustain. Over the last year, the DLSPH has taken a number of steps to build and strengthen these partnerships. These include, most notably:

i. Creation of a Dean's Advisory Board – the Dean of the DLSPH created an advisory board composed of leaders of agencies, hospitals, health charities, and private sector organizations. The Board has met three times and will now refocus its efforts on twice a year meetings, one of which will review progress against the DLSPH strategic plan and the other will focus on identifying and evaluating new opportunities and adjustments to the plan.
ii. Development of policies around status-only and adjunct faculty – the DLSPH has created a committee to look at the terms under which appointments are made to faculty positions from partner organizations. This work builds on a review of these positions by the Division of Social and Behavioural Health Studies and a policy on these positions developed by IHPME. This policy should be finalized in the fall of 2016.
iii. Stronger communications – the DLSPH, as well as its major units (JCB and IHPME) now have monthly newsletters, annual reports, and other communication channels for communicating with all faculty and alumni that have been very positive received.

These steps will not be sufficient to sustain the type of relationships that are desired by our partners with the DLSPH. During the consultations for the DLSPH strategic plan (*Towards 2021 and Beyond)*, it became clear that these relationships were both a critical resource and distinguishing characteristic for the School. Participants, including many from our partner organizations like agencies and hospitals, also made many suggestions on how to improve these relationships. Key among these suggestions were: (1) greater engagement of partners in activities at the school, (2) clear policies and support for engagement of status-only and adjunct faculty; (3) lower administrative burden to participating in the life of the school, and (4) elimination of the "status-only" label, which many found offensive. The School's new strategic plan includes a number of initiatives to address these concerns, including monitoring of the engagement and experience of all faculty members, regardless of their status, and will begin implementation of these activities in the fall.

9 Previous Review Recommendations

Public Health Sciences 2010-2011 Self-Study, External Review and Response

The 2010-2011 UTQAP review of the DLSPH was conducted by Dr. Robert McKeown (University of South Carolina's Arnold School of Public Health) and Dr. Richard Kurz (University of North Texas School of Public Health). The DLSPH self-study, review by Drs. McKeown and Kurz, and the official response of the School (signed by Catharine Whiteside, Dean of the Faculty of Medicine, the home of the DLSPH in 2010-2011) are provided in **Appendix 46**.

In summary, the reviewers divided their findings and recommendations with respect to the School's MPH programs; Other Programs; Faculty/Research; and Administration. Among the many strengths noted by the reviewers were:

- the quality of the students and teaching; the timeliness of their graduation;
- the status of the MPH in Community Nutrition as a unique resource in Canada for addressing obesity, among other conditions;
- the strength of the MSc program in Biostatistics and the PhD program;
- the strong and diverse nature of the faculty, their willingness to mentor students, and their outstanding record of high quality research; and
- the extensive collaborations with health related units across the university and the strong support of and commitment to the School by external stakeholders.

Below are summarized the major recommendations of the reviewers (based on their concerns) and, for each, the 2011 response by the Dean of the Faculty of Medicine; and the subsequent implementation of the response (2011-present), as well as other associated insights and strategies undertaken to address concerns. Note: responding to concerns and recommendations was a key consideration in the subsequent formulation of the DLSPH's strategic plan for 2012-2015.

1. **The MPH programs: A clearer mission statement should be developed; competencies should be more explicitly used to develop the curricula of each program; core content, practica, and other aspects should be developed to meet CEPH requirements; alumni relations need to be strengthened; opportunities exist for developing new degree programs in global health, biostatistics, joint degrees with kinesiology and social work.**

The 2011 response: Dean Whiteside noted the planning of a curriculum renewal exercise, including attention to the review and adoption of competencies (appropriate to DLSPH students) and increased incorporation into the curriculum; a commitment to improving the familiarity and utilization of goals, objectives, and student assessment methods by the faculty; and the anticipated improvement in interactions with alumni through the hiring of a Practicum and Alumni Relations Coordinator.

