

# Undergraduate Medical Professions Education

# Annual Report 2013–2014



# Faculty of Medicine

Vision	International leadership in improving health through innovation in research and education	
Mission	We fulfill our social responsibility by developing leaders, contributing to our communities, and improving the health of individuals and populations through the discovery, application and communication of knowledge.	
Values	<ul> <li>Integrity in all of our endeavours</li> <li>Commitment to innovation and excellence</li> <li>Life-long learning and critical inquiry</li> <li>Promotion of social justice, equity, diversity, and professionalism</li> <li>Effective partnership with all our stakeholders</li> <li>Multi-professional and interdisciplinary collaboration</li> <li>Supportive and respectful relationships</li> <li>Accountability and transparency</li> <li>Responsiveness to local, national, and international health needs</li> </ul>	
Undergraduate Medical Professions Education	Undergraduate Medical Education (MD) Program www.md.utoronto.ca MD/PhD Program www.mdphd.utoronto.ca Medical Radiation Sciences (MRS) Program www.radonc.utoronto.ca/future-students/programs/bsc-in- medical-radiation-sciences Physician Assistant (PA) Program www.paconsortium.ca	

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# Message from the Vice-Dean

I am pleased to share the 2013–14 Undergraduate Medical Professions Education Annual Report. This report highlights activities and achievements from 2013-14 that help support the education goals articulated in our Faculty of Medicine Strategic Academic Plan (2011–2016).

An important foundational milestone in 2013–14 was the development of Undergraduate Medical Education (UME) Future Directions (2014–2017), which are included in this report. The UME Future Directions provide a roadmap for implementation of strategic directions for the MD program that fall under four priority areas: admissions processes and learner diversity, innovative curricular pathways and learner assessment, learner experience and support, and faculty and staff engagement and development. Building on the results of the MD program's most recent accreditation, development of the UME Future Directions involved consultation with faculty, students and staff, culminating in a presentation at the April 2, 2014 Faculty of Medicine mid-point strategic planning retreat.

Accreditation helps ensure the quality of our programs. In July 2013, we submitted a status report in response to findings from the MD program's 2012 review. Thanks to the efforts that went into changes and initiatives described in that report, the Committee on the Accreditation of Canadian Medical Schools (CACMS) and the Liaison Committee on Medical Education (LCME) confirmed accreditation of the MD program for another eight-year term.

While accreditation often provides an impetus for change, evidence-based assessment and continuous quality improvement inform all of our strategic activities, including curriculum renewal. This past year, our dedicated group of curriculum leaders, teachers and staff worked towards the development of multiple reforms. A number of these initiatives – such as a new first-year community, population and public health course in the MD program, a redesigned nuclear medicine and molecular imaging technology stream in the Medical Radiation Sciences program, and a reorganization of the Physician Assistant program courses – will be implemented in 2014–15, while others will be phased in over the next several years. In all cases, our goal is to train tomorrow's health care professionals to meet the changing needs of Canadians.

We remain committed to maintaining the high quality of our students while also striving to increase opportunities for learners from diverse backgrounds to apply for and gain admission to our programs. In the pages that follow, you will learn about enhancements to our recruitment and outreach programs, changes to our admissions and enrolment management processes, and increased bursary support for students with the highest level of financial need, all of which support our commitment to diversifying the student body.

Over 2013–14, the Office of Health Professions Student Affairs (OHPSA) continued its work on the development and implementation of wellness initiatives for students in all of our programs, with the ultimate goal being an integrated culture of wellness. OHPSA also developed a strategic plan for enhancements to career management opportunities and services, which are of utmost importance to our MD students.

Our unique Academy system – which provides MD students with a clinical home in an affiliated teaching hospital for the duration of the program – was identified as a particular strength by the accrediting bodies. Building upon the strengths of the Academy system, further steps were taken in 2013–14 towards the development and implementation of an Academy Membership Framework that will support even greater clarity and transparency in the planning and delivery of educational goals that we share with our hospital partners.



The inaugural class of the Mississauga Academy of Medicine (MAM) moved into year three of the MD program in 2013–14. Working in collaboration with Trillium Health Partners, we achieved over 75% capacity across the ten mandatory clinical rotations in the first year of clerkship at the MAM. Following this very successful launch, we are confident that we will be able to increase our capacity in 2014–15 to take core clerks in Mississauga across all ten of our mandatory clinical programs.

I would like to thank our faculty, staff, students and all other members of the undergraduate medical professions education community for their outstanding work and another remarkable year. 2013–14 was a year that saw meaningful initial steps taken toward curricular and operational reforms that I am confident will mark transformative changes in our education programs. I look forward to working together and seeing those initial steps through to fruition.

Sincerely,

Jay Rosenfuld

Jay Rosenfield MD, MEd, FRCPC Vice-Dean, Undergraduate Medical Professions Education

U of T's Faculty of Medicine is at the forefront of life-changing health research and innovation, doing what can't be done since 1843.

# Undergraduate Medical Education Future Directions (2014–2017)







The UME Future Directions (2014–2017) consist of four high-level priority areas, each of which includes a series of corresponding strategic directions, as well as two key enablers. These priorities were developed through stakeholder consultation and represent our plans for implementing the Faculty of Medicine's strategic goals as well as the Future of Medical Education in Canada MD Project Report recommendations.

Keeping with our vision of social responsibility and social accountability, the UME Future Directions encourage, support and promote the development of future academic health leaders who will contribute to our communities and improve the health of individuals and populations through the discovery, application and communication of knowledge.

### Key Enablers

- Evidence-informed assessment and continuous quality improvement are guiding principles that inform all of our strategic activities
- Intelligent use of e-learning, simulation and innovations in technology is an enabler that cuts across all four priority areas

# **UME** Future Directions

PRIORITY AREA	STRATEGIC DIRECTIONS			
Admissions Processes and Learner Diversity	<ul> <li>Enhance admissions processes to most effectively balance consideration of both academic and non-academic qualities and characteristics</li> </ul>			
	<ul> <li>Maximize opportunities for qualified learners from diverse backgrounds to gain admission to the program</li> </ul>			
Innovative Curricular Pathways and Learner Assessment	<ul> <li>Develop user-friendly, competency-based program objectives that both inform curriculum planning and are readily linked to enabling objectives within courses and other curricular components</li> </ul>			
	<ul> <li>Introduce clinically-relevant and adaptive curricular pathways to support greater curricular integration, individualized learning experiences, interprofessional collaborative practice skills, leadership development, and joint degree options</li> </ul>			
	<ul> <li>Develop milestone-based approaches to learner assessment that support achievement of competencies necessary to proceed along the continuum of medical education and that inspire lifelong learning</li> </ul>			
	<ul> <li>Ensure the curriculum supports students at key transition points from admission through to residency</li> </ul>			
	<ul> <li>Facilitate and support opportunities for learning experiences in a variety of settings, including community-based hospitals and agencies</li> </ul>			
Learner Experience	Cultivate an integrated culture of wellness			
and Support	<ul> <li>Provide effective academic support and career management opportunities and services</li> </ul>			
	Enable appropriate professional development throughout the learning continuum			
	<ul> <li>Develop processes to effectively monitor and improve the learning environment as well as strategies to address the adverse effects of the hidden curriculum</li> </ul>			
Faculty and Staff Engagement and	<ul> <li>Develop strategies to encourage and support individual interest in the collective administration, governance and delivery of undergraduate medical education</li> </ul>			
Development	<ul> <li>Develop strategies to ensure commitment to the program by dedicated teachers, administrators and staff</li> </ul>			
	Offer development opportunities for faculty and staff     that support innovations in program delivery			

# Organization & Leadership

The Vice-Dean, Undergraduate Medical Professions Education, oversees the MD and MD/PhD programs as well as the Medical Radiation Sciences and Physician Assistant undergraduate degree programs.

A team of senior academic and administrative leaders is responsible for the management of the MD and MD/ PhD programs, while governance is supported by a robust committee structure that includes active participation by student leaders. The Medical Radiation Sciences (MRS) program is based in the Department of Radiation Oncology, Faculty of Medicine, and is jointly administered with The Michener Institute for Applied Health Sciences.

The Physician Assistant (PA) program is based in the Department of Family and Community Medicine, Faculty of Medicine, and delivered in collaboration with the Northern Ontario School of Medicine and The Michener Institute for Applied Health Sciences.

### Undergraduate Medical Professions Education Program Leadership Organization Chart



# The Medical Academies

A unique feature of the Undergraduate Medical Education program is its Academy system. The four Academies – FitzGerald, Mississauga, Peters-Boyd, and Wightman-Berris – are comprised of clusters of the University's affiliated hospitals and healthcare sites. Each Academy offers a unique combination of educational settings based on the strengths of their member hospitals while at the same time maintaining a consistent high standard of curriculum delivery.

The St. George campus supports the FitzGerald, Peters-Boyd and Wightman-Berris Academies. The Mississauga Academy of Medicine is based at the U of T's Mississauga campus.

At the Academies, students learn clinical skills, participate in problembased learning, interprofessional education, and conduct research in community-based partner agencies. The Academies are led by Directors, who work closely together and coordinate the provision of core curriculum for the MD program.

In 2012–13, we initiated a process to develop Academy membership principles and guidelines for health care institutions participating in the Academy system. This involved consultations with the four Academy Directors and designated education leads of the University's nine fully affiliated hospitals and four major communityaffiliated hospitals. In 2013-14, those stakeholders endorsed the outcome of our consultation efforts: an Academy Membership Framework. Building upon the organic, collaborative relationships from which the Academy system draws its strengths, the Framework provides even greater clarity and transparency in the planning and delivery of shared educational goals, expectations and accountabilities.

Each Academy offers a unique combination of educational settings based on the strengths of their member hospitals while at the same time maintaining a consistent high standard of curriculum delivery.



Anchor
 Associate



# **Clinical Teaching Sites**

Clinical teaching, which occurs in the first two years of the MD program and to a greater extent in clerkship over years three and four, is provided in both academic hospitals and community-based hospitals and healthcare sites, located mainly in Toronto and Mississauga. The number and breadth of clinical teaching sites is a strength of the Undergraduate Medical Education program, as they provide students opportunities for learning experiences in a variety of settings that often involve different perspectives on patient care.

- 1 Baycrest Centre for Geriatric Care
- 2 Bridgepoint Health
- **3** Centre for Addiction and Mental Health
- 4 George Hull Centre for Children and Families
- 5 Hincks-Dellcrest Centre
- 6 Holland Bloorview Kids Rehab Hospital
- 7 The Hospital for Sick Children (SickKids)
- 8 Humber River Regional Hospital
- 9 Lakeridge Health Network
- 10 Markham-Stouffville Hospital
- 11 Mount Sinai Hospital
- 12 North York General Hospital
- **13** Ontario Shores Centre for Mental Health Sciences
- 14 St. Joseph's Health Centre
- 15 St. Michael's Hospital
- **16** The Scarborough Hospital
- 17 Southlake Regional Health Centre
- 18 Sunnybrook Health Sciences Centre
- 19 Surrey Place Centre
- **20** Toronto East General Hospital
- 21 Trillium Health Partners
- 22 University Health Network
- 23 West Park Healthcare Centre
- 24 William Osler Health Centre
- 25 Women's College Hospital
- 26 York Central Hospital
- 27 Rouge Valley Health System

# About the Programs

# Undergraduate Medical Education

## MD Program

The MD program at the U of T delivers a rigorous curriculum that educates undergraduate medical students in the initial phase of their medical education. The first two years of the MD program, called Preclerkship, establish fundamentals through classroom learning, in anatomy labs, through lectures and seminars, and in the community. Clinical skills are developed early on, providing students with patient-based learning from year one. Years three and four are spent in Clerkship, which includes a series of rotations through the major health care specialties. With support from affiliate hospitals and healthcare centres, students delve deeper into clinical areas such as paediatrics, geriatrics, internal medicine, and psychiatry. At the U of T, student learning goes beyond the classroom and hospital walls our medical students are involved in everything from research and community development to athletics. arts and culture.

Our MD graduates demonstrate the knowledge, skills and attitudes necessary to achieve the competencies associated with the seven Royal College of Physicians and Surgeons of Canada CanMEDS roles as well as the College of Family Physicians of Canada's Four Principles of Family Medicine.



U of T's Faculty of Medicine is at the forefront of life-changing health research and innovation, doing what can't be done since 1843. With the support of 28 departments and one of the largest academic health science networks in North America, U of T medical students have the opportunity to interact and collaborate with worldrenowned faculty and researchers, participate in cutting edge research, and apply their knowledge in both urban and community-based environments.

# MD/PhD Program

Our MD/PhD program was established in 1984, the first of its kind in Canada. The goal of the program is to generate physician scientists who are well prepared, highly competitive and productive. Most MD/PhD students pursue graduate studies within the Faculty of Medicine, in the departments of Biochemistry, Immunology, Laboratory Medicine and Pathobiology, Medical Biophysics, Institute of Medical Science, Molecular Genetics, and Physiology.

In addition to the PhD programs offered through graduate departments, centres and institutes, unique graduate-level collaborative programs are also available to students in our MD/PhD program. These innovative programs emerge from the cooperation between two or more graduate units, providing students with a broader base from which to explore novel interdisciplinary areas or special developments in particular disciplines.

Students begin the MD/PhD program by completing Year 1 of medical school, followed by commencement of the PhD degree. Students remain in the graduate phase for four to five years. Following successful completion of their PhD thesis, students then return to complete years two through four of the MD program.

U of T MD/PhD physician scientists advance and shape the world of medical research and play an essential role as members of the health care profession.

## **Developing New Educational Pathways**

The development of competencybased and flexible approaches to medical education is one of the ten recommendations of The Future of Medical Education in Canada (FMEC) MD Project Report and a strategic direction identified in our UME Future Directions. Included below are two examples of steps we are taking to support achievement of that recommendation.

#### MD Program Objectives Review

A comprehensive review of the MD program's goals and objectives was initiated in 2013-14. Under the leadership of Dr. Martin Schreiber, Director, Curriculum and Senior Academic Coordinator, Accreditation, and with support from working groups and a steering committee, the review will be informed by CanMEDS 2015 and Future of Medical Education in Canada MD Project recommendations as well as developments at the Medical Council of Canada and College of Family Physicians of Canada. The revised program competencies and milestones will provide a framework that can be effectively taken into account in curriculum planning and evaluation in general and readily linked to enabling objectives within individual courses in particular.

### Integrated Physician Scientist Training Pathway

Based on the recommendations in our 2012 Faculty of Medicine Task Force Report on Physician Scientist Education, we are developing an integrated pathway of physician-scientist education along the continuum of undergraduate, graduate and postgraduate medical education. Led by Dr. Norman Rosenblum, Associate Dean, Physician Scientist Training the Task Force's vision of a distinct pathway for the education of research-interested students and residents is being transformed into a working model of an integrated training pathway. Guided by the principles of integration, customization, flexibility and innovation, and harnessed to facilitate student aspiration, success and career sustainability, the pathway model provides the basis for the design of specific implementation components.

#### About the Programs Undergraduate Medical Education



• 18–20 (2%)

• 21-25 (78.5%)

• 26-30 (16.2%)

• 31-40 (1.2%)

• FEMALE (52.3%) • MALE (47.7%)

## Student Diversity

The Faculty of Medicine's Diversity Statement articulates our principles and goals with respect to student diversity, and identifies three groups for priority attention: Indigenous Peoples of Canada (First Nations, Inuit, and Métis), People of African ancestry, and the economically disadvantaged. We are also committed to providing a welcoming and accommodating environment to LGBTQ students. In alignment with our Diversity Statement, we are committed to maximizing opportunities for students from diverse backgrounds and under-represented populations to gain admission to the MD program.