2011-present: As discussed in detail in Section 3.1, in 2011, the DLSPH established a curriculum renewal task force (CRTF) to assess needs and implement curricular change. The task force conducted an environmental scan of MPH programs in North America, surveyed faculty and alumni, consulted with employers, students and preceptors, and interviewed public health leaders in Canada to identify strengths, gaps and future needs for curriculum revision. From the data gathered, the CRTF developed a vision, mission, goals and objectives for the MPH program.

VISION: MPH graduates are leaders in the advancement of public health through research, education and practice.

MISSION: MPH graduates build on a foundation of disciplinary, interdisciplinary and core public health expertise to enhance the health of individuals and populations.

The overarching goals and corresponding objectives that support achievement of the vision and mission and guide curricular planning for all MPH fields are aligned with the University of Toronto's Statement of Institutional Purpose as well as the DLSPH's stated goal of "training the next generation of scientists, educators and practitioners who will shape healthier societies in Canada and around the world." The MPH goals are as follows (details on the objectives and indicators can be found in Section 3.1): Goal 1: Develop practitioners who are the graduates/employees of choice within the public health workforce; Goal 2: Prepare professionals for leadership roles in public health; Goal 3: Prepare graduates for practice/community-based and academic research involvement; Goal 4: Foster innovative approaches to promoting health and researching and addressing public health issues.

In terms of competencies, the CRTF reviewed the Public Health Agency of Canada (PHAC) Core Competencies for Public Health in Canada (Release 1.0; http://www.phac-aspc.gc.ca/php-psp/ccph-cesp/pdfs/cc-manual-eng090407.pdf) and the Association of Schools of Public Health in the US Council for Education on Public Health Accreditation Criteria (CEPH competencies, http://ceph.org/assets/PHP-Criteria-2011.pdf) and considered adopting one of these sets. Given the field specializations and application of discipline-specific competencies within each of the fields however, the team decided that a streamlined set of competencies that draws on both the PHAC and CEPH competencies, and highlights the leadership and interdisciplinary skills identified in the environmental scan, would be more productive in helping address the cross-cutting program priorities. With considerable faculty and stakeholder input, a set of 30 competencies (see Section 3), all falling within the 7 PHAC categories, was developed through a consensus process, and guided the subsequent next phase of curriculum renewal. Each MPH field completed a mapping exercise to assess the degree to which these competencies were being met through the existing curriculum and these were compiled. Development was undertaken of case-based learning in the Introduction to Public Health core course that all DLSPH students take, and where they work in interdisciplinary/inter-professional teams to complete real life case studies. In 2015 the mapping exercise was repeated to monitor progress and identify new needs. MPH program leads identified significant improvement in all 5 priority areas and new cross-cutting gaps including the need for attention to chronic and infectious disease, environmental health (for non-OEH students), socio-cultural perspectives for EPI, OEH

and FCM, and biological and physiological perspectives for HP and Epi students. Subsequent planning focused on these priority areas.

With respect to alumni relations, the DLSPH proceeded with hiring a Practicum and Alumni Relations Officer, Julie Foisy (a DLSPH graduate) who did an outstanding job of improving and organizing the School's outstanding portfolio of practicum placements for MPH students; and working with the Public Health Alumni Association (PHAA) to improve its mandate, organization and effectiveness. PHAA restructured its Board to more accurately reflect the needs of alumni, including positions such as a new alumni officer, an outreach officer and an events and activities officer. These positions, in tandem with the Alumni Relations Officer, have been integral to the success of numerous connecting events, such as the 2015 Canadian Public Health Association Annual Conference Alumni Event that pulled in over 200 alumni, students, faculty and staff; the "In the Loop" series that was launched in 2015 to bring alumni together for continuing education on an issue at the forefront of public health; and celebration events at every convocation cycle bringing new and not-so-new alumni together to connect. The Outreach Officer and the Alumni Relations Officer also have co-chaired a successful Alumni-Student Mentorship Program that has tripled in size in only two years. Finally, the awards officer revamped the awards committee and process, ensuring that the Alumni Award of Excellence was awarded to outstanding alumni (Jeff Reading 2015), and that the Student Conference Travel award was increased to meet the needs of MPH students. In a few short years, the Alumni Association has come to the forefront of the DLSPH, supporting its endeavours and furthering its reach.