### **Priority Groups**

1.3%
1.9%
17.3%
3.8%

Student diversity data drawn from entry surveys for admitted MD students completed by students entering first year in 2010-11, 2011-12, 2012-13 and 2013–14. Of those four cohorts, 693 of 1031 (67.2%) students responded to the survey.

> From the 2010 to the 2014 admissions cycle, there has been more than a four-fold increase in the number of applications from individuals who self-identify as being of Aboriginal descent.

# **UME** Admissions

The Undergraduate Medical Education program has a large and highly competitive applicant pool as well as a consistently high rate of acceptance of offers. From 2013 to 2014, there was a 10% increase in the number of applications to the MD program and a 40% increase in the number of applications to the MD/PhD program. For September 2014 entry to the MD program, there was a 79% acceptance rate of offers for the MD program at both campuses, St. George and Mississauga.

In March 2014, we created a new position – Associate Registrar, Enrolment Management – to help lead various initiatives to assess, develop, and implement outreach and recruitment strategies aligned with the Faculty's missions and values.

SEPTEMBER

**2013 ENTRY** 

88

79

42

14

12

86%

SEPTEMBER

2014 ENTRY

123

88

46

10

8

80%

#### **MD** Program

	SEPTEMBER 2013 ENTRY	SEPTEMBER 2014 ENTRY	
Applicants	3153	3463	Applicants
Files Reviewed	1775	1990	Files Reviewed
Interviews	587	600	Interviews
Offers	338	336	Offers
Acceptances	259	259	Acceptances
Acceptance Rate of Offers (without deferrals)	78%	79%	Acceptance Rate of Offers

#### Gender Distribution

	SEPTEMBER 2013 Entry	SEPTEMBER 2014 ENTRY	_	SEPTEMBER 2013 ENTRY	SEPTEMBER 2014 ENTRY
Male	49%	50%	Undergraduate degree	73%	74%
Female	51%	50%	Graduate degree	27%	26%

## Students with graduate degree

SEPTEMBER 2014 ENTRY		SEPTEMBER 2013 ENTRY	SEPTEMBER 2014 ENTRY
50%	Undergraduate degree	73%	74%
50%	Graduate degree	27%	26%

MD/PhD Program

#### About the Programs Undergraduate Medical Education

## UME Student Financial Assistance

UME is committed to supporting students with the highest level of financial need through a number of programs, including Faculty of Medicine Grants, Faculty of Medicine Enhanced Bursaries, Faculty of Medicine MD Admission Bursaries, and Needs-Based Travel Stipends.

## Faculty of Medicine Grant Program

**77%** of MD students receive needs-based funding through the Faculty of Medicine Grant Program.

In 2013-14, 789 MD students received financial assistance through the Faculty of Medicine Grant Program for a total allocation of \$5,343,480, equivalent to 45% of the unmet financial need of the eligible recipients.

From 2012–13 to 2013–14, we have seen increases in the:

- Total grant assistance provided to students
- Percentage of students receiving assistance
- Average individual student grant

#### FACULTY OF MEDICINE GRANTS: INCREASE IN TOTAL ASSISTANCE



FACULTY OF MEDICINE GRANTS: INCREASE IN PERCENTAGE OF STUDENTS RECEIVING ASSISTANCE



#### FACULTY OF MEDICINE GRANTS: INCREASE IN AVERAGE STUDENT GRANT



# Increased Bursary Support

Our high-needs bursary programs provide additional funding to students with particularly challenging financial situations.

- The Enhanced Bursary Program, introduced in 2005, is designed to assist MD students with the highest level of financial need.
- The Faculty of Medicine MD Admissions Bursary Program was introduced in 2011–12 to provide assistance to applicants who might not otherwise apply for entry to the MD program due to financial constraints. In 2012–13, the number of admissions bursaries was increased from six to ten and the value of each bursary was increased from \$50,000 to \$80,000 over the four years of the MD program.
- A new "entire expense" bursary was introduced for September 2013 entry to the program. With an approximate total value of \$160,000, this bursary covers tuition and living expenses for one high-needs student per year over the four years of the MD program.
- A Need-based Travel Stipend was introduced in January 2012 to assist students with transit and travel costs related to various educational experiences.

#### TOTAL EXPENDITURES: HIGH NEEDS BURSARIES



# **UME** Residency Match

In spring 2014, **94%** of U of T MD students who applied to Canadian residency positions were matched in the first round of CaRMS. We are also pleased that 39% of our graduates matched to Family Medicine, the highest percentage in the last ten years and consistent with our vision of and commitment to social accountability.

### Medical Council of Canada Qualifying Examination (MCCQE) Part I Results

The Medical Council of Canada (MCC) is a national body, which grants a qualification known as the Licentiate of the Medical Council of Canada (LMCC). Upon completion of medical school, MD graduates demonstrate competence by successfully completing the Part I of the Medical Council of Canada Qualifying Examination (MCCQE). The MCCQE Part I assesses knowledge, clinical skills and attitudes as outlined by the Medical Council of Canada Objectives. Part II follows after one year of residency. Our students' pass rate on the MCCQE Part 1 has consistently been 99%.



MCCQE PASS RATE

• ENHANCED BURSARY PROGRAM

# About the Programs

# Medical Radiation Sciences Program

The medical radiation sciences are an exciting and ever-growing area within medicine. The Medical Radiation Sciences (MRS) program is a professional, undergraduate program jointly administered by the Department of Radiation Oncology, Faculty of Medicine and The Michener Institute for Applied Health Sciences. This partnership combines the expertise and resources of the two institutions to offer a Bachelor of Science in Medical Radiation Science (BScMRS) from the U of T and an Advanced Diploma in Health Sciences from The Michener Institute. The program consists of three disciplines: radiological technology, nuclear medicine and molecular imaging technology, and radiation therapy. The integrated three-year curriculum provides students in each of the three disciplines with a broad theoretical and analytical foundation along with discipline-specific courses and clinical practice activities.

# Radiological Technology

Radiological Technology uses X-radiation to produce medical images for the diagnosis and treatment of injuries and diseases using imaging technologies (general radiography, fluoroscopy, interventional radiology, computed tomography and bone mineral densitometry). Radiological Technologists are responsible for producing diagnostic images while providing optimal care for the patient, utilizing minimal radiation and employing appropriate radiation protection measures.

# Radiation Therapy

The Radiation Therapy program prepares students to apply ionizing radiation to treat patients with cancer. Students have the opportunity to practice in a simulated clinical environment in all aspects of treatment planning and delivery. They work with cutting edge equipment and technology that was built specifically for the education of Radiation Therapy students, including the linear accelerator (Linac) treatment units and the Virtual Environment Radiotherapy Training system (VERT<sup>™</sup>), located onsite at Michener.

# Redesigned Nuclear Medicine and Molecular Imaging Technology Program

The practice of Nuclear Medicine and Molecular Imaging Technology, which involves functional imaging to safely detect disease in its early stages, is constantly evolving. Nuclear Medicine Imaging involves noninvasive procedures to determine everything from the size and location of tumours to the volume of blood eiected from the heart with each beat. Molecular Imaging utilizes specialized instrumentation alone, or in combination with targeted imaging agents, to visualize biochemical events at the cellular and molecular level in order to help identify regions of pathology and potential mechanisms of disease. To meet the needs of our students, we redesigned the Nuclear Medicine and Molecular Imaging program to reflect changes in clinical practice and technology. Using varied learning environments (live, tutorial, simulation and lab work), and teaching methods, students work both independently and in teams to develop problem solving and clinical reasoning skills that help them apply their theoretical knowledge into clinical practice. The redesigned Nuclear Medicine and Molecular Imaging program was offered for the first time in September 2014.

## MRS Admissions

#### FOR SEPTEMBER 2013 ENTRY

	RADIOLOGICAL Technology	NUCLEAR Medicine	RADIATION Therapy	<b>TOTAL</b> (SEPT 2013–14)
Applicants	170	2	163	335
Successful Candidates	39	n/a*	44	83

\*Intake to the nuclear medicine discipline was suspended for the 2012–13 and 2013–14 academic years. A redesigned Nuclear Medicine and Molecular Imaging discipline will be offered for the first time in September 2014.

# **MRS Enrolments**

ENROLLMENT	RADIOLOGICAL Technology	NUCLEAR Medicine	RADIATION Therapy	TOTAL
Class 2017	41	15	37	93
Class 2016	36	0	43	79
Class 2015	39	0	50	89



"What I enjoy most about the Nuclear Medicine program is the interactive hands-on labs with patient models, learning how to use radiation safely and how to use gamma-cameras to image our patients. My favourite part is my clinical rotation, where I am actually able to experience with it is like to be Nuclear Medicine Technologist."

—Janelle Ryan, Nuclear Medicine, Class of 2014 Photo courtesy of The Michener Institute.

# About the Programs

# Physician Assistant Program

The Bachelor of Science Physician Assistant degree (BScPA) is a professional, second-entry program, based in the Department of Family and Community Medicine (DFCM). The BScPA is a U of T degree delivered in collaboration with the Northern Ontario School of Medicine (NOSM) and the Michener Institute for Applied Health Sciences (Michener). These three institutions have formed the Consortium of PA Education to collaborate on program development, administration and delivery.

The BScPA is a distance and distributed education program with the majority of its curriculum delivered online. Students receive a balance in academic and clinical orientation and a curriculum delivery model that maximizes rural training and geographic accessibility throughout Ontario. The program runs for six continuous semesters (24 months) and is designed to meet the competencies outlined in the National Competency Profile as established by the Canadian Association of Physician Assistants (CAPA).

# Curriculum Renewal

In 2013–14, we reorganized the Physician Assistant program courses to maximize students' didactic learning prior to their first clinical rotation and improve focus on daily preparation for clinical rotations.

To improve access to the program, we revised the program's admission requirements and shifted when students start in the program from January to September. For the 2015–16 academic year, all students in the program will begin their studies in September.

#### Physician Assistant Certification Council of Canada (PACCC) National Certification Exam Results

The results of the BScPA students on the National Certification Exam scores continue to be above the national average with a 94% pass rate, compared to the overall national pass rate of 92%.



#### PHYSICIAN ASSISTANT PROGRAM ADMISSIONS AND STUDENT DATA

	JAN 2010	JAN 2011	JAN 2012	JAN 2013	JAN 2014	SEPT 2014
Applicants	160	152	236	215	259	244
Files Reviewed	117	71	91	90	91	107
Interviews	64	49	59	66	66	66

## Physician Assistants Set to Play a Greater Role in Health Care

A new study by Nanos Research shows overwhelming support for a rapid expansion of Physician Assistants (PAs) into Canada's health care system. The study of 1,000 Canadians was released at the Canadian Association of Physician Assistants (CAPA) Annual Conference this fall, where 150 PAs discussed how to improve patient care through better collaboration with other providers and best practices.

The study reveals that eight out of ten Canadians are supportive of PAs having a greater role in providing health care and are comfortable receiving care from a PA. Support for PAs was strongest amongst Canadian seniors, with almost nine out of ten respondents supporting an expansion of PA presence in this country.

"PAs can help provide better, faster care to our patients, and especially our seniors," said Chris Rhule President of CAPA. "At a time when governments are struggling to save money, and find innovative ways to better care for our aging population, we need to be moving quickly to ensure we're taking full advantage of these valuable members of the health care team."

The survey results are available on the Nanos Research website: http://www.nanosresearch.com/library/polls/ POLNAT-S14-T623.pdf

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"The Physician Assistant program at the University of Toronto is dynamic, fast paced, and delivered by experts in diverse and respective fields. I am proud to be part of such a committed, hard working group of students and faculty, and am looking forward to making a positive contribution in the delivery of health care as a Physician Assistant."

-Stephanie Shaw, PA Student, U of T.



# Spotlight

Office of Indigenous Medical Education Established in 2013-2014, the Office of Indigenous Medical Education provides a culturally safe space for Indigenous medical students. The office – which is home to our two Curricular Co-Leads in Indigenous Health Education, Dr. Jason Pennington and Dr. Lisa Richardson, as well as Cat Criger, our Aboriginal Elder-in-Residence – incorporates Indigenous teachings about medicine to improve the discourse in Indigenous medical education. Rochelle Allan, our Indigenous Peoples' Undergraduate Medical Education Program Coordinator, works within UME to develop Indigenous programming and community outreach. The program also supports health professions students interested in learning more about Indigenous people and Indigenous concepts of health and healing.

The Office of Indigenous Medical Education was established to attract and support Indigenous medical students, build partnerships, and advance the understanding of Aboriginal health issues within the Faculty's curricula. Another goal was to help non-Indigenous students better understand how to deliver culturally safe care.

"We hope to have many more Aboriginal students here, and also Aboriginal residents and faculty members," said Dr. Lisa Richardson. "We have many students who could one day be working with Aboriginal patients, and through this office, we'll be teaching them, guiding them and helping to give them some skills and knowledge to work with Aboriginal patients."



From left: Jason Pennington, Rochelle Allan and Cat Criger.

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# Accreditation

# Undergraduate Medical Education

In October 2013, the Committee on Accreditation of Canadian Medical Schools (CACMS) and Liaison Committee on Medical Education (LCME) voted to continue accreditation of the U of T MD program for the maximum allowable eight year term, until May 2020. Based on a status report we submitted in July 2013, three standards previously identified as being in noncompliance were found by the CACMS-LCME to be in compliance with monitoring, while one of six standards previously identified as being in compliance with monitoring was found to be in full compliance. Under the leadership of Dr. Martin Schreiber, Director, UME Curriculum and Senior Academic Coordinator, Accreditation, a followup status report regarding the eight accreditation standards still requiring monitoring will be submitted to the accrediting bodies in April 2015.

# Medical Radiation Sciences Program

In the spring 2013, all three of the Medical Radiation Sciences (BScMRS) program's disciplines (radiological technology, nuclear medicine, and radiation therapy) were granted accreditation for the maximum allowed term of six years (until 2019).

# Physician Assistant Program

In December 2011, the Physician Assistant (BScPA) program received accreditation status from the Canadian Medical Association (CMA) for the maximum allowed term of six years (until December 2017).

## Repatriating Undergraduate Medical Education Accreditation

In December 2013, the Association of American Medical Colleges, the American Medical Association, the Canadian Medical Association, and the Association of Faculties of Medicine of Canada signed a landmark agreement that will both provide Canadian medical schools with greater autonomy over our educational standards and accreditation procedures and maintain the close relationship with our American colleagues. This landmark agreement will ensure that graduates of the U of T MD program meet "made in Canada" accreditation standards but are still prepared and eligible for medical training on either side of the Canadian-American border.

The new accreditation framework, which officially took effect June 2014, includes standards that reflect aspirations shared among Canadian medical schools, such as our commitment to social responsibility and accountability. By more closely aligning accreditation standards with recommendations of the Future of Medical Education in Canada (FMEC) project, the new accreditation framework will help ensure that the U of T MD program in particular and our medical education system in general continues to meet the current and future health care needs of all Canadians.



# Supporting Our Students

Supporting students is essential to the development of future academic health professionals.

# Office of Health Professions Student Affairs (OHPSA)

The Office of Health Professions Student Affairs (OHPSA) helps students find the support and balance they need to succeed academically and professionally. OHPSA provides services and resources to support students as they learn to become health professionals. The office provides confidential personal counselling and educational coaching for students in the MD. MD/PhD. Medical Radiation Sciences. Physician Assistant and Occupational Therapy programs, as well as career management for medical students. It also runs numerous programs and events to support student well-being.