With respect to new degree programs, the DLSPH has created a new Masters in Health Informatics program (through IHPME) and is currently in the process of creating a new Master's of Science in Clinical Public Health program, a new MD-MPH program, and a new Undergraduate B.A. and B.Sc. program (all described above). Additional new degree programs are being contemplated, including a new Dr.PH program and new joint degree programs with the Bloomberg School of Nursing and the Factor-Intewash School of Social Work.

2. MSc in Biostatistics-consider alternate modes of delivery (evening or weekend courses) to assist working students; MScCH-review match with CEPH requirements; PhD-address funding issues (research assistantships, teaching assistantships).

The 2011 response: Dean Whiteside noted plans to address these issues through the work of ad-hoc committees, etc.

2011-present: As noted earlier, the Curriculum Renewal Task Force addressed these issues in detail. Separately, an ad-hoc committee revised DLSPH policies on PhD funding that were implemented in 2015.

3. Research activity could be increased for tenured or tenure-stream faculty. The role and functions of the Research Services Unit need to be reviewed.

2011-present: As noted in Section 4, research activity has been spurred since 2013 with the creation of a new Office for Research and Associate Dean of Research position, as well as the recruitment of outstanding new faculty (both tenure track and contract). The senior staff member of the Research Services Unit has been recruited to work on high-level strategic priorities of the Associate Dean for Research, and new staff are being hired to work on the significantly expanded portfolio of grant submission and post-grant activity.

4. **Expanded collaborations are to be encouraged with cognate units, with opportunities addressed for expansion of relationships, especially with the Department of Health Policy, Management and Evaluation. The cost-benefit balance could be adjusted so as to not disadvantage external stakeholders. Consider guaranteed funding of one year for master's and four years for doctoral students.**

2011-present: As noted earlier in Section 1, IHPME successively transitioned into the DLSPH in July of 2015. The DLSPH/PHS ad-hoc committee on doctoral student funding generated a recommendation on guaranteed funding for PHS PhD students that was adopted in 2015. At the current time, both the PHS and IHPME doctoral students have multiyear guaranteed funding packages, and IHPME Masters of Science students have funding for their first year of studies. Details are outlined in the sections on PhD students in PHS and IHPME (3.8 and 3.9, respectively).

HPME Response to 2012 UTQAP Final Assessment Report & Implementation Plan

The 2012 UTQAP review of IHPME was conducted by Dr. Regis Blais (University of Montreal), Dr. Barbara McNeil (Harvard Medical School) and Dr. Mark Roberts (University of Pittsburgh) (see **Appendix 47**). Their report identified significant program strengths as: "very high quality" programs; outstanding stature in Canada and the international academic community; rare 8 year accreditation period of the MHSc in Health Administration; high quality research activities; very good publication rankings; very high faculty, student and staff morale; excellent relationships with cognate Faculties, academic departments and units; and engaged alumni.

The review committee offered six opportunities for program improvement and enhancement. The suggestions made by the reviewers were a critical part of IHPME's 2012 strategy development process, with specific elements of the strategy addressing the comments where they could not be handled through operational improvement. These six opportunities, and how IHPME has responded to them, are outlined below:

1. **Streamlining offerings and/or ensuring that marketing materials present integrated picture of programs to improve clarity for students and external audiences and facilitate collaboration.**