"We want to help students integrate healthy behaviour and attitudes from the beginning, enabling them to better manage the demands of their education and professional lives," says Dr. Leslie Nickell, Associate Dean of OHPSA and Associate Professor, Department of Family and Community Medicine.

We connect students to extracurricular activities that enable them to make a meaningful difference, while developing health advocacy, communication, collaboration, and management competencies," says Ike Okafor, senior officer at OHPSA responsible for service learning and diversity outreach.





## Summer Mentorship Program Celebrates 20th Anniversary

In 2013-14 we celebrated the 20th anniversary of the Summer Mentorship Program (SMP), which provides high school students of Indigenous and African ancestry with an opportunity to explore health sciences at the U of T over four weeks in July. Offered to approximately 50 students each year, the SMP helps students discover university education and professional careers in the health sciences, get hands-on experience through experiments, lectures and special projects, and connect with mentors.

On July 30, 2014, over two hundred students, mentors and alumni joined Dr. Catharine Whiteside, Dean, Faculty of Medicine, Dr. Jay Rosenfield, Vice-Dean, Undergraduate Medical Professions



Education, Dr. Leslie Nickell, Associate Dean, Health Professions Student Affairs, and UMPE staff in celebration of the Summer Mentorship Program 20th Anniversary.

In 1994, the Office of Student Affairs, the Faculty of Medicine, the Toronto Board of Education, and the Association for the Advancement of Blacks in Health Sciences established a pilot program to address growing concerns regarding the lack of students of Indigenous and African ancestry in health professions. While the SMP program began as a modest pilot, it became and remains a highly regarded program, and has exposed over seven hundred students to the possibilities and careers in medicine and health care.

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"One of the best experiences of my life! Meeting experienced and educated professionals, who also happened to be minorities, helped open my eyes to new possibilities not previously imagined."

"What a pilot program this turned out to be!" said Dr. Nickell as she thanked the many people present who helped establish and run the program 20 years ago. Many of the former SMP students who participated in the program credit that experience as a turning point in their lives. The two keynote speakers at the SMP 20th anniversary—Husam Abdel-Qadir and Frik Mandawe echoed that sentiment as each had nothing but praise for the opportunities that the SMP opened for them, including how the program gave them the inspiration, resources and support networks to navigate the challenges of pursuing their careers in medicine and health care.

# Engaging Students Outside of the Classroom

With the support provided by OHPSA, students run a variety of extracurricular activities, including the IMAGINE Clinic, EarthTones Concert, and Daffdyl Play.



## IMAGINE

IMAGINE is a student-run clinic providing services for marginalized populations in Toronto, including new immigrants not covered by OHIP and those who experience homelessness, mental health issues, and have precarious status. At IMAGINE, students gain valuable practical experience, learn more about the healthcare system, as well as develop leadership and teamwork skills. In 2013–2014, IMAGINE served over 200 clients, with support from over 60 student volunteers as well as 100 preceptors from a variety of disciplines, such as medicine, nursing, pharmacy, physiotherapy, and social work. IMAGINE hosted the studentrun National Clinic Conference (SNaCC) in 2014, which included participants from all student-run clinics in Canada, and launched an advocacy program to raise awareness about issues affecting marginalized populations.

### EarthTones

Among other notable initiatives, EarthTones stands out – an annual student-run live music concert supporting international children's charities. This year's charities include UNICEF (Ebola Crisis Fund) and Canadian Physicians for Aid and Relief (CPAR). EarthTones is co-presented by University of Toronto Faculty of Medicine and University of Toronto International Health Program (UTIHP).

## Daffydil

Daffydil, a play that is written, produced and performed by medical students, raises funds for the Canadian Cancer Society, while enhancing student life and supporting the development of leadership skills through theatre, music, song, and dance.



# Spotlight

# Teaching and eLearning

We are continually striving to help our students become better clinicians through innovations in technology and intelligent use of eLearning. In 2013–14, all lecture notes for first-year MD students were converted into digital formats, and a website was created to help students and tutors transition from paper to digital.

We are also committed to expanding eLearning and online digital resources for our teachers. In 2013–14, a new online faculty development tool called Accessible Resources for Teaching (ART) was developed by the U of T Centre for Faculty Development. Through ART, our teachers have access to a series of eLearning modules that focus on particular teaching and learning topics such as teaching a diverse group of students, providing effective feedback, effective role modelling, and digital professionalism and privacy.

# eLearning Expansion

Our educators and students, under the leadership of Dr. Marcus Law. Director of UME Academic Innovation, have been working hard to introduce "virtual patients" into the MD program, with the goals of increasing and integrating clinical relevance and skills within the basic science curriculum and enhancing digital literacy. Students are meeting "Professor Allison Smith", "Wilson Chan" and "Mr. G.B." as part of their first year Structure and Function cardiorespiratory medicine unit, and navigate the worlds of underlying pathophysiology, history taking, physical exam, diagnosis and management of their patients in both virtual and real life educational sessions. The continued focus on eLearning responds to the growing technology for advocacy trend, which helps students combine their knowledge of medicine with a deeper understanding of technology. Plans to expand the number of "virtual patients" in the MD program's second year Mechanisms, Manifestations, and Management of Disease course are already underway.

Health, which launched in August 2014, and Health Science Research, which will launch in August 2015. These new courses required a thorough development of learning objectives, plans for curriculum delivery, and recruitment of course directors. The new Community, Population and Public Health course takes place in first and second years of the program, and aims to introduce students to a population and community health perspective on medical practice. The course objectives are linked closely with the CanMEDs Roles and the Medical Council of Canada 'Medical Expert' Objectives in Population Health. The Health Science Research course focuses on many aspects of the CanMEDS Scholar role, in particular learning to participate in the conduct of a research project and to interpret and apply the result of research to patient care.

**New Courses** 

In 2013-14. UME moved toward

the creation of two new courses:

Community, Population and Public



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"Our responsibility is to make sure that every group of students has an excellent experience, and continue to improve upon the existing program as part of the ongoing commitment to excellence in medical education."

-Dr. Martin Schreiber, Director, UME Curriculum



# Spotlight

# Leadership Education and Development (LEAD) Program

The Leadership Education and Development (LEAD) program is an interdisciplinary partnership between UME, the Rotman School of Management, the School of Public Policy and Governance, and the Institute of Health Policy Management and Evaluation. The LEAD program, available to nine medical students from each MD cohort, fosters a new generation of physician leaders committed to improving health care and the health of our communities. The program curriculum includes a longitudinal sequence of six graduate courses as well as two summer-long practicum experiences in which students have an opportunity to apply their knowledge and further develop their understanding of career opportunities in leadership.

## Varuna Prakash – Leadership Education and Development (LEAD) Student

Undergraduate Education: Bachelor of Applied Science and Engineering (BASc) in Materials Engineering, University of Toronto

Graduate Education: Master of Health Science (MHSc) in Clinical Engineering, University of Toronto.

Varuna comes to medicine from the world of clinical engineering, where she spent several years working in patient safety, quality improvement, medical device usability, and patient-centered design. She is passionate about working at the intersection of health care and technology, and has a particular interest in understanding the effects of human factors on medical error. Varuna strongly believes that tackling complex problems in health care requires a truly multidisciplinary mindset.

Varuna's education in leadership, combined with her education in engineering and medicine, will support her championing quality improvement efforts in a fragmented health care system.

# **UME** Students

Our students benefit from a significant number of student awards and scholarships, established through the generous individual and corporate contributions. In 2013–14, our medical students received 277 awards for a total amount just under \$275,000. The student awards fall under the following eight categories:

**UME** Awards

In-Course Awards

Admission Scholarships

- Elective Awards
- Awards Requiring Application
- Convocation Awards
- Undergraduate Medical
   Program Medalists

Research Support (CREMS)

Ankle Award

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"LEAD is proving to be a fantastic complement to the medical curriculum. We are exposed to a variety of courses and practicums, and have the tremendous opportunity of working with and learning from health leaders from a number of different disciplines. LEAD helps me critically examine health systems issues and understand the important part that all physicians can play in championing and stewarding change."

-Varuna Prakash, LEAD Student

# UME Teachers

This year, we also celebrated the achievements of UME teachers who have contributed to undergraduate teaching excellence. The 12th Annual Education Achievement Celebration was held on May 13, 2014 at the Great Hall in Hart House, University of Toronto.

#### W. T. AIKINS FACULTY TEACHING AWARDS

These awards, named after William Thomas Aikins, the first Dean of the Faculty of Medicine following the 1887 reorganization, are the Faculty's most prestigious teaching awards in Undergraduate Medical Education. Recipients of these awards have significantly contributed to highquality undergraduate teaching by establishing and integrating new and effective methods of instruction into the undergraduate curriculum. The award winners are selected from nominees in a process that requires support from both faculty and students.

#### W. T. Aikins Faculty Teaching Awards - Individual Teaching Performance (Small Group)

Gemini Tanna,
 Department of Medicine

W. T. Aikins Faculty Award for Excellence in Undergraduate Teaching – Course / Program Development and Coordination

 Susan Goldstein, Kymm Feldman, and the members of the FMLE Course Committee, Department of Family and Community Medicine

# MEDICAL ALUMNI ASSOCIATION AWARDS (2013)

The winners of the Medical Alumni Association Awards are honoured at Convocation. Award recipients are also acknowledged at the Annual Education Achievement Celebration in the following academic year.

#### E. Mary Hollington Award – Excellence in Preclinical or Basic Science Teaching

 Mike Wiley, Department of Surgery

#### E. Mary Hollington Award – Excellence in Clinical Teaching

Patrick Gudgeon,
 Department of Medicine

#### Dean A.L. Chute Award (The Silver Shovel)

 George Christakis, Department of Surgery, and Todd Koch, Department of Psychiatry

#### Annual Report 2013–2014

# Spotlight

# The CREMS Program and Medical Student Research Day

The Comprehensive Research Experience for Medical Students (CREMS) Program is a unique research program that allows interested medical students to gain extracurricular research experiences in various structured programs without interrupting their medical studies. Students participating in a CREMS Program undertake an original research project under the supervision of a member from the U of T Faculty of Medicine. The research may be basic, clinical, applied biomedical, epidemiological or social science/ humanities related to medicine or medical practice, and the project may involve laboratory experiments, prospective and retrospective clinical or social studies.

Students participating in a CREMS Program present their work at the Medical Student Research Day (MSRD), which is an annual one-day conference to showcase biomedical and other medicine-related research by U of T medical students. The MSRD includes poster presentations, oral presentations, awards and a keynote speaker. The 28th Annual Medical Student Research Day was held on Tuesday, January 28, 2014. The event provided a forum for 170 U of T medical students to present research on a range of topics in the fields of clinical research, health care, basic science, determinants of community health, and international health. The event featured MD/PhD, CREMS, and firstyear projects. U of T MD alumnus Dr. Jay Keystone, a global leader in tropical and infectious diseases, was the keynote speaker at the event. Five students were selected by a panel of peer medical students to present their research at the event as oral presentations, and awards were given by faculty judges for the best poster presentation. The 2013–14 award winners are listed on the next page.

### **Oral Presentations**

#### **Basic Science**

James CM Wang: *Histone Modification* 

#### Pancreatic Cancer

**Clinical** Melissa Yu: *Change in Diastolic Function as a Predictor of New Onset Atrial Fibrillation Following Coronary* 

in the Hypoxic Microenvironment of

#### **CREMS Scholar and First Year**

Artery Bypass Graft Surgery

Hala Muaddi and Vanessa Zanella: Reprogramming Metabolism with Metformin Improves Tumour Oxygenation and Radiotherapy Response

#### MD/PhD

Jared Wilcox: Evaluating Neural Stem Cell Transplantation in a Bilateral Contusion-Compression Model of Cervical Spinal Cord Injury

#### **Best Poster Presentation Awards**

#### Basic Science

Kevin Kirouac: Development of Novel Antimicrobial Agents Against Pathogenic Neisseria Gonorrhoeae

#### Clinical

Chenhan Wang: *Temporal Lobe* Dysplasia: A Characteristic Sonographic Finding in Thanatophoric Dysplasia

#### CREMS Scholar 2012

James England: *Characterization of Ear-2 in Myelodysplastic Syndromes* 

#### CREMS Scholar 2013

Sidharth Saini: *Comparison of 3%* Sorbitol Versus Psyllium Fibre as Oral Contract Agents in Magnetic resonance Enterography

#### Health Care

Michelle Yee: Development of a Discharge Instruction Software Tool for Limited English Proficient Patients at the Toronto Western Hospital Emergency Department.

#### International Health

Jessica Harper and Jennifer Hunter: No Evidence of Neurodevelopmental Delay in HEU Infants Exposed to HAART In Utero and During Extended Breastfeeding

#### **Determinants of Community Health**

Janet Nguyen: What Can We Learn From Peer Leaders' Experiences? Qualitative Findings From a Community-Based Cervical Breast Cancer Screening Program for Under/Never Screened Women

#### First Year

Laureen Hachem: *An Analysis of Major Surgical Bleeding in Kidney Transplantation: Incidence, Risk Factors and Outcomes* 

#### MD/PhD

Brian Ballios: *An Injectable Hydrogel Improves the Survival and Functional Integration of Stem Cell Progeny Transplanted into Adult Retina* 

#### Annual Report 2013–2014

# Scholarly Activities by UME Teachers & Staff

Included below are peer reviewed publications as well as poster presentations, oral presentations and workshop facilitations at national and international conferences from 2013-14 by teachers and staff who have major leadership roles in UME.

#### PEER REVIEWED PUBLICATIONS

Ballios, B.G. and Rosenblum, N. (2014). Challenges facing physician scientist trainees: a survey of trainees in Canada's largest undergraduate and postgraduate programs in a single centre. *Clinical and Investigative Medicine*, 37(5), E268.

Cheng, C., deRuiter, W., Howlett, A., Hanson, M.D., and Dewa, C.S. (2014). Psychosis 101: evaluating a training programme for northern and remote youth mental health service providers. *Early Intervention in Psychiatry*, 7(4), 442-450.

Fernando, E., Jusko-Friedman, A., Catton, P., and Nyhof-Young, J. (2014). Celebrating ten years of undergraduate medical education: a student centred evaluation of the Princess Margaret Cancer Centre – Determinants of Community Health year 2 program. *Journal of Cancer Educa*tion. doi: 10.1007/s13187-014-0674-2

Goldsmith, M. and Bryden, P. (2014). Medical student education in psychiatry: an international affair. *Academic Psychiatry*, 38(3), 361-363.

Hall, J.N., Woods, N., and Hanson, M.D. (2014). Is social sciences and humanities (SSH) premedical education marginalized in the medical school admission process? A review and contextualization of the literature. *Academic Medicine*, 89(7), 1075-1086.

Hodges, B.D., Hollenberg, E., McNaughton, N., Hanson, M.D., and Regehr, G. (2014). The Psychiatry OSCE: a 20-year retrospective. *Academic Psychiatry*, 38(1), 26-34.

Hudson, J. and Ratnapalan, S. (2014). Teaching clinical skills with patient resources. *Canadian Family Physician*, 60(7), 674-677.