In the past five years, IHPME has undertaken a number of activities to address this identified opportunity. The largest initiative was to engage in an extensive program marketing exercise by an external consultant (see **Appendix 48** program specific recruitment materials). This

included a needs assessment, stakeholder analysis and survey of existing programs. The exercise allowed the IHPME community (faculty, alumni and students were involved) to review each program and improve clarity about intended audience, course of studies and intended outcomes. The exercise resulted in improvements of the website (which was itself re-engineered; details discussed in the main report) and an integrated set of recruitment materials (**Appendix 49**). The consultant's report outlined a number of marketing activities for the Institute as a whole, and for each individual program. Next steps for IHPME will involve the fuller role out of the marketing plan – this will primarily involve implementing program specific recruitment activities and a user evaluation of the revamped website. Evidence of the success of this response can be seen in the substantial level of program growth across all programs and the continuing strength of our applicant pool (details available in main report). Three new concentrations have been developed and approved for delivery – programs that allow students to pursue specific interests (MSc QIPS and MSc SLI) or that reflect stage of career development (eMHI).

2. Developing more advanced courses (e.g. biostatistics and advanced research methods) to target needs of IHPME students.

IHPME has now developed a full range of courses (introductory, intermediate and advanced) for all methodological areas – this includes both qualitative and quantitative skills as well as research methods. In addition, advanced courses have been added to all of the different Primary Areas of Study. There are now advanced course options in each Primary Area of Study, many tied to the needs of doctoral students. (A complete listing of all courses is provided in the main report.)

3. Making new information technologies (e.g. web based teaching methods) available to faculty and students.

IHPME continues to have exclusive access (with DLSPH) to an electronic classroom. The computers and software are continually being updated to meet the needs of all students. IHPME also provides access to computers and necessary software to its students in the student study area, as well as areas where students can access the internet with their own computers (which is increasingly the situation – workstations are what are required).

In terms of web based teaching, the University of Toronto has invested in Black Board which is the university supported platform available to all instructors and students. This platform allows for online discussions, links to external resources and "work space" for students to work collaboratively in an online setting. Our experience, however, is that there are many other options that students and faculty are exploring independently – and using very successfully.

In terms of formal web-based teaching, there have been some experiments across our programs. Within the MHSc program, for instance, an online course developed and delivered with partners in Mexico and the United States on health system comparisons has been successfully offered twice. In the MSc/PhD program, a program planning and evaluation course has been offered for 4 years to allow students access to this material while they are in a

practicum. In a number of cases, electronic materials (i.e. talks by well-known experts) have been developed and are available for use in a range of classes. In a number of cases (for instance, introductory statistics and accounting), there are excellent online resources that we have purchased access to for our students.

Incorporating web-based teaching within the academic programs of IHPME is something that is of great interest to our faculty and students. We anticipate that academic programs that incorporate "blended instructional models" in their programs will be the gold standard of the future and this is something that we have identified as a priority.

4. Reviewing comprehensive exams to improve coherence across streams and ensure their purpose and objectives are clear to students and faculty.

In 2013, the Primary Area of Study coordinators, Program Director, Graduate Coordinator, a representative sample of current and graduated students and a select number of program instructors held a retreat to discuss a number of topics, including the comprehensive examinations. After this retreat, the Primary Area of Study coordinators reviewed their specific comprehensive examinations with the specific goal of improving coherence across streams (primary areas of study) and clarifying objectives. While there are still differences between the different primary areas of study in terms of what is involved in the comprehensive examinations, there have been no recent complaints about lack of clarity or inequity between areas expressed to the Graduate Coordinator or Program Director.

More generally, the doctoral program was re-designed to foster greater connections between the primary areas of study. Before the previous review, the doctoral program had a Program Director. Comprehensive examinations were organized informally by faculty in each broad area. In the re-design, the program has added designated coordinators for each primary area of study. These individuals are responsible for the welfare of "their" students, including ensuring their programs are comparable. They meet on a monthly basis to review the program and discuss any issues. Any concerns with respect to program requirements now have a forum to be debated and resolved that did not exist previously.