Lalani, N., Urowitz, S., Chafranskaia, A., and Nyhof-Young, J. (2014). The impact of education level on satisfaction and efficacy of a healthy weight educational pamphlet for breast cancer survivors. *University of Toronto Medical Journal*, 91(1), 25-32. Leung, F-H., Scott, F., and Tyler, I. (2014). YouTube for just-in-time faculty development. *Journal of Community Medicine and Health Education*, 4(278). doi: 10.4172/2161-0711.1000278

Sockalingam, S., Tan, A., Hawa, R., Pollex, H., Abbey, S., and Hodges, B. (2014). Interprofessional education for delirium care: a systematic review. *Journal of Interprofessional Care*, 28(4), 345-351.

Tjong, V.K., Murnaghan, M.L., Nyhof-Young, J., and Ogilvie-Harris, D.J. (2014). A qualitative investigation of the decision to return to sport after anterior cruciate ligament reconstruction: to play or not to play. *The American Journal of Sports Medicine*, 42(2), 336-342.

van den Heuvel, M., Au, H., Levin, L., Bernstein, S., Ford-Jones, E., and Martimianakis, T. (2014). Evaluation of a social pediatrics elective: transforming students' perspective through reflection. *Clinical Pediatrics*, 53(6), 549-555.

Zaretsky, A., Jackson, T., Okrainec, A., Abbey, S., Tan, A., Hawa, R., Sockalingam, S., and Khan, Attia. (2014). A framework for understanding international medical graduate challenges during transition into fellowship programs. *Teaching and Learning in Medicine*, 26(4), 401-408.

#### CONFERENCE POSTERS

Au, H., Punnett, A., and Bernstein, S. (2014, March). *A pediatric longitudinal experience for preclerkship medical students: PedLE-ing through with insight into the life and practice of a pediatrician*. Council on Medical Student Education in Pediatrics Annual Meeting, Ottawa, Canada.

Bajcar, J. and Boyd, C. (2014, August). *Creating a new pedagogy for faculty development in medical education*. Association for Medical Education in Europe, Milan, Italy.

Bannister, S., Modemmann, D., and Bernstein, S. (2014, March). *Impact at Canadian medical* schools of the Canadian undergraduate curriculum in paediatrics (canuc-paeds). Council on Medical Student Education in Pediatrics Annual Meeting, Ottawa, Canada. Chang, H., Pumputis, A., and Nyhof-Young, J. (2014, April). Allies live here: a school-based anti-bullying intervention promoting positive LGBTQ attitudes and behaviours among middle school students in a priority Toronto neighbourhood. Canadian Conference on Medical Education, Ottawa, Canada.

Coates, P. and Bajcar, J. (2014, April). *Preparing our pioneers: transitioning the first class of expansion students into clerkship.* Canadian Conference on Medical Education, Ottawa, Canada.

De Valence, M., Kooiman, M., and Nyhof-Young, J. (2014, April). *Investigating socioeconomic status and barriers to food security among community food program participants in the Weston-King Neighbourhood Centre in Weston, Toronto: a pilot qualitative study.* Canadian Conference on Medical Education, Ottawa, Canada.

Devito, I., Sarmah, A., Matava, C., Ryzynski, A., DeSousa, S., and Cronin, G. (2014, June). *Introduction of the flipped classroom in the anesthesia clerkship*. Canadian Anesthesiology Society Meeting, St. John's, Canada.

Feldman, K., Krueger, P., Meaney, C., Lee, L., Goldstein, S., Nutik, M., Dwosh, A., and Freeman, R. (2013, November). *Preclerkship family medicine clinical experience: is it making a difference?* Family Medicine Forum. Vancouver, Canada.

Goldberg, M., Carter, A., and Nyhof-Young, J. (2014, April). *Evaluating the effectiveness of the "Frontburner Boys" cooking class in improving nutritional literacy in low income inner city youth*. Canadian Conference on Medical Education, Ottawa, Canada.

Hudson, J. and Bajcar, J. (2014, August). Faculty development strategy for undergraduate medical teachers to enhance clinical teaching skills and to change clinical practice: a case study of teaching to teach a new approach to mechanical back pain. Association for Medical Education in Europe, Milan, Italy. Kalbfleisch, M., Cyr, A., and Nyhof-Young, J. (2014, April). *Investigating coping strategies and social support among Canadian melanoma patients: a survey approach*. Canadian Conference on Medical Education, Ottawa, Canada.

Lilly, E., D'Urzo, A., Nyhof-Young, J., Krueger, P., Nickell, L., Nutik, M., and Feldman, K. (2014, April). *Covert influences of medicine's hidden curriculum on medical students' perception of family medicine*. Canadian Conference on Medical Education, Ottawa, Canada.

Lilly, E., Nyhof-Young, J., Krueger, P., Nickell, L., Nutik, M., Feldman, K., and D'Urzo, A. (2014, July). *The influence of medicine's hidden curriculum on students' perceptions of family medicine*. WONCA Europe Conference, Lisbon, Portugal.

Loo, T.T., Nix, C., Gleicher, J., Arora, S., Sarmah, A., McVeigh, R., Wiley, M., Ailon, J., and Gupta, R. (2104, April). *Anatomy and point of care ultrasound (POCUS) in undergraduate medical education.* Canadian Conference on Medical Education, Ottawa, Canada.

Nickell, L., Bandeira, G., Coates, P., and Bajcar, J. (2014, August). *Faculty development for letters of reference: supporting new teachers and students through this essential process for residency application*. Association for Medical Education in Europe, Milan, Italy.

Nix, C.M., Gleicher, J., Ryzynski, A., Hockmann, E., Gupta, R., and Devito, I. (2013, September). *Challenges encountered while creating a "How we teach Inferior Vena Cava (IVC) Ultrasound" teaching video*. Second World Congress on Ultrasound in Medical Education, USA.

Nyhof-Young, J., Chang, H., Cohen-Silver, J., Talarico, S., Chan, N., Markin, R., Suleman, S., Au, H., Afroze, A., and Pumputis, A. (2014, June). *Elementary my dear Weston! Promoting middle school mental health through academic partnerships, service learning and participatory community engagement.* Canadian Collaborative Mental Health Care Conference, Toronto, Canada.

Radhakrishnan, S., Kamath, B., Punnett, A., and Bernstein, S. (2014, March). *PeRCS for paeds*. Council on Medical Student Education in Pediatrics Annual Meeting, Ottawa, Canada. Sampson, H., Scott, F., and Nyhof-Young, J. (2014, April). Introducing research ethics curriculum and tools in undergraduate medical clinical research education: an innovative approach. Canadian Conference on Medical Education, Ottawa, Canada.

Sarmah, A., DeSousa, S., Choi, M., Alam, F., Devito, I., and Ryzynski, A. (2014, August). *Upping the ante: introduction of innovative educational tools to undergraduate medical students 2nd simulation session.* Association for Medical Education in Europe, Milan, Italy.

Sarmah, A., DeSousa, S., Ryzynski, A., Alam, F., Choi, M., Percival, V., and Devito, I. (2014, May). Introduction of 2nd simulation session during 3d year undergraduate anesthesia core rotation – exit simulation. International Anesthesia Research Society Annual Meeting, Montreal, Canada.

Schroeder, T., Dhatt, R., Hudson, J., and Nyhof-Young, J. (2014, April). *Investigating socio-cultural barriers to volunteerism in a medical school volunteer patient program: a program development project.* Canadian Conference on Medical Education, Ottawa, Canada.

Scott, F., Upenieks, M., Correale, M., and Bajcar, J. (2014, April). *Tutor faculty development and course CQI*. Canadian Conference on Medical Education, Ottawa, Canada.

Shih, J., Nickell, L., and Ko, R. (2014, April). Assessment of MedLINKS, an innovative peersupport program at the University of Toronto. Canadian Conference on Medical Education, Ottawa, Canada.

Talarico, S., Zubairi, M., Barozzino, T., Daneman, D., Punnett, A., and Martimianakis, T. (2014, June). Fostering transformative learning in a social pediatrics research summer studentship through empowerment and assessment. Canadian Paediatric Society Annual Conference, Montreal, Canada.