5. Exploring student needs in terms of interactions, communication and office space to address any identified needs.

The previous review identified a number of opportunities for improvement with respect to student needs. One important issue was student space and how communication and interaction between faculty and students could be improved. To address this concern, IHPME undertook a significant re-design of its student space, in coordination with the student association. The existing student area encompassed two spaces. One of those areas was re-designed to add two group work spaces (students had identified the need for more group work areas) and to improve the sound proofing of the drop-in desk area (doors and sound proofing were added to the area). The second area was entirely renovated, so that it was included within the existing faculty area. This project was completed at the end of 2015 and has resulted in doctoral students sitting in close proximity to their supervisors and to their

supervisors' research teams. The objective is to increase interaction and communication between students and between students and IHPME faculty. The change is still relatively new, but promises to achieve this objective.

Other initiatives have included introducing Town Halls to allow a forum for students to speak with IHPME's Director. Students have been included on all relevant Institute committees (including all program committees and Curriculum Committee). The Society of Graduates has introduced new measures to incorporate existing students within its programs – and this has resulted in excellent turn outs at their events. The SOG is in the process of reviewing its relationship with IHPME with the goal of increasing mentorship programs and strengthening alumni access to IHPME activities. IHPME continues its very successful Research Day; planning for the morning panel has been almost entirely turned over to the student association (with faculty oversight). More broadly, the Institute has implemented a monthly Newsletter and a re-vamp of its website. The Newsletter has ongoing articles about students and the website has worked to improve access to materials for students.

6. Developing a recruitment plan, including junior and more experienced faculty, to address anticipated retirements and support expanding degree programs and advanced analytic courses.

A recruitment plan has been prepared (see **Appendix 50**) which is guiding the recruitment of new faculty. IHPME has recently recruited three new faculty hires, one more experienced and two more junior, with additional hires planned.

A significant and positive change in IHPME's recruitment strategy has been the increasing use of adjunct and status faculty to enrich its educational programs. There is a growing recognition that to be successful, academic programs need to blend academic rigour with the expertise of the field. Because of IHPME's extensive network of stakeholders, the expertise of these individuals is being incorporated into our programs. Not only are these individuals involved as guest lecturers, but in many instances they are acting as course instructors and course coordinators. Their experience and talents has allowed IHPME to expand well beyond the limitations imposed by a relatively small number of core, tenured faculty, while improving the quality of our programming.

10 Future Directions

Key accomplishments for 2013-15

- Establishment of the DLSPH as stand-alone Faculty
- Transition of key academic units and EDUs into the DLSPH (IHPME and JCB)
- Creation of the IGHEI and WBIIH
- Growth in academic program offerings and learner enrollment
- Increase in global health course offerings
- Continued research advancement
- Expanded engagement between researchers, policy-makers, and practitioners, with increased number of co-created initiatives (e.g. IDEAS initiative)
- Increase in jointly-supported faculty positions
- More than $30 million in external support for research annually
- More than $30 million fundraised annually

The DLSPH has a unique history as one of the original Rockefeller Schools of Hygiene in the 1920's with significant accomplishments, including the ongoing mass production and world-wide distribution of insulin. When communicable diseases seemed vanquished by vaccines and antibiotics, U of T transitioned the School of Hygiene into a community health department in the Faculty of Medicine. The SARS crisis in 2003 led to a rebirth of public health academics in Canada. Since the unprecedented $20 million gift from the Dalla Lana family in 2008, the Dalla Lana School of Public Health has experienced an accelerated trajectory of growth and development, further realized by Dean Howard Hu's leadership beginning in 2012.

Inherent in going through its first University of Toronto Quality Assurance Process, the self-study has been a timely opportunity for the DLSPH to review its progress and identify areas of its existing programs that require improvement or that hold promise for enhancement, even while the School, now a stand-alone Faculty, continues to develop and pursue new research and educational initiatives. It is also an opportunity to foresee long-range planning challenges.