Wright, S., Jackowetz, L., Kulasegaram, K., and Hanson, M.D. (2014, April). *If at first you don't succeed...try MCAT again!* Canadian Conference on Medical Education, Ottawa, Canada.

#### CONFERENCE PRESENTATIONS

Abrahamson, J., Law, M., Eden, D., Gupta, K., Sampson, H., Vair, A., and Milne, R. (2014, April). A good death certificate: developing and evaluating an e-learning intervention to improve the accuracy of death certification. Canadian Conference on Medical Education, Ottawa, Canada.

Bandiera, G., Hanson, M.D., Ruetalo, M., and Abrahams, C. (2014, April). *Best practices in application and selection: an institutional approach to resident selection.* Canadian Conference on Medical Education, Ottawa, Canada.

Bernstein, S., Keegan, D., Bannister, S., and Moddeman, D. (2014, March). *Setting yourself up for success: strategic leadership development.* Council on Medical Student Education in Pediatrics Annual Meeting, Ottawa, Canada.

Bernstein, S. and Moddeman, D. (2014, March). Stop lecturing me – How to use interactive teaching techniques. Council on Medical Student Education in Pediatrics Annual Meeting, Ottawa, Canada.

Bernstein, S. Moddeman, D., and Forbes, K. (2014, March). Just use the "F" word – How to give effective feedback. Council on Medical Student Education in Pediatrics Annual Meeting, Ottawa, Canada.

Boyko, R., Godkin, D., and Bajcar, J. (2104, April). *Building ethical capacity for new faculty.* Canadian Conference on Medical Education, Ottawa, Canada.

Childs, R., Carnegie-Douglas, S., Archbold, A., Ferguson, A., and Hanson, M.D. (2014, May). *"Encouraged to apply": promoting equitable access to professional programs*. Canadian Society for the Study of Higher Education Annual Conference and AGM, Canada.

Chow, C.M., Jenkinson, J., Law, M., Kubasik, W., and Verma, S. (2014, April). *Development of an educational information technology summer student program to promote e-learning projects development among faculty members and students.* Canadian Conference on Medical Education, Ottawa, Canada. Chow, N., Wong, J.J., Lee, S., Moore, D., Hayes, K., Kopansky-Giles, D., Weyman, K., and Soave, D. (2014, March). Assessing the change in attitudes, knowledge and perspectives of medical students to chiropractic after a core clerkship rotation in family medicine. Association of Chiropractic Colleges Research Agenda Conference (ACC-RAC), Orlando, USA.

Fechtig, L., Kulasegaram, K., Woods, N., Rosenblum, N., and Hanson, M.D. (2014, April). *Selecting MD/PhD applicants using a modified personal interview (MPI)*. Canadian Conference on Medical Education, Ottawa, Canada.

Fung, R., McIntosh, C., Sampson, H., Millar, A., Nyhof-Young, J., Byul Lee, H., Borda, M., and Vair, A. (2014, February). *How does current Canadian postgraduate medical education prepare endocrinologists, psychiatrists and family physicians in the care of Trans clients?* The World Professional Association for Transgender Health Biennial Conference, Bangkok, Thailand.

Gupta, R., Kulasegaram, M., and Pittini, R. (2014, April). *Identification of students with clinical skills deficiencies: the iOSCE*. Canadian Conference on Medical Education, Ottawa, Canada.

Hanson, M.D., Gregg, B., Nickell, L., and Woods, N. (2014, April). *Does medical student financial need impact academic performance*? Canadian Conference on Medical Education, Ottawa, Canada.

Hanson, M.D., Hall, J., Myopoulos, M., and Woods, N. (2014, April). *A proposed new standard for sustainable success regarding social responsibility*. Canadian Conference on Medical Education, Ottawa, Canada.

Kulasegaram, K., Jackowetz, L., DeBruine, L., Krupp, D., Hanson, M.D., and Woods, N. (2014, April). *The effects of physical attractiveness on rater decisions in admissions*. Canadian Conference on Medical Education, Ottawa, Canada.

Kwan, J.Y.Y., Nyhof-Young, J., Catton, P., and Giuliani, M.E. (2014, August). *Not just an add-on subject: bringing oncology to the heart of undergraduate medical education*. Canadian Association of Radiation Oncology Annual Scientific Meeting, St. John's, Canada.

Law, M., Leslie, K., Shamji, A., Tannenbaum, E., Yeung, E., and Baker, L. (2014, April). Students and faculty partnering in innovation: the development of the Accessible Resource for Teaching (ART) program. Canadian Conference on Medical Education, Ottawa, Canada. LeBlanc, V., Nickell, L., Brophy, K., and Rosenfield, J. (2014, April). *If they're stressed, they're not burnt-out: chronic stress, burnout and coping styles in medical students.* Canadian Conference on Medical Education, Ottawa, Canada.

Locke, K. (2014, April). *Issues and controversies in the use of portfolios for assessment in undergraduate and graduate medical education.* Canadian Conference on Medical Education, Ottawa, Canada.

Monga, S., Rosenbloom, B., Eva, K., Nickell, L., Perumalla, C., Walker, S., and Hanson, M.D. (2014, April). *Prevalence of non-prescription stimulant medications among Canadian medical school and undergraduate students*. Canadian Conference on Medical Education, Ottawa, Canada.

Moura, S., Nyhof-Young, J., Cheung, E., Ulloa, H., Moore, M.J., Fitzgerald, B., Townsley, C., and Hawker, G. (2013, October). *Innovation in after cancer care: investigating the relationship between health literacy and patient satisfaction among cancer survivors.* CANO/ACIO Annual Conference, Vancouver, Canada.

Ramji, N., Baribeau, D., and Weyman, K. (2014, April). Fostering social advocacy through clinical experience – an evaluation of medical student attitudes towards homeless populations. Canadian Conference on Medical Education, Ottawa, Canada.

Richardson, L., Allan, R., Pennington, J., and Hanson, M.D. (2014, April). *Decolonizing the academy: reflections on the creation of an Office of Indigenous Medical Education*. Canadian Conference on Medical Education, Ottawa, Canada.

Shafran, D., Bonta, M., and Richardson, L. (2014, April). *A novel health care professional-shadowing initiative for senior medical students*. Canadian Conference on Medical Education, Ottawa, Canada.

Talarico, S., Zubairi, M., Barozzino, T., Daneman, D., Punnett, A., and Martimianakis, T. (2104, April). *Fostering transformative learning in a social pediatrics research summer studentship through empowerment and assessment.* Canadian Conference on Medical Education, Ottawa, Canada.

Wong, J.J., Di Loreto, L., Kara, A., Yu, K., Mattia, A., Soave, D., Weyman, K., and Kopansky-Giles, D. (2014, March). Assessing the change in attitudes, knowledge and perspectives of medical students to chiropractic after an educational intervention. Association of Chiropractic Colleges Research Agenda Conference (ACC-RAC), Orlando, USA. Young, M., Fischer, K., Razack, S., Hanson, M.D., Varpio, L., Slade, S., and McKnight, D. (2014, April). Greater inclusiveness in medical school admissions: a data driven, evidence-informed, diversity-related model for pipeline and program development. Canadian Conference on Medical Education. Ottawa. Canada.

#### CONFERENCE WORKSHOPS

Au, H., McConnell, A., Punnett, A., and Talarico, S. (2014, March). *Developing advocacy curricula for social determinants of health in pediatrics in the undergraduate medical curriculum*. Council on Medical Student Education in Pediatrics Annual Meeting, Ottawa, Canada.

Englander, R., Lieberman, S.A., McGovern, J.P., Rosenfield, J., Lypson, M., and Thomas, J. (2014, August). *Introducing the core entrustable professional activities for entering residency*. Association for Medical Education in Europe, Milan, Italy.

Lewis, M. and Nickell, L. (2014, April). *Optimizing resilience and wellness in undergraduate medical students*. Canadian Conference on Medical Education, Ottawa, Canada.

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