Since our new 2016-2021 Strategic Plan (completed in May, 2016) explicitly addresses most of the Future Directions that were also identified as important during the course of our self-study, we reproduce below the high-level summary of our Strategic Plan (Table 10.1) with annotations added to identified the 3 "Future Direction" topics as follows:

* Areas identified through the conduct of the self-study as requiring improvement;

Areas that hold promise for enhancement; and

$ Initiatives or changes planned to provide further support to or enhance research, scholarship or programs.

Table 10.1 DLSPH Strategic Plan High-Level Summary

1. Improve the learner experience in existing and newly created programs for public health and health systems capacity education	2. Ensure globally recognized impact and excellence in public health and health systems research	3. Enhance partnerships and management of the DLSPH
* Improve teaching space and deploy proven enabling technologies, where appropriate	# Establish enhanced administrative and support infrastructure for research to increase the amount and range of funding sources	* Increase managerial efficiency at DLSPH and reduce faculty administrative burden
$ Increase access to learning at the DLSPH for talented learners from Canada and abroad	$ Create a methodological support hub to increase research excellence that spans qualitative, quantitative and mixed methods scholarship	# Improve collegial experience and engagement of all faculty members
# Capture and incorporate new developments in pedagogy to ensure public health-health systems learning	# Develop criteria for assessing progress and impact of interdisciplinary centres of excellence and key cross-sectoral research initiatives	$ Create a model physical and professional environment that supports health for learners, staff and faculty
# Enrich opportunities for engaged and experiential learning, knowledge production and knowledge transfer	$ Prioritize support for centres of interdisciplinary scholarship and build community-based collaboratories that support joined-up improvements in health and health systems	* Strengthen engagement with alumni
$ Systematically generate and rigorously test evidence on existing and innovative approaches to public health and health systems education and learning	# Ensure that impact on public health and health systems is a primary goal of all new initiatives	* Strengthen engagement with donors
$ Use our close connection to the local health system to collect data on workforce and diverse stakeholder needs specific to building coherent public health and health systems capacity plans	# Ensure a close link between positive impact on health and health systems and the DLSPH's approaches to reward and recognition of faculty and learners	# Ensure the DLSPH's management, communications and partnerships with communities and local organizations in all relevant sectors reflect a strong focus on impact and collaboration
# Work with our partners to refine and increase experiential learning opportunities, such as practicums		# Improve clarity and quality of partnerships with collaborating organizations and institutions, through new and enhanced partnership models that support impact along with scholarship
* Strengthen pathways within and wayfinding across the University to graduate training at DLSPH		

$ Increase high impact capacity development initiatives that can help mobilize communities and create resilient health systems

In addition to these areas, our self-study identified a few additional challenges/opportunities that are critical for our Future Directions. They include:

Areas for improvement

- Implement revisions to our curriculum that will address competencies identified as being essential for our students that remain incompletely addressed.
- Clarify the expectations of, benefits to, and contributions by, status-only and adjunct faculty in relation to teaching and service
- Continue progress in revising our PhD funding policies to improve fairness, transparency, and ability to meet the needs of our students.
- Improve the laboratory space of our lab-based scientists.
- Clarify DLSPH policies regarding research grant indirect costs.
- Finalize a recruitment plan for the next set of faculty recruits that aligns with the Strategic Plan and school-wide priorities.
- Implement annual surveys of DLSPH faculty, students and staff that are geared to identifying specific ideas for improvement in climate, productivity, etc. (See **Appendix 51**.)

Areas that hold promise for enhancement

- Merge our university-wide Collaborative Doctoral Program in Global Health with the DLSPH Masters Emphasis Program in Global Health to become a university-wide Collaborative Program in Global Health for both Doctoral and Masters students.
- Grow the OEH PhD program, capitalizing on a new $4.17 M CIHR-funded initiative on urban environmental health that DLSPH successfully competed for (the Canadian Urban Environmental Health Consortium; http://www.cihr-irsc.gc.ca/e/49475.html).
- Launch (in 2017, as planned) and grow the MD-MPH program.
- Launch and grow the undergraduate major and minor program in collaboration with the Faculty of Arts & Science (target date: September 2017).
- With the arrival of the first permanent Director, accelerate the development and impact of the Waakabiness-Bryce Institute for Indigenous Health.
- Accelerate the development and impact of the Institute for Global Health Equity & Innovation.
- Continue the maturation of global health partnerships to develop a defined set of collaboration platforms that are optimally positioned to advance interdisciplinary training and research in global health and that take advantage of emerging funding opportunities.
- Leverage outputs of a DLSPH brand exercise (planned for 2016-2017) to establish DLSPH point of differentiation among its competitors and develop a student recruitment marketing strategy targeting domestic as well as selected sub-populations of international students.

New Initiative Opportunities

- Create a Doctor in Public Health (DrPH) Program.
- Consider new joint degree programs with Nursing, Social Work and Law.
- Launch city-wide public health campaign with key partners (PHO, TPH, etc.) with a goal to make Toronto the healthiest city in the world.

Long Term Challenges

- Space: as the DLSPH continues to expand, space for faculty offices, student meeting rooms, classrooms (particularly those that can accommodate modular and other non-traditional forms of learning), laboratories (dry and wet) and other strategic uses has emerged as a critical issue. Both short-term (e.g., through rentals) and long-term issues will be addressed beginning in the fall of 2016 by a committee representing DLSPH leaders in conjunction with budget and space planning leaders in the Provost's Office.
- Enrolment Ceiling: as noted earlier, natural ceilings to DLSPH student enrolment growth need to be considered based on market, physical plant, faculty and other restraints.
- Student financial aid: as noted earlier, provided greater financial aid will be a key ingredient towards addressing early erosions being seen in applicant yields (i.e., the matriculation of admitted students).
- Research funding sources: uncertainties regarding the evolution of funding for research relevant to DLSPH scholarship continue based on changes (and associated controversies) related to CIHR and other primary source agencies. This will be closely monitored by our Office of Research.
- Advancement campaign (see below).
- Leadership - being able to attract the best scholars and scholar-leaders given the decreased value of Canadian currency, US applicants, etc.

Advancement

With the DLSPH entering its fourth year as a stand-alone Faculty and the launch of the Dalla Lana School of Public Health's Boundless Campaign in 2014-2015, the School has made itself the destination of philanthropic support and is well-poised to build a strong contingent of loyal donors and alumni for long-term and sustainable support of the School's programs. The plan partially rests on accelerating engagement strategies with its approximately 7,000 alumni with targeted communications and events as well as continuing a sophisticated approach to major giving. Combined, the Advancement and Communications programs will help attract a deeper interest in – and support of – the School's vision. This will lead to short and long-term revenues for distinct and exciting public health and health systems programs and research, scholarships and bursaries, chairs and professors, and much needed capital investments for the School's continued growth.

This next year will see the appointment of the School's second Director of Advancement with Annette Paul (starting October 2016) and additionally hiring a Development Officer, Annual and

Alumni who will work with the Dean and Director of Advancement to create customized and deeper annual giving programs and alumni engagement.

To further support the future direction of Advancement for the Dalla Lana School of Public Health, the University of Toronto will announce – in late fall 2016 – the expansion of the Boundless Campaign. This expansion will capitalize on the strength of the brand of "Boundless", reinvigorate the University's influential volunteers and continue making philanthropy integral to the Dalla Lana School's mission, vision and programs.

No doubt, it remains to be seen if DLSPH's Advancement Campaign will have successes that can approach those of SPH's at Harvard, Johns Hopkins, and other peer institutions in the U.S. The fact that Mr. Paul Dalla Lana and Dr. Michael Dan - the Chair and Vice Chair, respectively, of the DLSPH Campaign Cabinet - are not alumni of the DLSPH but became its two largest donors based on their interest in DLSPH scholarship and impact is promising in this regard.